

TAC ATTACK

FEBRUARY 1983



THE FORGOTTEN
WINGMAN . . . Pg 4

Angle of Attack



We continued our downward trend in Class A flight mishaps in 1982. However, some of our setbacks have dampened any celebration. We're headed in the right direction, but we are reminded that we have a way to go.

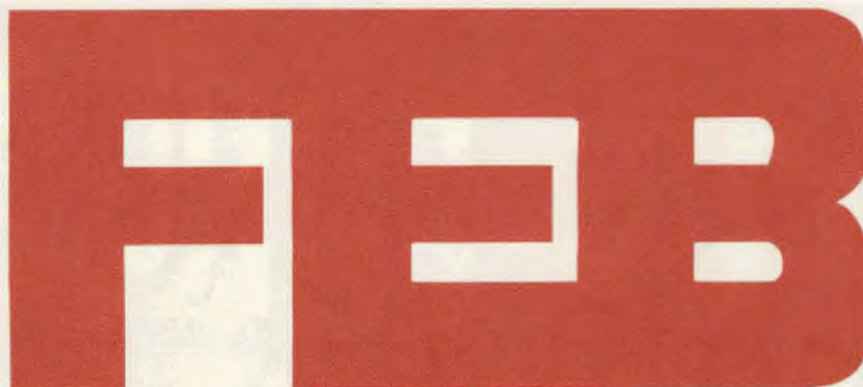
By necessity much of our profession is reactive. We investigate mishaps after they occur to prevent future repetition. But here in the magazine, we pass on stories and articles to prevent mishaps from occurring the first time. That's the purpose of "The Forgotten Wingman." Nothing has happened recently to indicate that our wingmen are being neglected. By writing about some near disasters from the past, we hope to remind you of the potential problem before it occurs. Maybe we can drain some of the swamp before the alligators show up.

You can also do some preventive thinking as

you read our regular departments like "Chock Talk," "TAC Tips," and "Down to Earth." Ask yourself if the lessons learned could be applied in your unit before a mishap instead of after.

An ounce of prevention is still worth a pound of cure—probably more. If we all try to stop the mishap chain before it starts, we can keep the mishap trend pointed downward. ➤

RICHARD K. ELY, Colonel, USAF
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THE FORGOTTEN WINGMAN



By Maj Jim Mackin

A decade ago, toward the end of the war, I was leading a two-ship in Southeast Asia. On that mission I lost my wingman. No, he wasn't shot down; I just lost track of him.

We were working with a FAC in a fairly permissive environment. We had worked over one target area and our fuel was getting low. The FAC told us he had another target for us, but we'd have to move to it. I answered that we'd give it a try, although we would probably have time for only one pass when we got there.

My wingman had been working on the opposite side of the pattern. I told him to follow us as we moved to the new target. Then I turned away from him and followed the FAC. We never rejoined until the debriefing.

Somehow, my wingman lost sight of us and turned the wrong way. I was too busy talking to the FAC to notice. Between us, the FAC and I monopolized the airwaves, so my wingman couldn't get a word in edgewise. Finally, I called to him and asked whether he had the new target in sight. I was ready to roll in when he let me know that he had no idea where we were.

I gave my wingman the heading and distance to our home field and told him to turn in that direction. Then I continued rolling in and made one pass on the target. As I pulled off, I turned toward home and began looking for my wingman. I had radio contact with him, but I didn't see him again until we met in squadron ops for the debriefing.

In the debriefing, my wingman was embarrassed and apologetic for having lost sight of me. I just brushed it off as a lesson learned for him. I didn't discuss how much I as flight lead had been at fault. Since no one but the two of us and the FAC knew

what happened, the incident was soon buried.

The reason I resurrect it now is because over the years since then I've seen others make the same kind of mistake. Maybe we all can learn a lesson from my experience and these two similar incidents that follow.



Several years ago an incident took place in a unit transitioning to a new aircraft. Most of the unit was in mission qualification training (MQT), and the training program had reached the stage where some pilots were ready for check rides. This mission was a mission-ready check for numbers 2 and 4. The mission was scheduled as a six-ship to allow for tactical intercepts by the two-ship on the four-ship en route to the tactics range. Numbers 1 and 5 had finished their check rides the week before and were certified as flight lead and limited flight lead respectively. Number 3 was the SEFE, who'd been checked out a month earlier. Everyone in the flight was mission qualified or nearly mission qualified except for number 6, who was approaching the halfway point in his checkout. He had about 50 hours in the new aircraft and 500 hours total flight time. All of the flight members were certified for low-altitude tactical training down to 300 feet.

The plan was for numbers 5 and 6 to take off five minutes early to act as aggressors ("barons"), checking the four-ship's lookout as it ingressed at 300 to 500 feet above the ground. After the intercepts, 5 and 6 would take part in attacking the range targets. Then they would reverse roles and the four-ship would attack the two-ship as it flew in. Low altitude ROE limited defensive reaction to no more than a 90-degree turn.

For the baron portion of their mission, number 5 briefed number 6 separately. He briefed a split up, with 5 intercepting the flight at one turn point and 6 intercepting them at another.

After a delay on the ground that resulted in number 4 aborting, the flight got airborne as a two-ship followed by a three-ship. Numbers 5 and 6 headed to their respective orbit points along the three-ship's planned low level through the mountains. Since they

were late, the strike flight cut out a portion of the low level, the portion where 5 was waiting for them. So 5 called 6 and warned him that the flight was headed his way.

Number 6 picked up the ingressing flight on radar, but they also spotted him on radar and then visually. So he began a descent into the valley next to their turn point, planning to tap them there. However, the flight turned 20 degrees away when they lost visual contact with him in the descent. Number 6 turned in to the check point at 1,000 feet above the ground at the time when he figured the flight would be there, but they weren't in sight. He continued his turn in the valley; his six o'clock was toward the flight as they came over a ridge line to his south. The number 3 man was flying point, and he turned 20 degrees and called a "Fox 2" on number 6, who began to realize that things weren't working out as planned. Number 6 made a climbing turn looking for the second element. They spotted each other simultaneously and he made a hard pull down into them, increasing his bank to 110-120 degrees. The element called "push it up," and he broke off the intercept.

As number 6 rolled out of his turn, he looked ahead and saw that he was descending into rising terrain. He also saw that his airspeed was low, so he selected afterburner; but he still couldn't accelerate out. He found a canyon in which the terrain was descending away from him. Just as it looked like he was going to make it, he felt a thump.

The thump turned out to be a tree, and it didn't hurt the bird bad enough to keep him from bringing it

THE FORGOTTEN MAN

home. But the crew chief found a much older pilot climbing out of his cockpit than the one who had climbed in.



Then, last year, two A-10s were on a complex surface-attack-tactics mission that included working on two different ranges, low altitude tactical navigation, defensive formations with possible aggressors, coordination with ABCCC and a FAC, and practice with the Maverick missile. The only break in the planned workload for the mission was the holding pattern for the second range, which was a controlled, scorable range. The wingman had less than 300 hours total flying time, and he only had 60 hours in the A-10.

The flight made it through the ingress and tactical range work with a FAC. They left the first range and headed to the controlled range. The flight arrived at the holding pattern a little earlier than the flight lead had expected. After several turns in holding, the flight lead decided not to waste any more time. He told his wingman to set up the switches for dry Maverick attacks.

Both pilots reduced power to save fuel, and the flight lead dropped into a loose chase position behind his wingman. The wingman practiced Maverick attacks at altitudes between 700 and 2,000 feet.

After about ten minutes of Maverick work, the flight lead began to get edgy. He grew more and more concerned about getting the rest of the mission requirements done. When he heard the flight ahead of them on the range calling for strafe, the flight lead shifted his attention to range entry procedures. His wingman's mind, however, was still on the Maverick work.

The wingman was in a left turn, passing through north and turning west. The leader was about a mile behind the wingman, offset to the right. While talking to the range officer, the leader rolled out on a north-east heading. He lost sight of his wingman, who was still in a left turn away from him. The flight lead turned right toward the southeast to enter the range. Now the wingman began to miss his leader, so he rolled out of his turn and made a position call on FM. The leader never heard the call. When the wingman didn't get an answer, he continued his left turn. The two of them were heading about 180 degrees out of phase with each other.

The flight lead had briefed a range entry in tactical formation, but he decided to change to a spacer pass. He called the wingman on FM to tell him he was changing the entry, but the wingman didn't hear that call. The wingman thought they were still going to run in at 500 feet; he stayed down at low altitude in his left turn.

By this time the two of them were some five miles apart. The leader was nearly overhead the range.

The wingman was down on the deck in the holding area. The range officer passed the flight the active runway and altimeter setting at the nearest Air Force base, less than 15 miles away. Reacting by habit, the wingman looked in the cockpit and rechecked his altimeter setting.

When the wingman looked back outside all he could see was trees. The windscreen was full of trees—big and close. He rolled out and pulled back on the stick hard until he heard the chopped stall-warning tone. He felt the airplane mush and then start to climb. Next he felt a thump as he hit a tree. But the airplane kept climbing.

The wingman told his leader what had happened. He found the range and his leader overhead it. The flight rejoined. Then the leader made a strange decision: he took the flight to their home base 90 miles away when he had a suitable field less than 15 miles away. The nearby field even had the same type of aircraft.

Call it luck or providence, these three wingmen all survived. But what got them into trouble in the first place? Well, we could talk about poor scheduling and insufficient guidance; but what it boiled down to was that someone in the flight did not live up to his responsibilities.

I know we have learned from our experiences. We have campaigned hard against this kind of neglect of our wingmen, and we have placed great emphasis on wingman consideration. I'm sure all of you flight leads are aware of the responsibility that goes with the job. Surely none of you today would ever allow the mission to get out of hand so that you forget about your wingman, would you? I didn't think so. →



TIPS

...interest items,
mishaps with
morals, for the
TAC aircrewman

A failure is a man who has blundered but is not able to cash in the experience.

—Elbert Hubbard

HIGH PRICE OF BEING ABSENT-MINDED

Because a tailwind was making the engines rotate backwards, an A-10 pilot motored both engines before start. While starting the right engine, he forgot that the engine operate switch was in Motor, and he left it there as he continued on into his checks after start. Five minutes later, a crew chief saw smoke coming from the area of the right engine. The



pilot shut down the APU and both engines, called for the fire department, and ground egressed.

On the ground the pilot remembered that he had motored the engine. He checked afterwards; sure enough, the switch was still in Motor. The Dash One cautions that failure to return the engine operate switch to Norm within 30 seconds after the engine reaches 56 percent core rpm may result in disintegration of the air turbine starter. That's exactly what happened—the starter disintegrated.

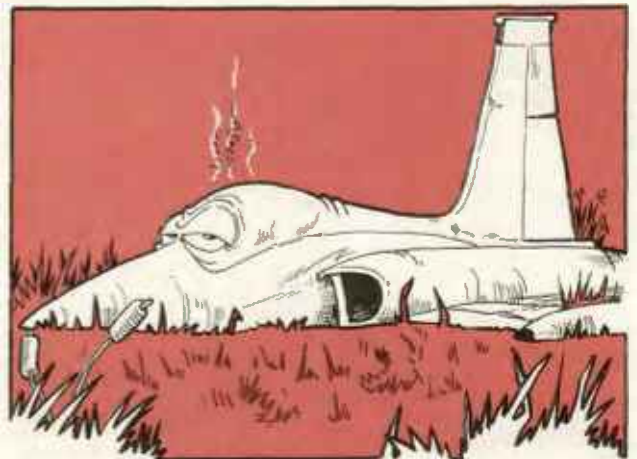
The cost was \$5,600. There must be a cheaper way to jog our memories.

A FAILURE TO COMMUNICATE

The T-38 crew on a cross-country had experienced considerable delay on this stopover. Finally, they were ready to go. But by this time their takeoff and landing data were old; so as they taxied out, they called ground control and asked for the current takeoff conditions.

The instructor pilot in the back seat was taxiing when ground control called back to say the information was available. The pilot in the front seat said, "I've got it." So the instructor pilot let go of the aircraft controls and began copying the information and computing new takeoff and landing data.

But the pilot in front didn't mean he had control of the airplane. He meant he would get the takeoff and landing data. Both crewmembers were busy figuring the data as the airplane taxied along on its own. The T-38 handled the straightaway by itself, but it couldn't hack the turn onto the parallel. It left the hard surface and wandered off into the boonies before either pilot looked up and saw what had happened.



When they recognized what was occurring, the crew shut down the engines. Transient maintenance towed the airplane back to the ramp and inspected. Fortunately, it wasn't damaged. Only the aircrew members' reputations suffered.

The procedures for exchanging control of an airplane are explicit and precise, just so this kind of situation doesn't occur. But if we get in the habit of shortcutting the procedures, someday we'll pay the price in missed communication. We'll be lucky if all we hurt is our reputations.

F-15 BLOWN TIRE

Flying back to the base toward the end of his mission, an F-15 pilot noticed a Master Caution light. The Hydraulic and Left Inlet lights were also lit. The built-in-test panel showed the Utility-A light on, with all hydraulic pressures normal at 3,000 psi. The pilot declared an emergency.

A chase airplane joined up with him and reported that he had hydraulic fluid streaked on the bottom of his airplane. With the chase still on his wing, the pilot tried to lower the gear. He moved the gear handle down, but the gear didn't budge. So he used the alternate extension, and the gear came down. The Utility-A light was still lit, with the pressure at 3,000 psi. The gear doors did not close.

He set up for a straight-in approach. On final the Master Caution light came back on, this time with a Utility-B light. The Utility-A light went out. The chase pilot saw the gear doors close. The pilot of the sick airplane decided to make an arrested landing, considering possible utility hydraulics failure. He lowered the tailhook.

The pilot touched down 1,000 feet before the cable and lowered the airplane's nose for the cable engagement. But the hook skipped over the cable.



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The pilot realized he had missed the cable. He applied the brakes at 120 to 130 knots, but he couldn't feel any braking action. Believing that the lack of braking was due to utility failure, he pulled the emergency brake handle and tried braking very lightly. The right brake locked, and the tire blew out. The airplane skidded for more than 3,000 feet, shredding the right tire and grinding down the right wheel. The pilot shut down and climbed out as soon as the emergency crew arrived.

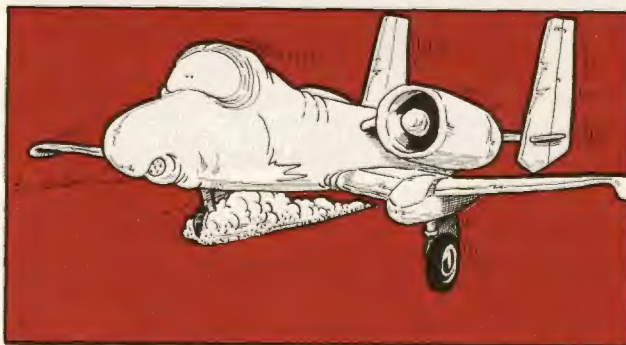
The hydraulic problem was caused by a materiel failure in a portion of the number 2 utility manifold. The hook skip was caused by an underserviced dashpot, which didn't hold enough pressure on the down side of the hook. In addition, the BAK-12 cable was out of tolerance.

All of those problems contributed to the incident, but the reason the tire blew is simply that the pilot used emergency brakes at too high an airspeed. The Dash One warns that braking at speeds above 100 knots may result in no perceived braking action. The manual further warns that using the emergency brakes above 70 knots offers a high risk of blown tires.

For more discussion of the problem of brakes and airspeeds, we suggest you also read our "Letters" department.

TURNING WITH ONE BRAKE

During landing roll, an A-10 pilot felt the airplane's left wheel begin to drag severely after about 5,000 feet of rollout. Using the right brake and nose-



wheel steering, he was able to control the aircraft. After rolling another 500 feet, he turned left onto the taxiway and shut down after maintenance arrived. They found internal failures within the left brake assembly.

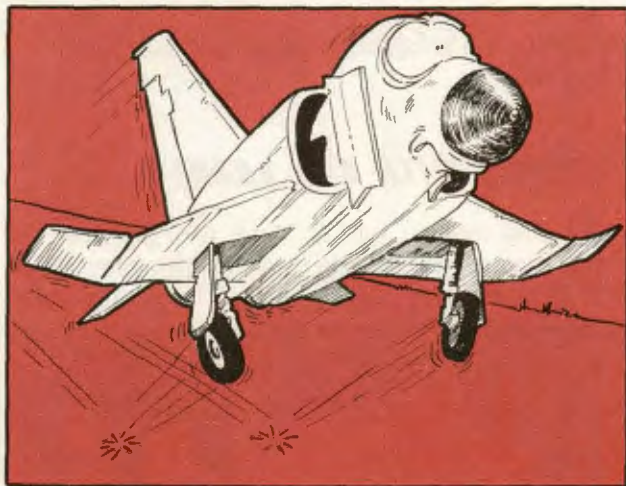
It's nice to clear the runway; but if it had been us, we'd have stopped straight ahead on the runway and let maintenance come get the airplane.

TAC TIPS

PUSH, DON'T PULL

A pilot was getting his initial checkout in the F-4. The transition sortie was planned to include multiple landing patterns. Everything went fine until the fourth pattern. On closed downwind when the pilot lowered the landing gear, the Master Caution and Check Hydraulic Gages lights lit up. Both main gear showed down and locked, but the nose gear indicated unsafe. The flaps wouldn't come down, and the utility hydraulic gage read zero.

The aircrew declared an emergency and talked things over with the supervisor of flying. They ran through the checklist steps for emergency lowering of the landing gear, but the nose gear remained unsafe. Next, the instructor pilot flew a touch and go from the back seat to try to jar the nose gear down, as the flight manual recommends. The nose gear still wouldn't extend.



Fuel was getting too low to try anything else, so the crew decided to land with the nose gear up. Following the checklist, they jettisoned the centerline tank and flew a straight-in approach and landing. They touched down on the main gear, the nose came down, and they slid to a stop on the radome and main gear 4,500 feet down the runway. The aircrew climbed out without injury.

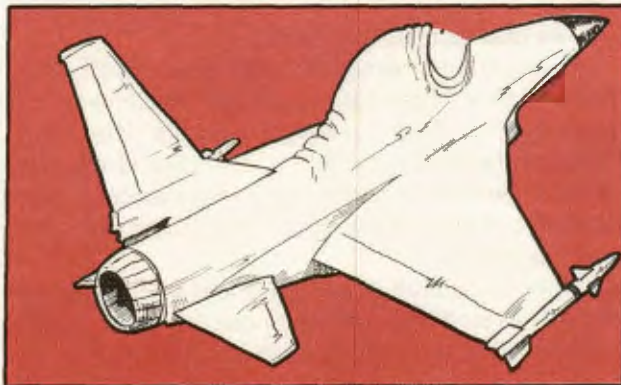
The gear had failed to extend normally because the pilot was pulling the gear handle aft on each extension and retraction. The flight manual mentions that moving the handle aft while raising or lowering it allows air to enter the hydraulic system and vents

fluid overboard. The repeated cycles using that technique depleted the utility hydraulic fluid supply. The emergency lowering didn't work because an air supply line in the nose gear release mechanism was cracked. So the emergency system failed to get the pilot out of the trouble he had unknowingly gotten himself into.

Although the danger in pulling on the handle is discussed in the Dash One, it wasn't emphasized in the checkout program. Since in some airplanes the pilot has to pull on the handle to raise or lower it, every F-4 transition program should have a discussion of gear handle techniques. It turned out later that this pilot wasn't the only one who was unaware of the problem.

BUILD G MUSCLES

During a BFM mission, the F-16 pilot executed a rapid-G-onset defensive slice. He followed that with what appeared to be a nose-low extension. His instructor pilot in the back seat felt that the dive recovery was a little slow in coming and called on the intercom for the pilot to begin recovering. Not satisfied with the response, the instructor took control of the airplane and pulled out of the dive, calling "Knock it off" to the other F-16 in the flight.



Taking control was a good move by the instructor. It turned out that the pilot had blacked out. His G-suit had disconnected, most likely because it was misrouted. The onset of G had been so rapid the pilot blacked himself out before he realized what was happening.

The pilot was in good health. The flight medicine experts afterwards pronounced him fit. The problem is that our later model airplanes can take more than our bodies. Of course, it helps if we hook up our G-suit correctly. But beyond that, the flight surgeon encourages pilots to exercise with weights to increase G tolerance.



By TSgt Donald G. Stormoen
388 TFW/SEG

L.D. Diller was complaining to his wife Dolly about the high price of gasoline. Even though the old VW bus was getting fairly good mileage, Diller was looking for a better "mouse trap." He had considered many alternatives such as hang gliding to work, but there were no hills close to base. He ruled out son Joey's skateboard as too slow for the same reason, no hills. Dolly suggested he ride her bicycle to work, but Diller was afraid he might not get the respect he deserved if he rode a woman's bike to work.

Well, it was about this time that Dawg brought the daily newspaper in and dutifully dropped it at his master's feet; and there among the shredded pages was the answer to Diller's search. Without a word to Dolly, he dashed out the door and took off for town in a cloud of oily, smoky exhaust.

About an hour later he swung into the driveway with a broad smile and the back of the VW bus full of *something*. With the whole family pushing and pull-

ing, his brainstorm was unloaded for all to admire. Daughter Nickey thought it was just another woman's bicycle, and son Joey knew for sure it must be an exerciser bicycle for Mom. But Dolly knew: "Oh, my goodness—a motorcycle."

Diller set everyone straight. "No, Dear, this is a moped. It gets 100 miles per gallon. And with the basket on the front, I can carry my lunch box and briefcase to work. We'll save lots of bucks with this beauty." Dawg wasn't too impressed; he christened the rear wheel.

Diller assured his wife that he was experienced in the ways of riding this high-powered bicycle; after all, he had gotten a ride on a friend's motorcycle back in 1958. So bright and early the next day, he "took off" for work with an old flying helmet on and his white scarf waving in the breeze. Dolly wasn't sure but she thought she heard him say something about the Red Baron as he zoomed down the driveway.

DILLER'S MOPED

That evening Diller went on and on at the supper table about the freedom of the open road and the wind in his face. Dolly still was not sure her husband was playing with a full deck. After supper the kids barraged Dad with pleas for a ride on the new machine. Joey was the first to experience the thrill of 15 miles an hour on the back of Dad's new moped. When Nickey got on the back, her legs couldn't even touch the foot pegs, but Dill covered that by telling her to hold tight and keep her little legs stretched out from the rear wheel.

As they left the driveway, old Dawg saw Nickey taking off with Dad and didn't want to be left at home. He jumped out of Dolly's arms and raced after Nickey like the good hunting dog he was. Across the front lawn, two bounds into the street, and he was nose to nose with the rear wheel. Diller pulled hard right and did a beautiful wheelie over the curb.

he made a beeline for his favorite spot in the garage.

Dolly had everyone fall out for open ranks in the living room. With the wisdom and vigor of a good drill sergeant, she reminded her husband of all the safety precautions pilots took before flying. She also reminded him that a flight helmet was not designed to take a blow on the pavement; he would have to buy a Department of Transportation (DOT) approved helmet and face shield. Nickey would have to wait until she could reach the foot pegs before she could have another ride. Diller should wear his orange hunting vest and keep his headlight on at all times while operating his new moped because, as Dolly pointed out, most car drivers are not used to seeing mopeds in the traffic mix. No more Red Baron stuff—that moped has a top speed of 25 miles an hour and doesn't have the needed power to get out of tight spots.

With his new orders in his hip pocket, Diller approached his gas-saving rides to work with a new sense of responsibility. He even decided to sign up for the Motorcycle Challenges course at the base traffic safety office because, after all, there is not that much difference in operating a moped or motorcycle. Dolly was happy now; she didn't have to worry all day that her husband would not make it home. Nickey didn't want any more rides; all she wanted was her two front teeth.



Nickey couldn't whistle her favorite tune with her front tooth knocked out, and Dad was limping around after his trick knee went out again. Dawg couldn't understand why everyone was so upset with him, so



Dawg was the only one still worried. His master still hadn't forgiven him. But Dawg was sure he would get the chance to christen that front tire soon.

WEAPONS WORDS

GAU-8 GOUGES CONCRETE

The gun system on an A-10 jammed while ammunition was being loaded. The safing pin and cam were already installed. A load crew was dispatched to remove the gun from the airplane. In this unit there was no designated safe location for clearing jammed guns, so the aircraft was left inside its shelter.

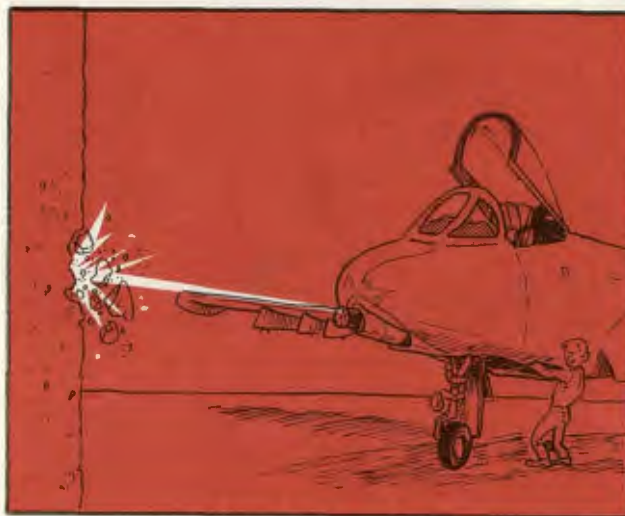
The load crew chief checked and saw that a live round was in firing position. Since the tech data prohibits removing a gun with live rounds in the system, the crew chief first referred to the tech order section covering clearing the GAU-8 after a system stoppage. Step 6 in the checklist directs a check for a live round in firing position; if a live round is in position, the tech order calls for going directly to step 17 of the checklist. This step instructs the crew to reverse the gun and position the cocking pin into the firing position.

At this point the crew chief grew confused. He felt that those procedures weren't right. So he decided to go back and do steps 7 to 16, which are intended for use only with expended rounds. First the crew chief tried to rotate the gun using the manual gear drive, but he couldn't. He went on with the rest of the steps.

Step 10 directed removing the safety cam, which he did despite the presence of a live round in the firing position. The next step gives procedures for securing the firing pin away from the round by means of a screwdriver. The crew chief forced back the cocking pin, which is attached to the firing pin. Then



he called for one of his co-workers to come help him hold the screwdriver. Before the other crewmember could grab hold, the screwdriver slipped. The firing pin snapped forward and fired the live round in the barrel. The 30-mm round knocked a chunk out of the



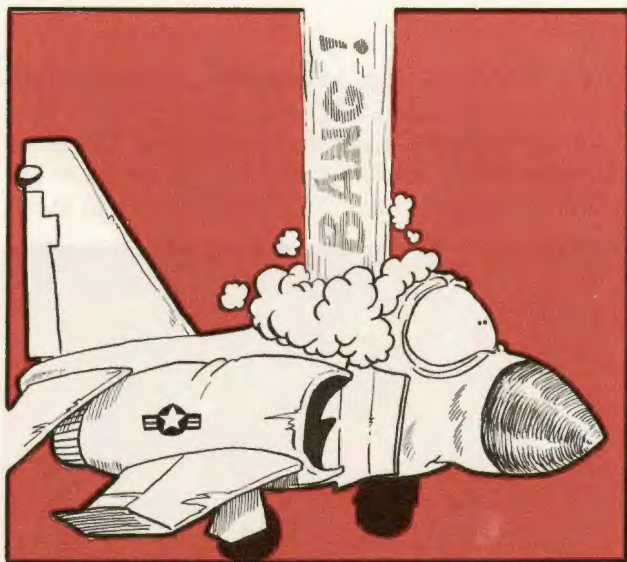
concrete wall but luckily didn't do much other damage. But the whole crew missed a few heartbeats.

Back when the crew chief first became confused would have been a good time to call a time out and get some supervisory help. It's hard to admit we're not sure about something, but it's easier than explaining the gouge out of the shelter wall.

WEAPONS WORDS

Two egress technicians went out to an F-4 to remove the rear seat bucket. One of them read the checklist while the other carried out the steps. Among the steps read was one which called for placing the survival kit mode selector arm in the manual position. The technician who was doing the steps called it complete.

A couple of steps later, the survival kit was removed from the seat. As the kit was taken out, its safety streamer caught on the seat. The lanyard which fires the deployment actuator was pulled. The checklist reader heard the actuator fire. He also no-



ticed that the mode selector arm was in the automatic position.

What had happened was that when the one technician read about placing the selector arm in manual, the arm was already in manual. The other technician moved it to automatic and announced that it was in manual. The technician never looked at it to see what its position really was. When the technician also failed to make sure the safety streamer was clear of snags, the explosive mishap became inevitable.

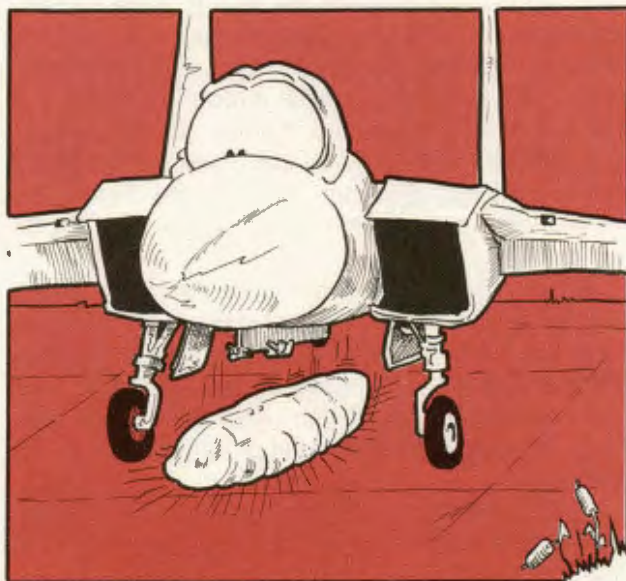
The equipment reacts only to what we do, not to what we say we've done.

A load crew was dispatched to an F-15 to check for stray voltage and then arm the pylon and tank jettison systems. When they got to the airplane, the crew looked over the pylon safing pins and then positioned the tester and AGE.

No one physically checked the MAU-12 pin. It was in place but not properly seated, negating its effectiveness. The aircraft forms weren't on hand, so there was no paperwork indicating that the pylon breeches were dearmed. None of the crew looked to see if the breeches were dearmed. The crew chief did not ensure that the pins were properly installed and the interphone connected before getting started. (Already we get a glimmer of where this story is headed.)

The crew chief did not go over each member's job. The crew chief climbed into the cockpit and prepared for a jettison check—the wrong type of check. Another crewmember connected the W-4 cable and tester to the pylon but didn't remove the jettison cartridges as he should have. Then he went to help the third crewmember start the AGE power units. Meanwhile, the crew chief in the cockpit just took it for granted that everyone was ready for a jettison check. He had to take it for granted; without the interphone connected, he couldn't talk to his crew.

The crew chief pressed the jettison button. The system worked as designed, and the centerline fuel tank and pylon came crashing to the ramp.



Was anyone really surprised by the ending? The only surprising thing is that the crew got that far before something went wrong.

REALISM OVERDONE

Three members of the security police responded to a hostage situation exercise. They included an officer, an NCO, and an airman. The officer entered the building where the supposed hostages were located; the NCO and airman waited outside.

After the officer entered the building, he walked through the foyer, passed an inner door, and stopped. Meanwhile, the NCO told the airman to set off a ground burst simulator and throw it through the door. The airman did what the NCO told him to do.

The simulator detonated in the foyer. Besides bowling over the officer inside, it dislodged the main

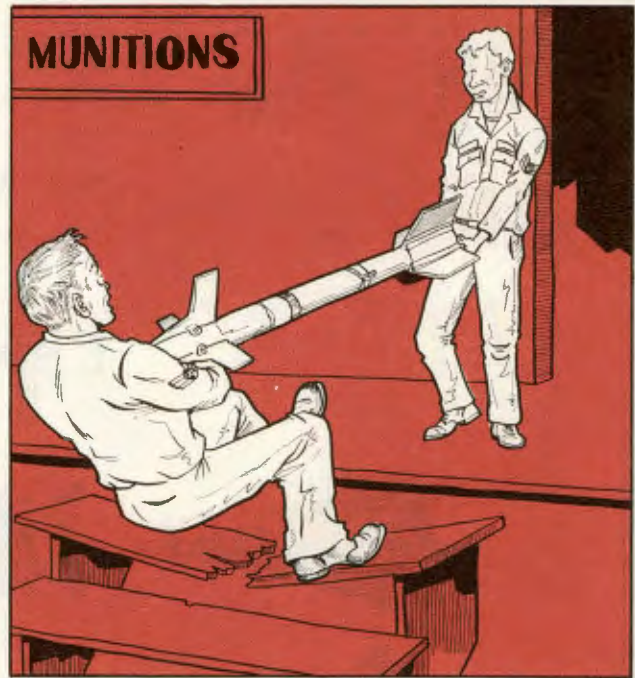


doors from their hinges, cracked and rippled the ceiling, shattered reinforced glass in and over the entrance door, and scorched the ceiling, walls, and floor. The officer was taken to the medical clinic and checked over. No serious injuries were found.

The NCO and airman were apparently carried away with the realism of the scenario. They violated the rules on where pyrotechnics and munitions can be used. As a result, their officer was almost literally carried away.

BAD STEPS TOLERATED

Two missile maintenance technicians were carrying an AIM-9E inert training missile down the steps of the munitions building facility to load onto an MHU-12 trailer for transport to an aircraft. When the first airman, holding the nose of the missile, started down the steps, the top step broke. The airman fell and dropped the missile; its nose hit the corner of



the trailer, shattering the radome. Neither airman was injured. EOD was called, and they secured the missile's gas grain generator.

The building used for missile maintenance has a problem designed into it. The foundation is 30 inches above ground level and missiles have to be lifted or lowered going in and out. The design problem was compounded by the fact that the three steps used were faulty. The steps had been previously identified as hazardous and requiring repair. However, nothing was done about them until after this mishap.

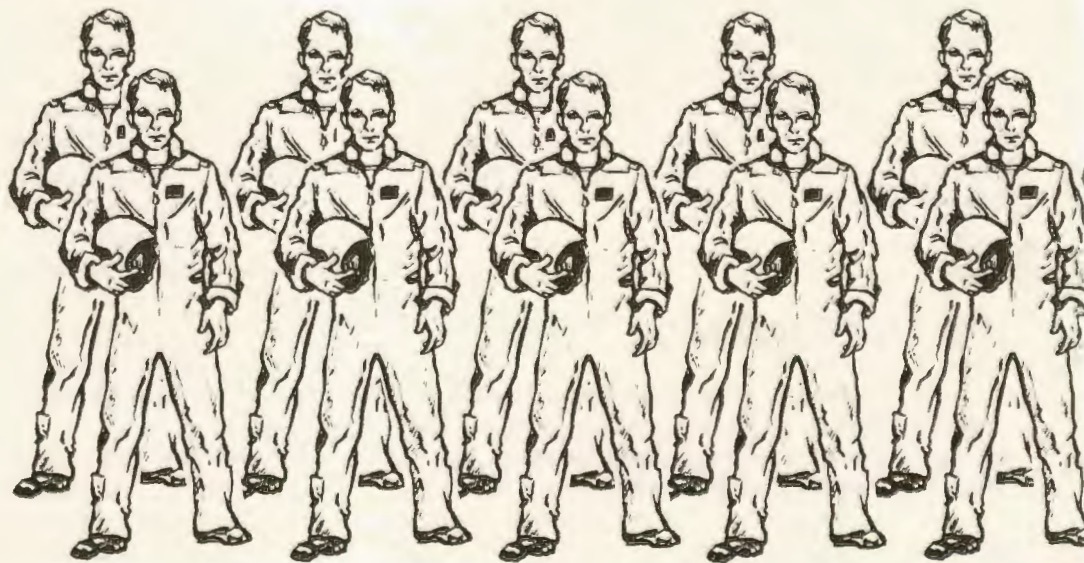
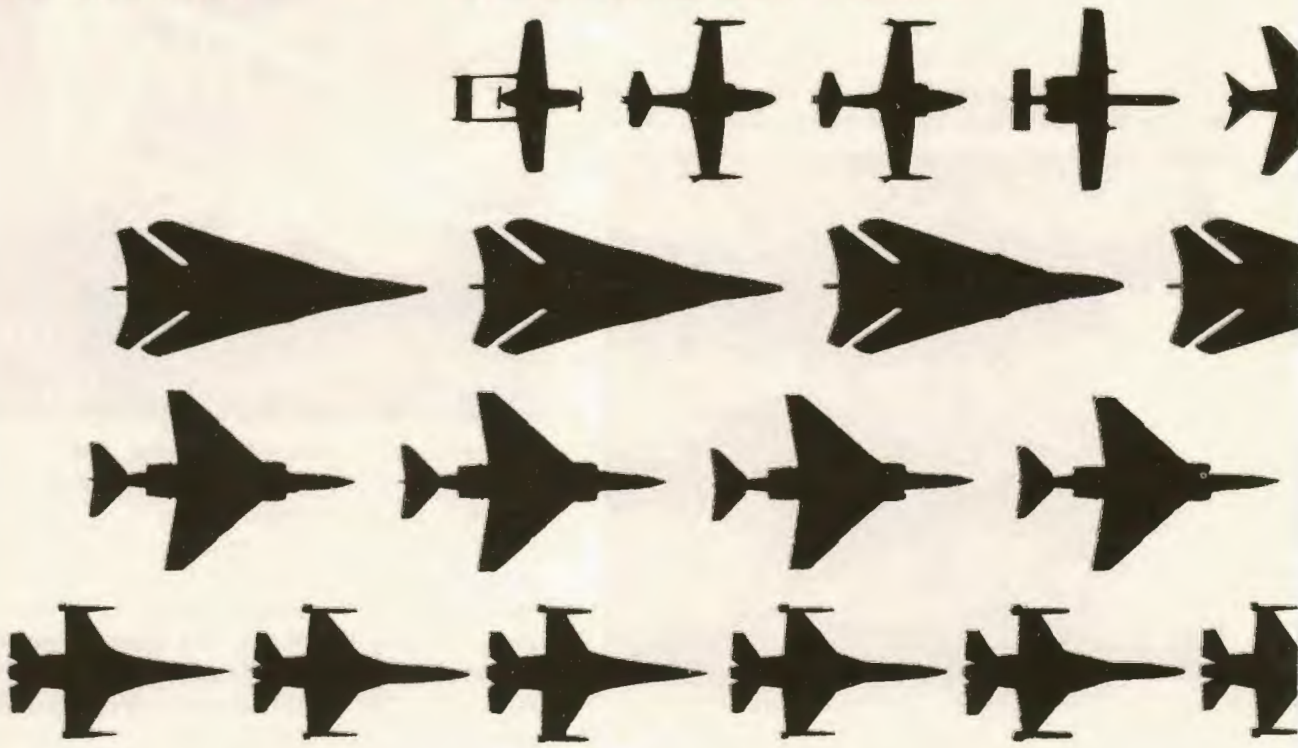
The missile maintenance supervisor also had never questioned the idea of carrying missiles up and down the stairs. Since the incident, the unit has made a low missile stand which allows the missile to be moved directly onto the building platform instead of being carried up and down steps.

In addition to these environmental problems, the technicians added to their problem by violating the tech data. Only two workers were lifting the 168-pound missile. The tech order calls for no more than 65 pounds per person, so a third worker was required to carry the missile. We'll never know for certain, but an extra pair of hands might have prevented the incident.

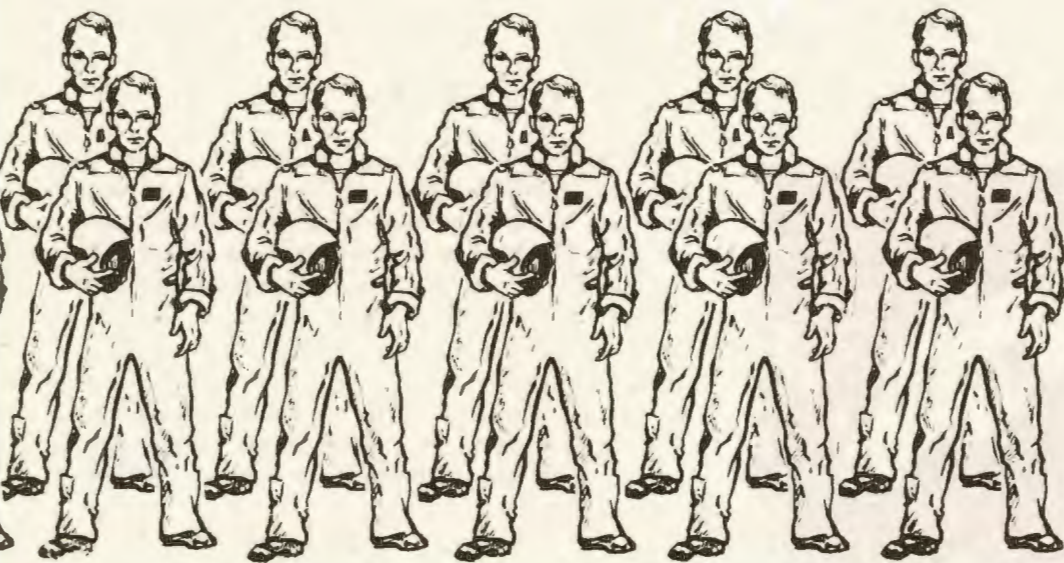
So, we see that several factors appear to have contributed to this mishap. Now let's look around. Can any of these factors be found in our own units? Let's try to fix our problems before a mishap occurs instead of afterwards.

OUR TAC AND TAC-GAINED LOSS

JANUARY — DECEMBER 1982



PILOTS IN THE AIR



chock talk

*...incidents and incidentals
with a maintenance slant.*

I ARE A MECHANIC

By SMSgt Fagan
9 AF/SEG

I are a mechanic. Given the right amount of time, I have the ability to dismantle practically anything through the adroit use of my rusted knife blade, a nicked up claw hammer, and a semiadjustable pair of 78-cent (plus tax) pliers. Granted, it might take a tad longer to put the watchamacallit back together, and I'm always guaranteed to have a few extra parts left over upon completion. Thank goodness I'm a backyard mechanic rather than a genuine Air Force maintenance man. When you consider the ramifications from operating like I do, it is pretty scary.

Because I'm not a maintenance worker or aircrew member, FOD that is left in or on the airplane will not hurt me—or will it? I watched an F-4 tumble from the sky a short while back. It impacted in an uninhabited



area at the north end of the flight line. It could just as easily have dumped all over us on the flight line and really ruined the whole day. Yes, I guess that FOD could have hurt yours truly. Oh, on the FOD side, we found a pair of pliers in the wreckage area.

FOD can really be a bummer. The Air Force calls it foreign object damage. The dictionary refers to "fodder" as coarse food for horses, cattle, sheep, etc. Now the only thing that I've ever seen that may approximate one of the above animals is a flight line full of aardvarks in Thailand, and I wasn't really supposed to call them that. It, therefore, stands to reason that since we don't really have such animals on the line, we should not provide fodder to the beasts.

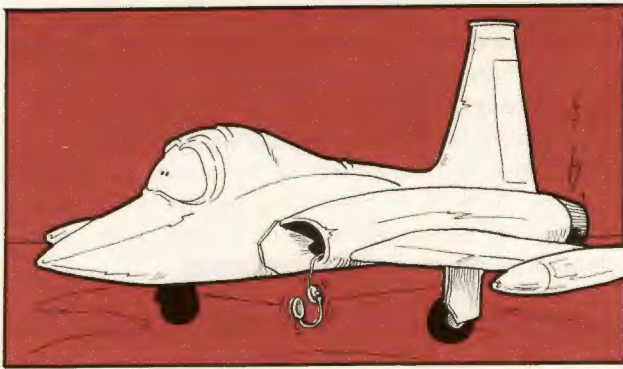
We all know the methods of preventing FOD: common sense, stow it, torque it down, be clean, be careful, be kind, and be a good scout. Even with all of this common sense, we still FOD engines on a regular basis. This would lead me to believe that there are a few folks running around that are a tad short on smarts. FOD can be stopped. I hate to see my tax dollars blown away on simple things like FOD. Since it can be stopped, let's do it.

That's like telling the motorcycle rider, sans helmet, that at 0914, tomorrow, he will fall from his trusty steed and strike his head against an equally hard surface. Guaranteed, he will wear a brain bucket at 0914 tomorrow. Each of us with access to the flight line knows what the problems are with FOD and the rules involved in stopping it from happening. Knowing what might be coming tomorrow should be enough incentive to get our acts together and prevent this needless loss of aircraft and crews. Working together, we can and will stop FOD!

WRONG SIZE CORD

Two engine mechanics were running the engines of a T-38 on the parking ramp. The engine run was part of an operational check of a diverter valve that had been installed. During the engine run, the power unit ran out of gas. The mechanic on the ground moved to the rear of the airplane to disconnect the power unit's air hose so another power unit could be used. The mechanic's ground intercom cord just barely reached that far. As he tried to disconnect the air hose, his headset cord pulled out of the extension cord. The left engine sucked the loose extension cord into the intake.

The intercom cords are locally manufactured to the length specified by the requesting agency. The



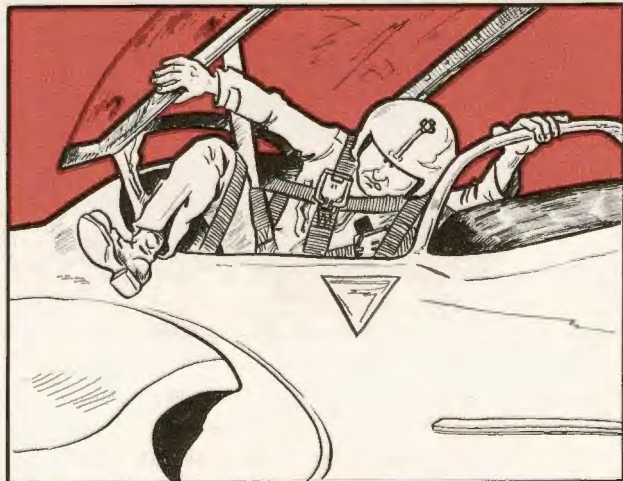
tech data only specifies a maximum length of 100 feet, not a minimum. The cord used in this mishap was 40 feet long. A check of other cords in the unit showed they varied in length from 26 to 40 feet. The length required to reach from the front of the aircraft around the left tire to the air hose connection at the rear is 43 feet. When the cord is stretched tight, it comes as close as 12 inches to the engine intake.

In December we wrote about an F-111 ingesting a cord because it was too long and the coiled cord was dragged near the intake. Now this incident shows that a too short cord can also cause FOD. The cord needs to be sized for the job.

More importantly, however, keep things, including ground cords, away from intakes, particularly those of engines that are operating. They'll gobble up anything and everything.

BALL POINT PEN CHEATS SEAT

A two-man aircrew finished their mission in an OA-37 and were ready to climb out of the cockpit when the copilot found that he couldn't release his seatbelt. He finally freed himself by loosening all his



TAC ATTACK

straps and squeezing out. It was a good thing he hadn't needed to eject or to climb out quickly in an emergency. In an ejection, the copilot could not have separated from the ejection seat.

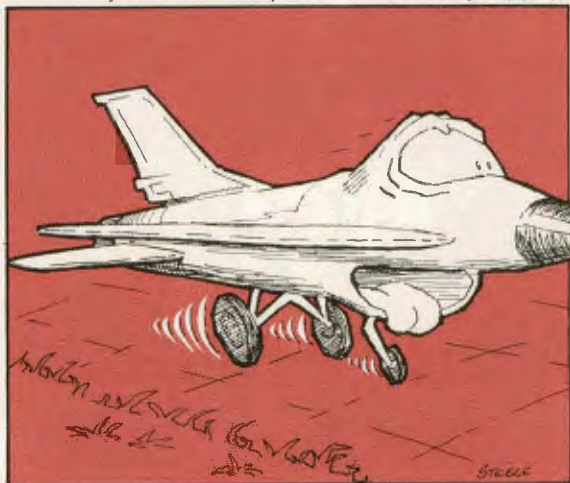
The seatbelt was taken out of the airplane and broken down. The tip of a ball point pen was jammed in the mechanism. Apparently, in order to secure the right seat for solo flight, someone had cheated the gold key locking mechanism by inserting a ball point pen. When the pen was pulled out, its tip came off and stayed in the mechanism. The pen tip may have been in there for quite a while before it worked its way into the lock release.

Both air and ground crews regularly secured the right seat for solo flight. We'll never know who used a ball point pen to defeat the latch. But the problem of bypassing the requirement to insert a gold key was well known. No one took the time to develop a safe, standard procedure to solve the problem. After this incident the unit developed a locally produced gold key with a red streamer attached. And now there is a right way to do it.

THE ELECTRON EXCHANGE

After starting the engine on an F-16, the pilot and crew chief ran through the checklist before the airplane taxied. One of the checks required the crew chief to look at the brake disks on both main gear to insure they moved when the pilot applied the brakes. Once they finished the checklist, the pilot signaled he was ready to taxi. The crew chief pulled the chocks and marshaled the airplane forward.

As he taxied forward, the pilot tested his brakes. He had no braking in either channel 1 or channel 2 brake systems. The pilot immediately applied the



CHOCK TALK

parking brake. Because he responded quickly and correctly, the airplane stopped before it hit anything. The crew chief chocked the airplane, and the pilot shut down the engine. As the main generator dropped off the line, the emergency generator caution light came on, indicating that the EPU circuitry had armed in the hydrazine augment mode. That mode is normal for shutdown in the air but not on the ground.

The last time this airplane had flown, the battery had not dropped off line when the electrical power switch was placed off. Maintenance troubleshooters found a defective relay (3253K9) causing this problem. They replaced it, but they also noticed that the relay next to it (3253K8) was dented. So they replaced it also. However, they used the wrong part: they installed a resistor network (C8888-2) where the K8 relay belonged. The two parts look very similar.

With the resistor network installed in place of the relay, the antiskid protection circuit was grounded through two 150-ohm resistors in parallel with two 1000-ohm resistors. The antiskid system's logic told it the airplane was airborne, and the protection circuit would not allow the brakes to work. The EPU augment circuit armed because it lacked a ground where it needed one.

It turns out that the resistor network isn't the only electronic component that could be mistaken for the relay. A diode assembly (C4941-1) is also the same size and keyed the same as the relay. This diode could have the effect of eliminating the antiskid protection circuit if it were installed in the relay's place. Instead of no brakes, the result could be locked brakes on touchdown.

Obviously we need to find ways to insure that we don't install the wrong device. The different parts



should not be stored next to each other so that the wrong one could be picked up. Those of us who work with the components must take extra care to check and recheck that we are using the right part.

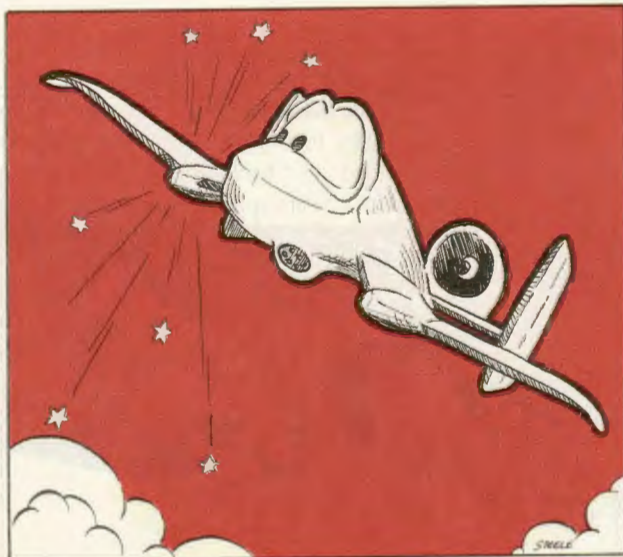
As a side note, there was no way the brake disks could have moved when the crew chief made his pretaxi check. The crew chief either didn't check them or he perceived what he expected to see instead of what was actually happening.

MUFFED JOB AND PAPERWORK

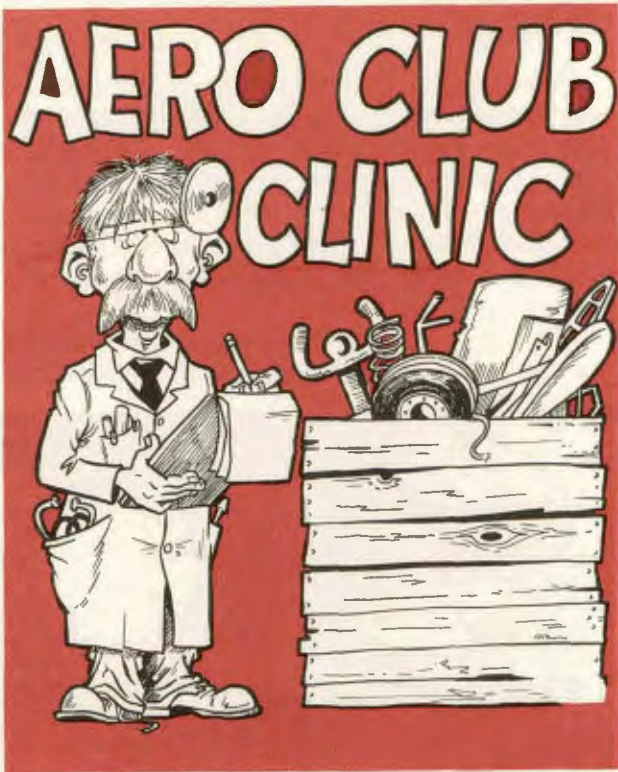
After an A-10 had landed, the middle gear door was found damaged beyond repair. Although the damage looked like it had occurred during gear retraction, the pilot didn't remember any unusual gear indications.

This was the first flight since phase. During phase, the engines were trimmed. When an A-10 is run on the trim pad, a quick release pin on the main landing gear door is removed so the airplane can be tied down for the engine run. The job guide cautions that removing the pin requires checking for shims that are not bonded. If the shims are not replaced correctly, the doors can be damaged during retraction.

The removal and replacing of the quick release pin should have been entered in the 781 but wasn't. With no 781 entry, the required supervisory inspection wasn't made. So the airplane took off with the outboard shim missing and the inboard shim loose.



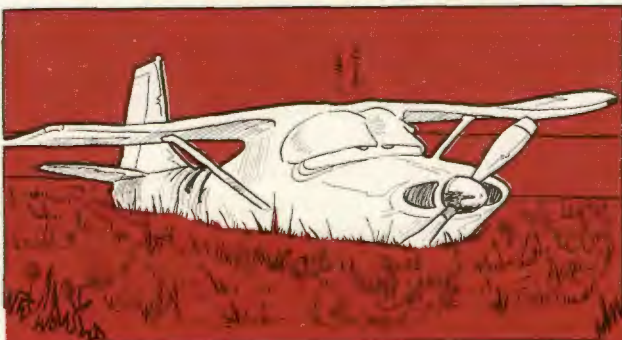
The problem seems to be twofold: not doing the job right and not getting the paperwork right so the job can be checked. The answer for both is the same: Do it the way the tech data says to do it.



CROSSWIND CRUNCH

A student pilot was flying a solo cross-country in a Cessna 172. En route he adjusted the mixture control several times, but he forgot to lock it after each adjustment. He was used to friction-type mixture control, not this aircraft's thumb-screw mixture control.

At his destination the pilot encountered a 13-knot direct crosswind. He tried a full-flap, idle-power approach. At 50 feet above the ground, he reached for the throttle to pull it to idle. He pulled the mixture control instead and shut down the engine by mistake. The airplane hit hard on the main gear, bounced, landed again, and coasted off the side of the runway.



An FAA-certified A&P mechanic, who happened to see the landing, inspected the airplane. He didn't find any damage other than a split nose tire. The mechanic replaced the nose tire, and the student flew the airplane back home.

Back at the home base, the student told his instructor about the hard landing but didn't write it up in the airplane's flight log. The instructor told the club manager, who had two of the club mechanics inspect the airplane. The mechanics didn't find any exterior damage.

The airplane was flown 11 times afterwards for about 25 more hours before it came due for a 100-hour inspection. At the 100-hour inspection, the engine cowling was removed for the first time since the hard landing. The mechanic found the left engine mount pulled from the firewall, the firewall buckled, and the battery mount collapsed 3/4 inch. Six rivets had been pulled from the firewall bulkhead mounting, and the cockpit floor was buckled.

The Air Force and FAA rules require that after undue stress, such as a hard landing, the aircraft must be properly inspected and declared airworthy before being released for flight. The mechanics who inspected the airplane complied with the rules. Since they didn't find any exterior damage, the mechanics didn't pull inspection panels and inspect internally. The rules don't define a proper inspection.

Based on this case, it appears that a "proper inspection" for overstress should include pulling the inspection panels. A more complete inspection might have kept this plane from flying 11 sorties with hidden damage.

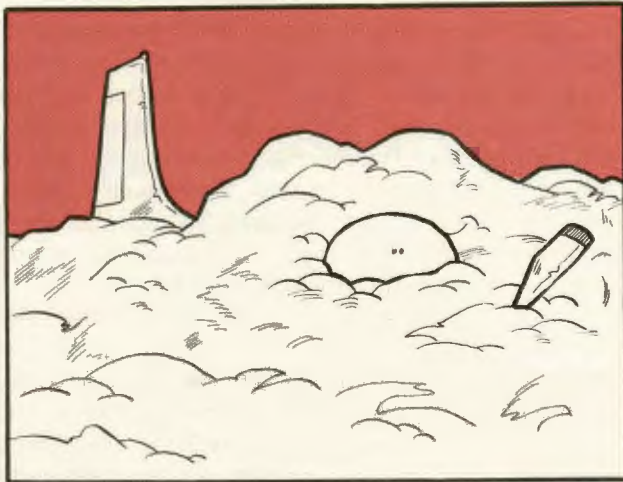
SUNDOWNER AFTER SUNDOWN

An aero club pilot was flying a night solo in a Beechcraft Sundowner. He was qualified in the Sundowner, although he had never before flown it at night. His previous night training had been in a Cessna 172. The two aircraft are in the same class and category, but the Sundowner has different handling characteristics on the ground. The pilot's total time in the Sundowner before this flight was four hours.

The flight progressed normally until landing. Just before touchdown the pilot felt some light turbulence. But he was able to correct for it and stay lined up with the centerline. The touchdown was normal until the nosewheel contacted the runway. Then the airplane began to skid as the nose of the airplane turned left. The pilot tapped the right brake, but that

AERO CLUB CLINIC

wasn't enough. Using nosewheel steering he stopped the skid. However, he didn't get the airplane pointed back to the centerline in time. The airplane ran off the left side of the runway, hit a snowbank, collapsing the nose gear and left main gear, slid across a dirt road, and came to rest against another snowbank. The pilot was unhurt.



The pilot must have put in left rudder when he encountered the turbulence just before touchdown. In the Cessna that the pilot was used to, the nosewheel steering is less sensitive and it disconnects from the rudder pedals in flight. The Sundowner's more sensitive nosewheel steering remains connected all the time. If the pilot still had the rudder pedal in when the nosewheel touched down, that would account for the skid.

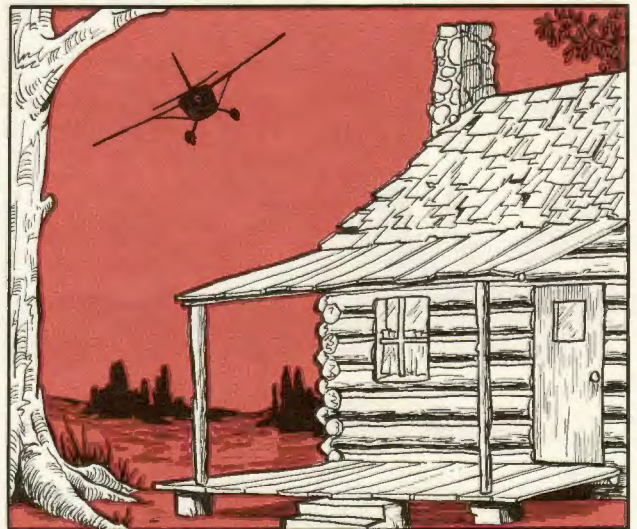
During the pilot's four-hour checkout in the Sundowner a month earlier, he'd never encountered crosswinds or turbulence. The winds had been calm. The pilot never received a briefing on the different ground handling characteristics of the Sundowner. He had not intended to fly the Sundowner this night, but the Cessna he'd planned on was grounded. So with his instructor's concurrence, he switched to the Sundowner.

Because the two airplanes are in the same class and category, the solo flight in the Sundowner complied with Air Force and FAA regulations, even though he'd never before flown it at night. But regulations can't cover everything. Since all the aero club pilots who'd flown the Sundowner agreed that it was harder to control after touchdown and while rolling out, good judgment might suggest that a pilot's first night flight in the Sundowner shouldn't be solo.

SHOWING OFF

A student pilot planned his solo cross-country to take him near his grandfather's lakeside cabin. The aero club supervisors who reviewed his flight plan didn't know that, so they approved his route of flight. He took off in a Cessna 172. On the floor of the cabin, in front of the right seat, he had placed a message for his grandfather. The message was wrapped in a rag to weight it.

When he arrived at the private lake, he found his grandfather's cabin and made two low passes on it.



His grandfather came out and waved. The student turned to make a third pass and drop the message. While reaching down to pick up the rag with the message wrapped in it, he couldn't see outside. He also probably made some unintentional flight control movements.

The next thing the student remembers seeing was a cabin directly in front of him. He instinctively banked left to miss the cabin. The airplane hit the ground hard, left main gear first because of the bank. The left wing folded back against the fuselage, and the empennage broke off at the rear seats. The nose gear sheared off as the airplane somersaulted back into the air. While it was upside down, the airplane's right wing hit the side of the cabin, turning the plane 270 degrees clockwise. The airplane came to rest upside down but nearly vertical.

The student pilot was badly hurt, but he survived. He suffered facial lacerations, two broken ankles, and three damaged vertebrae. The student had known that his low passes would violate FARs. But the urge to show off led him to disobey the rules, and it almost cost him his life.

SALVAGING A BAD APPROACH

An aero club pilot was flying on a cross-country to a base where he had once been stationed. The cross-country base has two nearly parallel runways, runway 30 and runway 32. Runway 30 is to the right of runway 32 and about halfway down the length of it.

On his approach the pilot was cleared to land on runway 32. But because he knew the local aero club used runway 30, he told tower he'd rather land on 30. Although the field was officially VFR, smog was heavy on final approach. At 200 feet and 1/2 mile, the pilot saw a large camouflaged airplane below him. That's when he realized he was lined up with the alert area, not runway 30.

The pilot made a hard turn left back toward runway 32, where he had originally been cleared to land. Then he made another hard turn, this time to the right to line up with the runway. During this hard S-turn, the airplane's rate of descent increased. The airplane, a Mooney M20J, touched down hard on the main gear and bounced. Then it hit the runway a second time slightly nose low. The pilot regained control, completed the landing, and taxied in. The next morning during preflight, the pilot saw that one propeller blade tip had been bent back and the other tip was gouged. He realized then that the prop had hit the runway the night before.



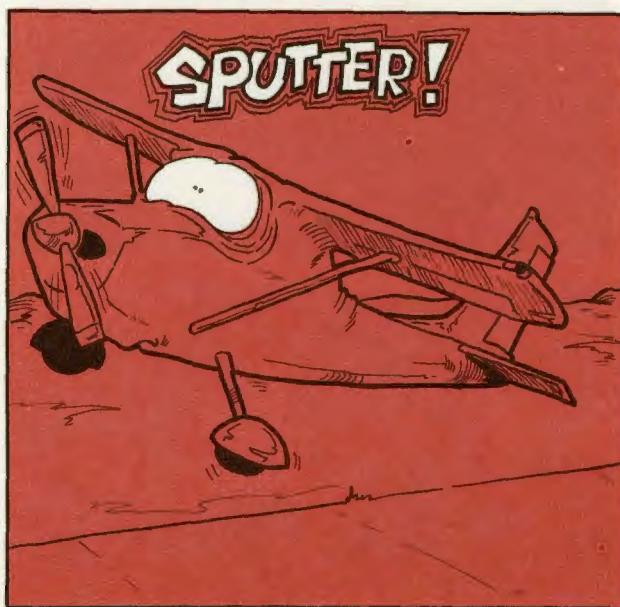
The incident shows us that official VFR doesn't necessarily mean we'll be able to see as well as we need to see. It also proves once again that a "salvaged" bad approach is still a bad approach. Why not go around and make a good approach? Leave salvaging to the junk man.

TOO MUCH CROSSWIND, TOO LITTLE RUNWAY

The student pilot was on a solo cross-country flight in a Cessna 172. As he arrived at an en route stop, he overflew the field and checked the winds. The wind sock at the north end of the airport indicated the winds were calm. The student wasn't familiar with the field, but he had looked it up in the airport facilities directory while flight planning. He entered the landing pattern for runway 35.

On final approach the student noticed gusting crosswinds from the left. He continued his approach but had some difficulty keeping directional control. When the airplane touched down, it began to drift right. The student felt he couldn't stop the drift, so he tried to go around.

As the airplane continued drifting to the right, the student became anxious and pulled the airplane off the ground before it had reached flying speed. The airplane climbed about 20 feet and then stalled, fall-



ing to the ground to the right of the runway. The airplane hit tail low in soft dirt. The left main gear hit first, followed by the nose gear and then the right main gear. The prop dug into the dirt and grass.

Because of a misunderstanding, the student's cross-country route had not been reviewed and approved by the chief pilot. Although the student's preflight study had indicated that the runway was 100 feet wide, it actually was only 50 feet wide. The combination of narrow runway and unexpected crosswind was simply more than the student could handle.

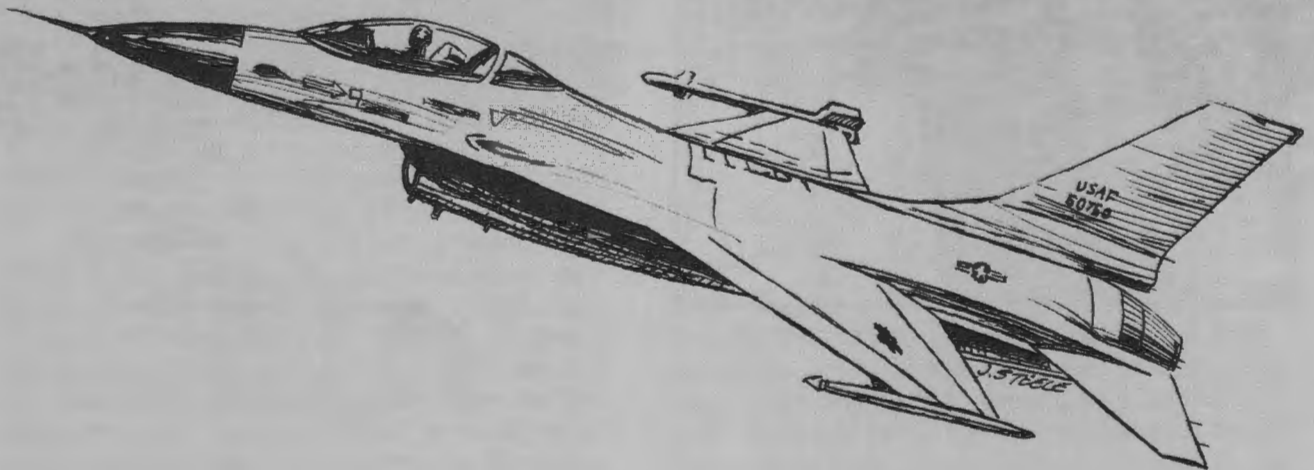
AIRCREW of DISTINCTION



Capt Gary L. Hooker
4 TFS, 388 TFW
Hill AFB, UT

On the morning of 11 September 1982, CAPT GARY L. HOOKER was making an afterburner takeoff in an F-16A from Hill AFB, Utah. When he was about 50 feet in the air, accelerating through 190 knots as the gear were coming up, the afterburner blew out and the turbofan stalled. Captain Hooker's feet were knocked off the rudder pedals by the severity of the blowout. The sound was heard through the entire flight line. Quickly analyzing the situation, Captain Hooker realized that the chance of the engine continuing to operate was uncertain. With 7,000 feet of runway remaining in front of him, he decided to make an immediate landing. He lowered the gear, pulled the throttle back, extended the tailhook, and set the airplane back down on the runway. He touched down with 4,000 feet of runway remaining and steered into the departure-end BAK-14 arresting gear, bringing his brief flight to a successful conclusion.

The F-16's engine had failed internally. Captain Hooker's rapid analysis of his situation and his superior airmanship very likely saved the airplane and prevented his own injury. His actions qualify him for the Tactical Air Command Aircrew of Distinction Award. ➤





JP-4 SPILL

An NCO and an airman went to a fuel storage tank in the ready area. Their job was to transfer fuel from the base's tank farm into this tank. The procedure was routine. This tank had to be refilled from the tank farm about once a week because it was used to feed fuel stands. This team of a fuels supervisor and a fuels specialist had worked together on several fuel transfer operations, and they had each done this procedure about ten times.

The fuels management branch storage section had provided a checklist to cover transfer of fuel from the tank farm to this tank. Checklist items in boldface print are sequential items. The introduction to the checklist warns that "failure to comply with these items could result in catastrophic spill or injury." The checklist also warns that deviations from the proper valving sequence could cause a fuel overrun. This tank, like most others on the base, was not equipped with an automatic high-level shutoff valve.

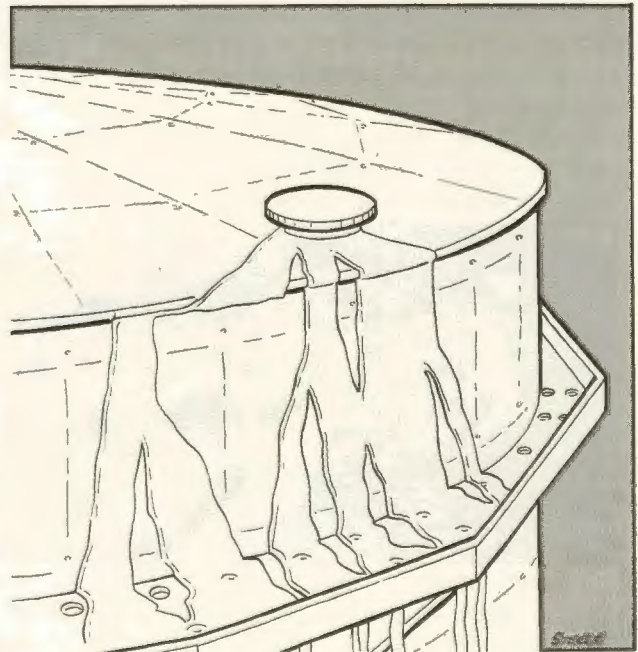
The team began transferring fuel in the middle of the afternoon. They couldn't finish filling the tank before the end of the duty day when the civilian shift

worker at the tank farm went home, so they had to stop transfer when the shift ended. The NCO was on top of the tank watching the sight gage. The airman called the tank farm and told them to stop the pumps just before shift change.

The airman secured the tank tunnel, but he had missed the step on the checklist requiring closing of the valves. The NCO watched the sight gage to ensure that fuel flow into the tank had stopped. Then he climbed down and joined the airman. Assuming that the airman had closed the two valves in the tank tunnel, the NCO chose to leave the valves in the valve box open; after all, they'd be returning the next morning to continue transferring fuel.

At 0430 the next morning, someone happened to notice fuel running out of the gauging hatch. The two valves in the valve box were immediately closed, and the fire department was called. The fire department washed the area down with foam.

During the night, even with the pumps off, the fuel had continued to gravity feed into the tank through the open fuel shutoff valves. After the tank was full, it continued to overflow. More than 99,000 gallons of JP-4 were lost because the checklist wasn't followed.



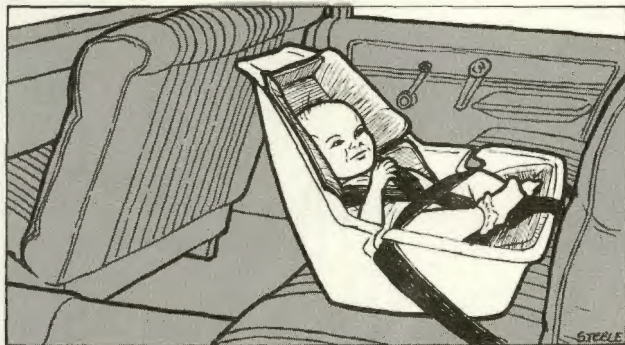
By the way, a work request to have automatic high-level control valves installed in the base's aviation fuel tanks had been approved before this mishap took place. High-level shutoff valves would have prevented overfilling. However, the facilities board gave the project low priority and it was scheduled for the following fiscal years.

DOWN TO EARTH

CHILD RESTRAINTS

Here's a list of the basic varieties of child restraints and how to use them. If you can't afford to buy one, contact a local service group or health organization. They may have rental and special purchase programs for child restraints.

- When purchasing a safety seat, look for FMVSS No. 213 on the package or the seat itself. This is your guarantee that the seat passed certain performance tests. All seats made on or after 1 January 1981 should have this labeling.
- Infant seats may be just for infants or they may be convertible to carry older children. Make sure that what you buy meets your needs.
- Harness restraints offer little side protection and are best located in the middle of the back seat. A harness in a wrap-around seat offers more protection and is secured by the car seat belt.
- Shield-type restraints feature a padded surface designed to catch and protect a child on impact. The child is held in place by the car seat belt. Shields without wrap-around head guards offer less protection to the sides, so place them also in the middle of the back seat.
- The safest place for a seat is the middle of the back seat facing forward. Infants should ride backward in a semireclining position.



- When children reach 4 years of age or 40 pounds, they can use the car's seat belt. Adjust the belt across the hips and below the stomach. A firm cushion can be used to help them sit higher or you can buy a booster seat. Booster seats can also come equipped with harnesses. If they do, be sure to use the harness if the car lacks a shoulder belt.
- Whatever kind of seat you buy, follow the manufacturer's instructions. Studies show that 50 to 75 percent of child safety seats are used incorrectly.



Swyngomatic Cradles. Swyngomatic converta cradles sold through Army and Air Force exchange service catalogs and manufactured between September 1979 and July 1980 may be faulty. The cradle's masonite bottom collapses allowing the infant to fall out. If you have a cradle without support rods, write to Graco Metal Products, P.O. Box 200, Elverson, PA, 19520, or call the firm's toll-free number 800-345-4190. They will provide a free support kit consisting of two steel support rods, fasteners, and assembly instructions. If you live overseas, return the cradles to the nearest exchange for a refund.

Children's Behavior and Car Restraints. Researchers at the University of Kansas Medical School found that when children were buckled up or in child safety seats, there were 95 percent fewer incidents of bad behavior while they were riding with their parents. Looks like there's a side benefit to restraint systems.

New Instructions. Driving experts are realizing that the old phrase "turn in the direction of the skid" is confusing and many people have spun out because they chose the wrong direction. New instructions are "turn in the direction you want the *front* of the car to go." The terminology means the same but the instructions are easier to understand.

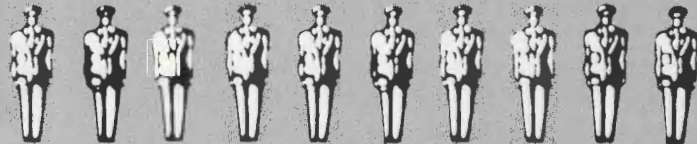
Prevent Overloading Extension Cords. Some extension cords now come with built-in, replaceable fuses or circuit breakers of either 7- or 10-amp capacity in the plug. When the extension cord is overloaded the fuse will blow or the circuit breaker will trip. You might have to try several stores to find them, but they are available.

Our TAC Losses on the Ground

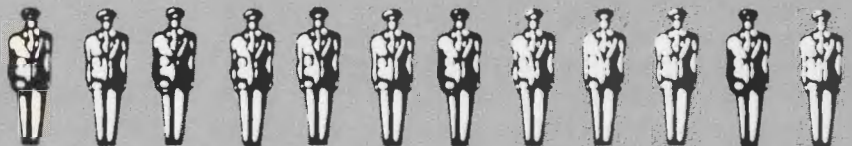
JANUARY - DECEMBER 1982

OFF DUTY MISHAPS:

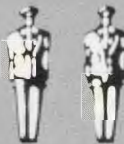
Automobiles



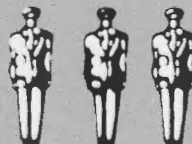
Motorcycles



Fire



Drowning



Airline Crash



Fall



ON DUTY MISHAPS:

Industrial

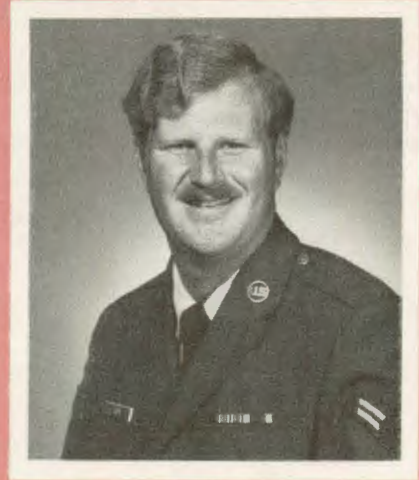


TAC Safety Awards

Crew Chief Safety Award

A1C STEVEN E. DUER, 58th Aircraft Maintenance Unit, 33d Aircraft Generation Squadron, 33d Tactical Fighter Wing, Eglin Air Force Base, Florida, is this month's winner of the Tactical Air Command Crew Chief Safety Award.

Airman Duer was assisting aero repair on a canopy write-up when he noticed that the hydraulic fluid in the aircraft was thinner than it should have been. He went to the utility servicing area and pushed the system bleed: the fluid that came out smelled like gasoline. Airman Duer immediately notified the EMS supervisor. After checking the hydraulic reservoir on the mule, they found the reservoir filled with MO-GAS. All F-15s and mules were then checked for contamination. Three mules and six aircraft were bad.



A1C Steven E. Duer

Airman Duer's attention to detail uncovered a serious problem that could have caused a chain reaction fire among several aircraft and threatened the lives of his co-workers. He has earned the Tactical Air Command Crew Chief Safety Award.

Individual Safety Award

A1C DONALD F. WOOD is this month's winner of the Tactical Air Command Individual Safety Award. Airman Wood is a manual test station specialist with the 27th Component Repair Squadron, 27th Tactical Fighter Wing, Cannon Air Force Base, New Mexico.

Airman Wood was working in a UHF communications area when he noticed water dripping from the ceiling above the test station area. He sensed that the ceiling was going to collapse, so he took immediate action. Airman Wood cleared all people from the area. He shut down the equipment and covered it with plastic. Then he cordoned off the area to make sure no one could wander in. Shortly after Airman Wood secured the area and covered the equipment, a large section of the ceiling collapsed, releasing gallons of water and debris.



A1C Donald F. Wood

Airman Wood's alertness and quick, decisive actions saved over \$120,000 of valuable equipment and prevented injury to his co-workers. He has earned the Tactical Air Command Individual Safety Award.

Letters



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Dear Editor

I just finished reading your opening article in the October 82 issue. As a "recce" driver I was more than a little perturbed by the implication that the specific incident could have been avoided if only "the mission commander and the recce crews could have talked it over, but they didn't." Where, in fact, was the discussion with the individual element leaders over the TOT? Specifically, if the second element, the "real fighters," had made "firm TOT," then the incident would never have occurred, frag patterns or not. In fact, the "recce" could have been even a full minute late. They're lucky they waited 20 seconds more.

Capt Graham Smith
1 TRS "Recce" Pilot
RAF Alconbury, UK

Dear Captain Smith

We agree with you that the lack of discussion with the individual element leaders contributed to the prob-

lem. We point out in the article that "those questions ultimately should be resolved by the mission commander while planning the mission." But that doesn't mean that the recce pilots were free to disregard frag patterns.

We strongly disagree with you when you say that the incident wouldn't have happened if the second element had made "firm TOT." What does "firm TOT" mean? It might just mean you can't slip the range times because flights are scheduled on the range after you. If "firm TOT" had been defined to mean plus or minus thirty seconds, then the second element should have aborted. But "firm TOT" was not defined.

The point of the article was that we can't use vague ambiguities in planning and briefing. This mission needed a specific no-later-than time. And everyone involved needed to know the frag envelope of the ordnance being used.

Ed

Dear Editor

So you've lost a bit of patience with us F/RF-4 jocks as we continue to blow tires each month with the gee-whiz Mark III antiskid installed. Moreover, you've invited your readers to tell you "what went wrong" (on page 10 of the November issue). I think "what went wrong" happened when the Mark III was designed with a deficiency that we have not yet fixed.

The deficiency, familiar to many of us, works like this:

Case #1. "You're landing with a *good* antiskid on a slippery runway—you press on the brakes and it feels like no brakes at all."

Case #2. "You're landing with a *bad* antiskid on the same runway—it feels like no brakes at all."

How to tell the difference?—Who knows? If you're one kind of a gambler, you'll probably leave the Mark III hooked up, press on the brakes, and believe in electricity. I think the Mark III people would tell you that the odds would favor this approach; however, advocates of this approach would decline the invitation to walk back into Ops wearing your flight suit if it didn't work that time. If you're another kind of gambler, upon your first astonishment that the brakes were not working as well as seemed reasonable, you would release the brakes, actuate the paddle switch and pat the brakes gently. This would risk, of course, a wheel stopping; and in true F-4 style the wheel would continue to skid long after the brakes were released and the tire would eventually blow.

The Dash One addresses antiskid failure only under

LETTERS

the topic of known antiskid failure. Of course, that doesn't usually apply because—Who'll tell us?

So—what to do? (1) Let's continue to proclaim that, yes, good antiskid feels the same as bad antiskid. (2) Let's preach to those who don't have the assurance in their heart that the Mark III is braking to actuate the tail hook, not the paddle switch. (3) Eventually perhaps the guy who didn't get the Mark III quite invented right the first time will modify his invention so that another flashing tone or light or something shaking will give the message to the pilot that the antiskid is alive and cycling.

John D. Broman, Lt Col, Minn ANG
Air Cmdr, 148 TRG (an ex-tire-blower)

Dear Colonel Broman

The problem you attribute to the Mark III antiskid system is common to many antiskid systems. What your discussion omits is the speed at which the pilot gives up on the antiskid system. The pilot in the article you refer to turned off the antiskid at 130 knots. As a matter of fact, the common denominator in the F-4 blown tire incidents is high airspeed, not slippery runways.

With or without flashing lights, if a pilot attempts to brake manually at high speed, he's going to blow a tire. That's not gambling; it's betting on a sure loser. As you point out, the tailhook is a more reasonable alternative.

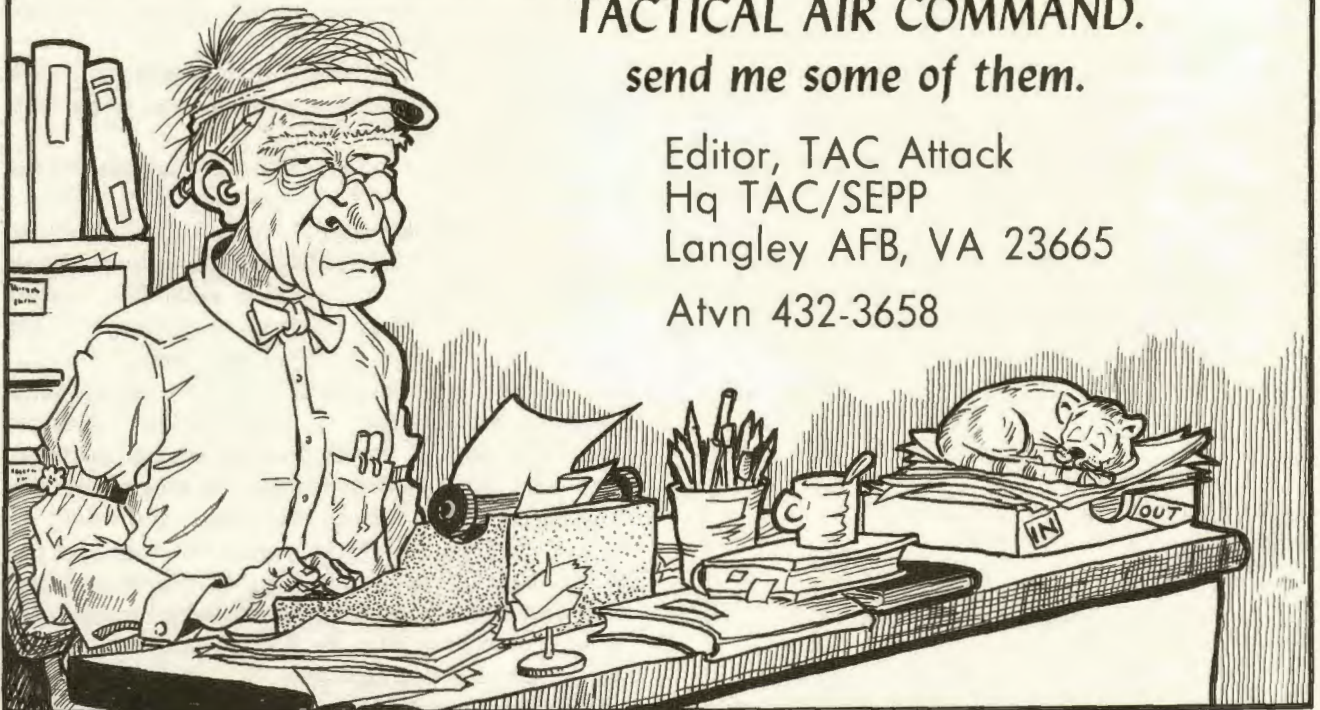
Your idea of a cockpit indication of antiskid cycling might help the pilot decide when to drop the hook. Have you submitted it as a suggestion so it can be properly evaluated?

Ed

THERE'S A MILLION STORIES OUT THERE IN THE
TACTICAL AIR COMMAND.

send me some of them.

Editor, TAC Attack
Hq TAC/SEPP
Langley AFB, VA 23665
Atvn 432-3658



TAC TALLY



CLASS A MISHAPS
AIRCREW FATALITIES
TOTAL EJECTIONS
SUCCESSFUL EJECTIONS

DEC	THRU DEC	
	1982	1981
3	29	32
0	17	20
5	26	32
4	22	24

DEC	THRU DEC	
	1982	1981
0	6	7
0	3	3
0	5	2
0	4	2

DEC	THRU DEC	
	1982	1981
0	1	1
0	0	1
0	2	1
0	2	0

TAC'S TOP 5 thru DECEMBER '82



TAC FTR/RECCE	
class A mishap-free months	
51	1 TFW
38	49 TFW
37	355 TTW
25	347 TFW
20	67 TRW & 363 TFW

TAC AIR DEFENSE	
class A mishap-free months	
119	57 FIS
72	5 FIS
69	48 FIS
28	318 FIS
19	87 FIS

TAC-GAINED FTR/RECCE	
class A mishap-free months	
128	188 TFG (ANG)
120	138 TFG (ANG)
119	917 TFG (AFR)
116	116 TFW (ANG)
106	434 TFW (AFR)

TAC-GAINED AIR DEFENSE	
class A mishap-free months	
106	102 FIW
102	177 FIG
68	125 FIG
51	119 FIG & 142 FIG
38	120 FIG

TAC/GAINED Other Units	
class A mishap-free months	
161	182 TASG (ANG)
154	193 ECS (ANG)
149	26 ADS
145	110 TASG (ANG)
141	USAF TAWC

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

	1982	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	CCT	NOV	DEC
TAC	1982	7.8	5.7	5.9	5.2	5.9	5.7	5.1	4.7	4.4	4.1	4.1	4.2
	1981	4.0	3.0	3.2	5.6	6.0	5.9	6.3	6.2	6.0	5.3	5.0	4.9
ANG	1982	0.0	2.7	3.2	3.4	3.6	2.9	3.1	2.7	2.4	2.1	2.3	2.2
	1981	9.3	4.8	4.6	3.3	2.6	2.2	1.8	1.6	2.4	2.6	2.4	2.6
AFR	1982	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.5	3.2	2.7	2.5	2.3
	1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.8	3.4	3.0	2.8	2.6

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

FLEAGLE

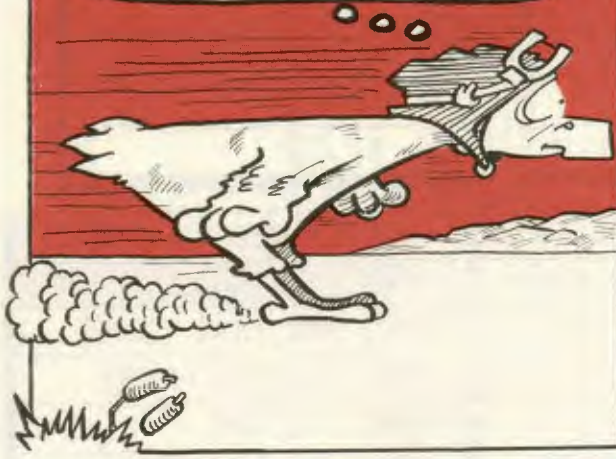


JUS' A BIT HOT.



HARDISON

I DON'T SEEM TO BE SLOWIN' DOWN NONE.



THINK I'LL TURN OFF TH' ANTISKID.



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BAD ANTISKID?

NOPE, BAD JUDGMENT.

