

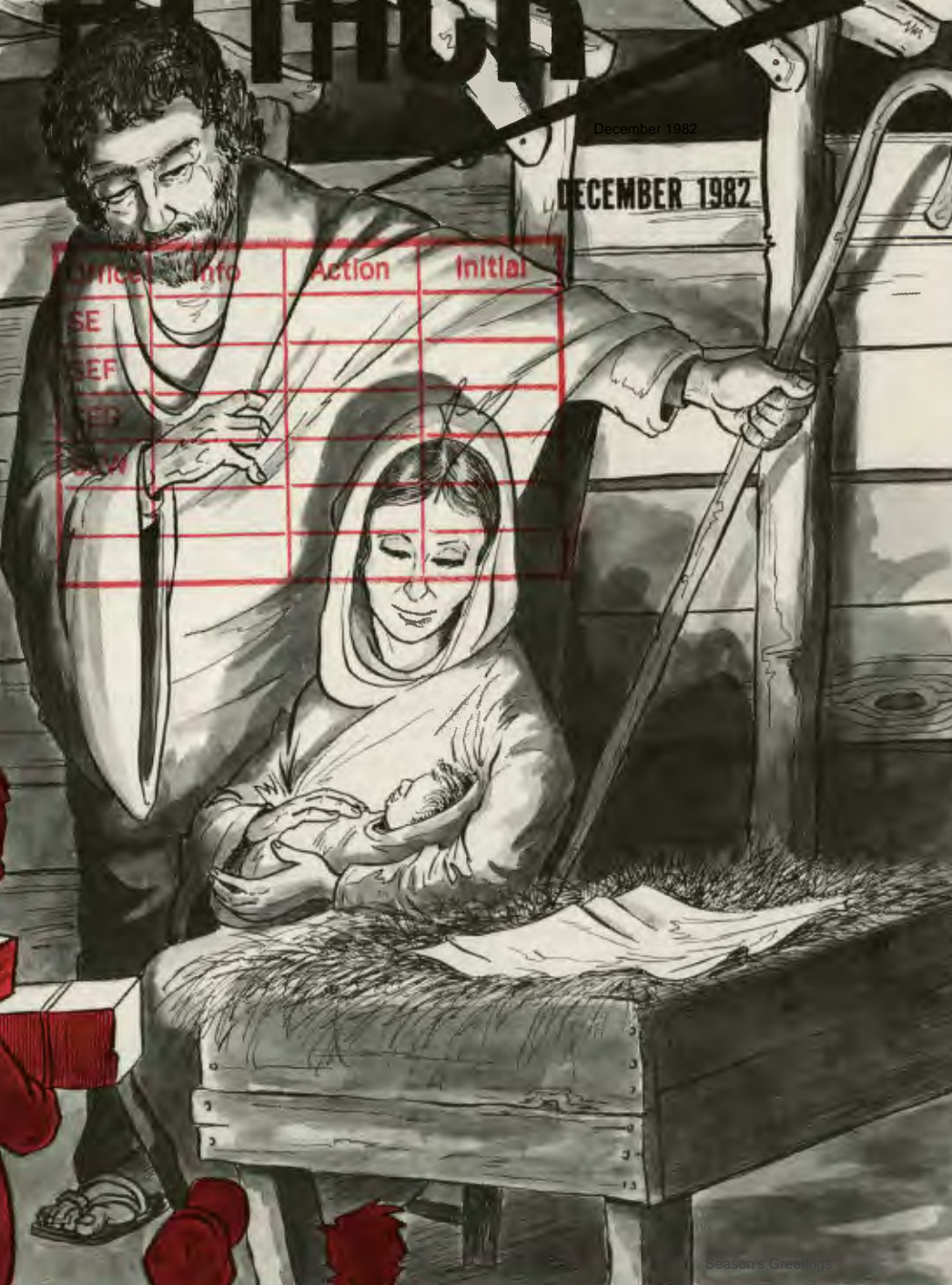
TAC America

TAC ATTACK

December 1982

DECEMBER 1982

Office	Info	Action	Initial
SE			
SEF			
ED			
W			



Season's Greetings

HARRISON

Season's Greetings

Angle of Attack



Can you believe the end of 1982 is almost here? So far, it looks like a better year. But let's not rejoice too soon; we have a very difficult month in front of us.

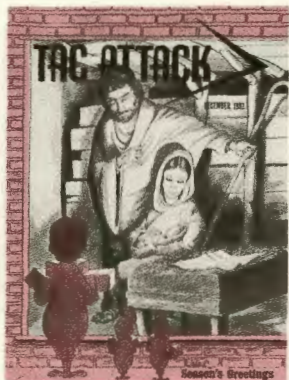
During this month, stop and think ahead before you wear yourself out trying to get everything done at once. The article "Fatigue at Night: A Case History" shows what acute fatigue can do to us. Don't forget, as we approach the holidays, our off-duty time can get more hectic and be less restful. Don't take on more than you can handle, and don't schedule your people for more than they are capable of doing safely.

December 22 is the official beginning of winter. If you're considering how to fight winter's cold and still keep your fuel bills down, take a look at "Wood Stoves and Kerosene Heaters." The problems of winter heating are accompanied by safety considerations. So don't buy an auxiliary heater blindly.

Fleagle gives us a bonus this month—a New Year's Eve caution on the back cover and a holiday reunion inside. All of us here in the TAC Office of Safety share Fleagle's sentiments in wishing you a happy holiday season.

Nothing can ruin the holiday spirit like injury to or loss of a loved one. Let's do everything we can, on the ground and in the air, to keep this holiday season happy.

Richard K. Ely
RICHARD K. ELY, Colonel, USAF
Chief of Safety



DACC

DEPARTMENT OF THE AIR FORCE

HON VERNE ORR
SECRETARY OF THE
AIR FORCE

GEN W.L. CREECH
COMMANDER



Contents

COL RICHARD K. ELY
CHIEF OF SAFETY

MAJ JIM MACKIN
EDITOR

STAN HARDISON
ART EDITOR

MARTY DILLER
EDITORIAL ASSISTANT

JOHN STEELE
STAFF ARTIST

War Stories	4
Aircrew of Distinction	6
TAC Tips	7
Wood Stoves and Kerosene Heaters	10
Monthly Safety Awards	13
Fatigue at Night: A Case Study	14
AT-38	16
Fleagle's Christmas Homecoming	18
Quarterly Safety Awards	21
Chock Talk	22
The Overly Safe Ejection Seat	25
Weapons Words	26
Down to Earth	28
Short Shots	30
TAC Tally	31

TACRP 127-1

TAC Attack is not directive in nature. Recommendations are intended to comply with existing directives. Opinions expressed are those of the authors and not necessarily the positions of TAC or USAF. Mishap information does not identify the persons, places, or units involved and may not be construed as incriminating under Article 31 of the USMJ. Photos and artwork are representative and not necessarily of the aircraft or equipment involved.

Contributions are encouraged, as are comments and criticism. We reserve the right to edit all manuscripts for readability and good taste. Write the Editor, *TAC Attack*, HQ TAC/SEPP, Langley AFB, VA 23665; or call AUTOVON 432-3658.

Distribution (FX) is controlled by TAC/SEPP through the PDO, based on a ratio of 1 copy per 10 persons assigned. For DOD units other than USAF, there is no fixed ratio; requests will be considered individually.

Subscriptions are available from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402. Price: \$14.00 domestic, \$17.50 foreign per year. Single issues can be purchased for \$2.50 domestic and \$3.15 foreign. All correspondence on subscription service should be directed to the superintendent, not to TAC/SEPP.

Authority to publish this periodical automatically expires on 26 Oct 1983 unless approval to continue is given before that date.

TAC Attack (USPS 531-170) is published monthly by HQ TAC/SEPP, Langley AFB, VA. Second Class postage paid at Richmond, VA.

POSTMASTER: Send address changes to *TAC Attack*, TAC/SEPP, Langley AFB, VA 23665.

VOLUME 22 NUMBER 12

WAR STORIES



**By Lt Col James H. Wood
479 TTW Chief Stan/Eval**

Ever wonder why the events that make a good war story happen? In combat most flying stories come about because someone is shooting back, which is expected. But what about peacetime in the controlled training environment? Not much shooting goes on, at least with real bullets. So how do the events to make a good war story come to pass? "Did you hear what happened to old 'ACE-IP' today? Boy he was lucky. . . ." So the story begins.

There is an old saying that there is a fine line between an "Awshucks" and an "Attaboy." Some days everything goes perfect: you brush that line and come out smelling like a rose, with a good war story. Then other days everything isn't quite perfect: that

fine line is crossed, and someone is looking to rip your lips off.

Where is that fine line? That is a very hard question to answer. It is fluid, much like mercury used in thermometers. You ever try to pick that stuff up? It's elusive. The line moves; it is very dependent on individual experience, capability, and the conditions at the time it is approached. As IPs, it is part of our job to know where that line is and never to cross it.

That is all well and good; but if I cannot define it nor get a hold of it, what good is it, and how can I prevent crossing it? The best answer I can offer is experience. Believe it or not, that is why only highly experienced and qualified pilots should become IPs. Experience coupled with ability helps an individual to develop the sixth sense to know when he is approaching that magical line. Ability and experience in flying airplanes is something that is generally lacking among instructor pilots. Gaining experience with students is an ongoing thing and something

None of us will ever get enough of. Just as sure as the world turns, when you think you've seen it all, some one will show you a new way to do a hi yo-yo, an approach to landing, or a new formation wing position.

How do you survive until you've had time to develop that sixth sense? The same way you got your flying experience—either by being lucky or by being semiconservative. The biggest difference when gaining your own experience as a pilot compared to that as an IP is that you had better control over your own situation as a pilot. You knew your capabilities and what was going on in your mind. Ever heard, "I tried to stop him, but he did it before I realized he was going to?" I believe I can safely say that no one will know completely what someone else is thinking, especially in our business. It is far easier to know what a student is not thinking than what he is. If the airspeed is going berserk, you can bet he is not thinking about airspeed. If airspeed is important, who really cares what he was thinking as long as he gets his mind back to what is important? That's the job of the instructor: to teach him what is and isn't important and how to make it work right.

What then causes most IPs to get on the back side of the magical line? I believe there are a couple of reasons. First, overconfidence and inattention to details. Overconfidence in either himself or the student will cause a relaxing on the IP's part which can result in inattentiveness. Ever wonder why the statement "the most dangerous aircraft is one in which two IPs are flying together" was made? Overconfidence.

The second reason is the approach, or method, of training. The spectrum goes from total trial and error to a style that only allows perfection. The optimum point of teaching, I believe, is somewhere in between, and most of us use a combination. We demonstrate maneuvers and watch the student's attempt at duplication. The philosophy that a student learns by his errors is true; however, that can be a very expensive and time-consuming method of learning. Pure trial and error started going out the window when man first began communicating and passing on his experiences. This is why and how the IP comes into play.

The question that comes up is, At what point do I as an IP pass on my experience? The tendency to let the student experience the results or to recognize and correct his mistakes has probably caused more gray hair (check mine after 2,000 hours IP time) among IPs than anything else. The question is, How far can I let him go? If I take the airplane early, he

may have recognized and corrected the situation by himself. All the while that magical fine line is rapidly being approached. On the other hand, what learning is produced by flying around in ignorance? Ignorance is bliss, right? I don't think so—not with a thousand knots of closure.



I don't have the answer for every situation because they are all different, but here are a few helpful hints. As a hard rule, I do not trust anyone when it comes to flying an aircraft that I am responsible for. Yes, that even includes you, although you may be the golden ace of the fighter force.

Next, I divide all phases of flight into two categories: critical and noncritical. This is where ability comes into play. Any time I must take immediate action to prevent an accident or to prevent a dangerous situation from developing, time is critical. Therefore, I am very close to the stick. I don't ride the flight controls because that is very annoying to the other jock, no matter how light you think you are on the stick; but I'm only a gnat's hair away. For example, you'll never see me in close formation with my arm resting on the canopy rail, no matter who is flying. Same way on final approach, even if it is the third one and everything up to that point has been wired. What I use as a guide is the amount of time I have to react if something unforeseen happens. Hardware failures are hard to anticipate. However, think of the worst case that could happen in the situation, determine the amount of time necessary for you to react, and that is how close you need to guard. If your reaction time required is less than a nanosecond, you're across the magical line, and it is time to exercise your IP prerogative and do something.

Lastly, don't assume anything. ➔

AIRCREW of DISTINCTION



Maj William D. Patton
390 TFS, 366 TFW
Mountain Home AFB, ID



1Lt Christopher A. Singalewitch
390 TFS, 366 TFW
Mountain Home AFB, ID

On 2 August 1982, MAJ WILLIAM D. PATTON and 1ST LT CHRISTOPHER A. SINGALEWITCH were flying an F-111A on a low-level route over southwestern Montana. Twenty-five minutes after they began the low level, a large bird collided with the right wing and right engine intake area. Major Patton immediately began a climb. He felt severe airframe vibrations and saw an illuminated right engine fire warning lamp. The right engine had failed. Lieutenant Singalewitch noticed a lit caution lamp for bleed-air duct failure.

Both crewmembers quickly responded by carrying out the critical action emergency procedures. They shut down the right engine, pressed the right engine fire pushbutton, activated the fire extinguishing system, and turned off engine bleed air. The fire warning light soon indicated the fire was extinguished. There were no other indications of aircraft fire.

Then the aircrew noticed a caution lamp for the left engine primary hydraulic system. The light meant that all hydraulic demands were now being met by a single pump. Major Patton continued his climb to 18,000 feet, using afterburner on the good engine, in order to get to a good ejection altitude above adjacent mountain peaks and to improve radio communication with ground agencies. Lieutenant Singalewitch selected navigation aids for an emergency recovery field. Then he followed up their immediate actions by referring to his emergency procedures checklists. To handle the several malfunctions, Lieutenant Singalewitch sequenced a half-dozen different emergency procedures checklists into a logical, practical flow that greatly aided Major Patton's actions.

Major Patton radioed Salt Lake City Air Route Traffic Control Center and got their help, which included vectors for an emergency recovery at a civilian airfield in southeastern Idaho. Major Patton followed the single engine landing and hydraulic failure checklists for proper configuration during the recovery. Using emergency systems, he extended the landing gear and flaps while descending from 17,000 feet to a six-mile final approach. He slowed the aircraft to on-speed at one mile and then landed, stopping the aircraft with the emergency braking system. Without nosewheel steering available, the aircrew shut down on the runway and egressed safely.

Postflight inspection of the aircraft confirmed the wisdom of the fast-paced, orderly recovery. The aircraft had sustained significant engine and fuselage damage caused by catastrophic fan blade failure and fire. The entire second stage of the three stage fan blade section had broken off from the rotor and departed radially through various sections of the aircraft. A large hole could be seen in one fuel tank and in the aft fuselage above the right engine. Very little fluid was left in the operating hydraulic system; only Major Patton's prompt action in depressing the fire pushbutton, which isolated that hydraulic system, retained enough fluid to power the flight controls.

Major Patton and Lieutenant Singalewitch saved the airplane with their timely actions and outstanding airmanship. By their performance during this critical emergency, they have proven themselves worthy of the title Aircrew of Distinction.

TIPS

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

If a little knowledge is dangerous, where is the man who has so much as to be out of danger?

—T.H. Huxley

HOW IMPORTANT IS OXYGEN?

A T-33 took off on a training mission with a pilot in the front seat and an instructor pilot (IP) in the back. Passing 5,000 feet, both crewmembers acknowledged the climb check, which includes checking oxygen pressure, flow, diluter lever, and hose hookup. Passing 18,000 feet, the crew came up on another required oxygen check. This time the pilot in front reported that the flow indicator didn't seem to be working quite right. The blinker wasn't opening completely. The crew continued their climb, but at 20,000 feet the pilot in front began feeling light-headed. He selected 100 percent oxygen and Safety

on the oxygen regulator. That didn't seem to help. The IP in the back seat took the airplane, declared an emergency, and began to descend.

Meanwhile, the front seater was moving the switches on the regulator, trying to get oxygen. As he leaned over, the pilot's oxygen hose pulled off of his CRU-60 connector. When he tried to reconnect the hose, he noticed that the rubber O-ring on the CRU-60 was twisted. The pilot repositioned the ring and hooked up the hose. The system gave normal flow indications, and the pilot's hypoxia symptoms disappeared. The remainder of the return to base and landing were uneventful.

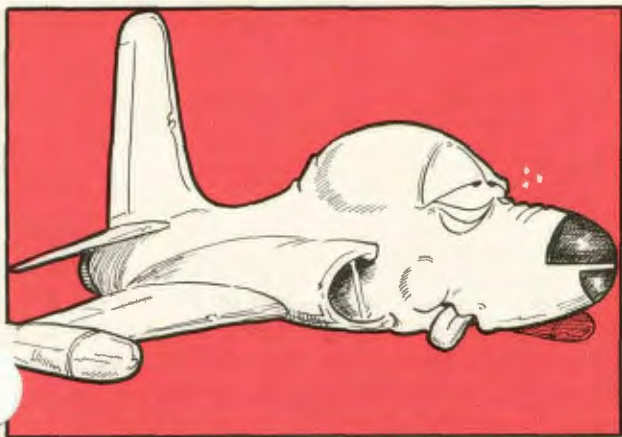
Two points: First, the pilot did a poor PRICE check on preflight. He obviously didn't inspect his connections. He also didn't do a blowback check or select 100 percent and Safety on the regulator. His 5,000-foot check wasn't too pure either. He just didn't seem to take his oxygen checks seriously.

Second, what was the IP doing? When your front seater tells you his blinker isn't working right, you don't let him continue the climb until he shows symptoms of hypoxia. It sounds to us like the instructor didn't take oxygen problems very seriously, either.

THE RUNWAY BEHIND YOU

After a weekend of heavy snow and freezing rain, the first mission of the week for an A-10 unit returned from the range and pitched out for an overhead pattern.

The two wingmen took extra spacing in the pattern as briefed to increase the separation on the runway after landing. The flight was a little concerned about stopping conditions. The pilot in number 3 decided

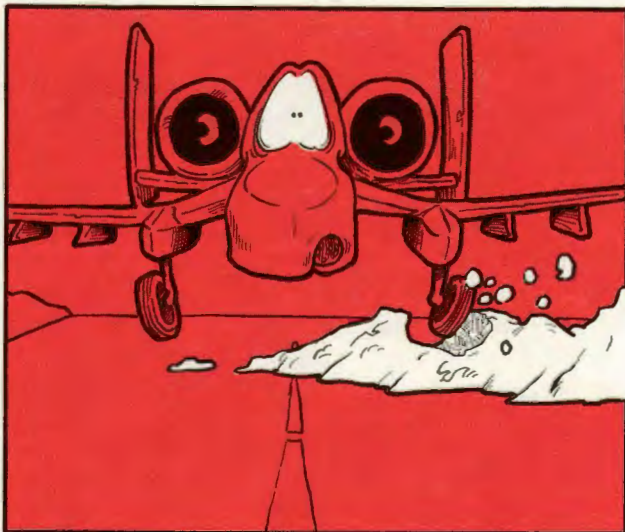


TAC Tips

he was going to fly a short-field approach to give himself more runway available to stop in.

Number three set up a wider than normal pattern. When he turned final, his glide path was flatter than usual, with a higher angle of attack. Just before touchdown, the pilot felt the main gear hit a snowbank on the runway. Then he touched down 100 feet past the threshold.

The tower operator saw the A-10 hit the snowbank



but didn't say anything on the radio because the roll-out appeared normal. The airplane taxied all the way to the chocks. There the ground crew noticed that the left main gear fairing was missing. On the right main, besides damage to the fairing and brake lines, the lower bracket of the hydraulic line scissors was broken.

The 2 1/2-foot-high snowbank was on the runway about 40 feet past the threshold. The SOF, the RSO, and the pilot were not aware of the hazard. The pilot had shaved his pattern so close that his right main wheel had left a track in the snow 65 feet before the snowbank—25 feet short of the threshold. The left main didn't hit the snow until the airplane crossed the heaped snowbank.

How many errors can you find?

A-7 OVERPRESSURE

Because it was cold outside, the pilot decided to start his A-7 with the canopy closed. After a normal start, the pilot began going through his checks be-

fore taxiing. When he came to the check of the angle-of-attack vane alignment, the pilot unlocked the canopy to reach the vane. The canopy abruptly flew open then fell shut again. The pilot aborted that aircraft.

In the days before this incident, the airplane had been covered by snow. During the daytime the temperature rose enough for the snow to melt; at night



the melted snow would freeze again. Some of the moisture froze inside the static ports.

Neither the crew chief nor the pilot noticed that the static ports were clogged during their preflights. When the pilot went through his cockpit checks, he neglected to open the cockpit vent door as the checklist says to do before starting. The checklist also calls for opening the vent door before opening the canopy at any time to relieve cockpit pressure.

The result of this series of oversights was overpressurization of the cockpit. The pressure forced the canopy to open violently, damaging the actuating system.

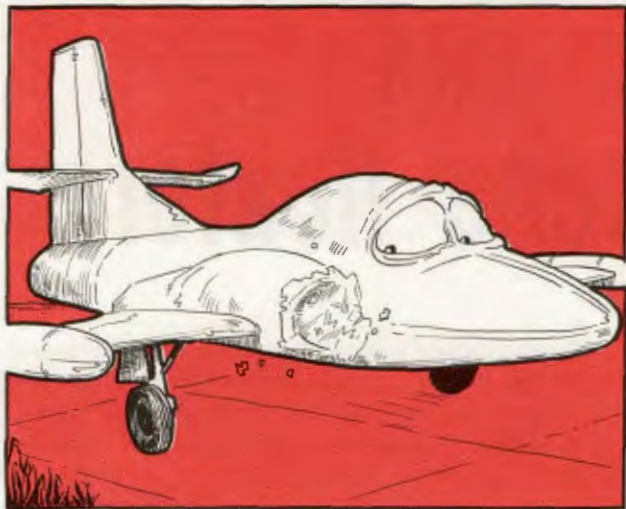
SLUSH CAUSES FLAMEOUT

The two-ship of OA-37s taxied onto the runway. The leader had briefed 15-second spacing on takeoff because of the light snow cover on the runway. The leader lined up on the right half of the runway, and his wingman lined up on the left. After the usual checks, leader released brakes. As two was getting ready to release brakes, he heard the leader call

Abort!" so he held his position.

At about 60 knots, both of leader's engines had popped and flamed out.

The intakes on leader's aircraft were coated with clear ice. Although the center of the runway had been clear of snow, the sides still had snow on them.



The runway sweeper was out of commission that day. Even with the temperature ten degrees below freezing, the loose snow on the blacktop runway melted into slush. When the leader rolled down the runway, his nosewheel threw the slush up into the intakes. The officer in the RSU had seen a slush spray come up just before the engines popped.

It shouldn't have been a surprise. The results are just what the Dash One predicts for takeoff on a slush-covered runway. The problem was that the SOF, the RSO, and the pilot didn't consider the possibility that the snow might be turning into slush.

HOW SICK IS TOO SICK

By Maj Hank Goddard
TAC Flight Safety

It's an old story, and always good for a couple of yuks: The four-ship pulls onto the runway, ready for the last leg of a cross-country. Lead looks at two, expecting the customary head nod. But two is shaking his head vigorously. Lead, puzzled, watches as two removes his mask and lowers his head. *He looked a bit green in the briefing, lead thinks, I wonder if he's . . . ?* Just then, two looks up, appears to place an object in the map case, and gives lead a thumbs up. The flight presses off.

Like most good stories, it's got an element of truth



in it, because many of us have "been there"—in the cockpit at something less than 100 percent. How sick is too sick? Well, that depends, but let me pass on a couple of war stories of guys who thought they were well enough to fly, but apparently weren't.

Last spring, an F-4 crashed during a relatively benign mission, killing both crewmembers. There were no indications of aircraft malfunction; the aircraft hit at a shallow angle in controlled flight. Why? As is the usual case in this type mishap, the board was unable to find one ironclad answer. But one possible contributory finding was that the pilot had been sick most of the two days immediately preceding the mishap. He had experienced headache, nausea and vomiting, and muscle aches. How much of a factor the effects of his illness might have been, we will never know for sure, but it was almost certainly a player.

A recent incident in another command gives us another good look at the possible delayed effects of an illness. A sleek and racy Eagle Driver, deployed to a sunny location where you "don't drink the water," experienced an evening of gastric distress and diarrhea. The next morning, he "felt fine" and proceeded on a point cap DACT mission. After the first engagement, the pilot felt extremely fatigued, then experienced his personal hypoxia symptoms. The flight lead was calling for him to turn to a heading, but every time he attempted to turn, he did an aileron roll. This incident had begun at 25,000 feet. At 9,500 feet, the pilot was able to regain control of himself and the aircraft. Scary.

Well, back to the original question: How sick is too sick? Any sick is too sick. Even a "milk run" has its demanding moments when you're flying a high performance airplane; the operator has to be at 100 percent. Looks like you can be too sick and not even feel sick. Think about it.

wood stoves and kerosene heaters

Saving money is something we all want to do and that's the primary reason why we're buying wood stoves and kerosene heaters. Wood stoves and kerosene heaters take some of the burden off a central heating system, so we can lower our thermostats and still keep warm. Sound too good to be true? Yep. Where there's fire, there's always a danger. And that is why wood stoves and kerosene heaters are a hazard—we forget to respect the fire. Manufacturers of wood stoves and kerosene heaters are making them safer and more energy efficient, but only you can prevent the fire.

Wood Stoves

There are basically three types of wood stoves. The earlier stoves from the seventies gave us longer burn times and more heat output, but they created more creosote buildup and problems with pollutants in the air. To remedy these problems, catalytic wood burners were added to the stoves; as a result, less wood needs to be used, and there is less creosote buildup. But catalytics have not been perfected, and they can't be installed in earlier model stoves. The latest model wood stoves, called smoke-scrubbers, force smoke back over the fire to reburn. They're bigger and cost more, but they have very little creosote buildup.

Wood stoves are a hazard when (1) they have been improperly installed, (2) they are not cleaned regularly, or (3) they are not used correctly.

We won't go into the actual guidelines for installing a wood stove, but the first thing to do is check your local fire and building codes. Then check with your insurance company. Professional installation is recommended. Consider relining the chimney. Relining can reduce creosote buildup and contain flammable fires to the chimney.

Cleaning is essential, not only for efficiency, but because creosote is flammable and its buildup is dangerous. Creosote will accumulate quicker if you use the newer, slower-burning heaters and if you burn green wood. Clues that you have creosote buildup are smoke backing up or the stovepipe giving off less heat. Creosote buildup in the stove should not exceed an eighth of an inch.

The best time to clean a wood stove is before the first fire of the season; otherwise wait at least three days after the last fire. Remove all wood ash and vacuum. Use a wire brush on the interior. Check for air leaks and fix them if there are any. Clean all external surfaces with soapy water, then rinse with clear water, and replace the gasket (fiberglass, not asbestos). Clean the blower and filter. Remove the flue pipe; if it's dusty, crumbly, or clogged, replace it. Last, check the chimney. If creosote buildup is 1/4" thick, the chimney needs to be cleaned.

When using the stove, make sure nothing is close enough to it to catch on fire—like curtains, rugs, or papers. Frequently check the walls, floor, and ceiling, and if you find any hot spots, recheck your installation before you use the stove again. Never use starting fluid, kerosene, or gasoline to start a fire. Don't burn artificial logs, coal, or trash in a wood stove. Don't store wood near or under the stove, and be careful for burning embers when tending the fire.

Kerosene Heaters

There are now three generations of kerosene heaters. First generation heaters were gravity fed; the kerosene itself burned, so if spilled, a fire was inevitable. These are older units from before 1960.



Second generation heaters now have wicks, either fiberglass or cotton, and the wick burns. They have a low center of gravity, making them harder to tip over; but they are unvented, so adequate ventilation is necessary. Third generation heaters are permanently installed so they can't be tipped over or moved. They are vented to the outside, and the fuel tank is also located outside.

First generation heaters were banned in most states because they were so hazardous. So check with your local housing and fire authorities before you buy or use any kerosene heater. It might be against the law. Also, check with your insurance company. Your premiums could go up or even be canceled. Next, make sure you can always get K-1, water-clear kerosene. Nothing else is safe. And, like any other appliance, the most important thing to do is read the manufacturer's instructions.

When deciding how large a heater to buy, multiply the square footage of the room by 28. That will give you the required BTU rating. Also, think about the amount of activity in the room to determine whether you should buy a convection or radiant heater. A convection heater is usually cylindrical in shape and sometimes contains a fan. They heat the air in all directions and are better for larger areas. Radiant heaters, usually rectangular in shape, use a polished reflector which sends heat forward. These work better for smaller areas, or where people will usually be seated.

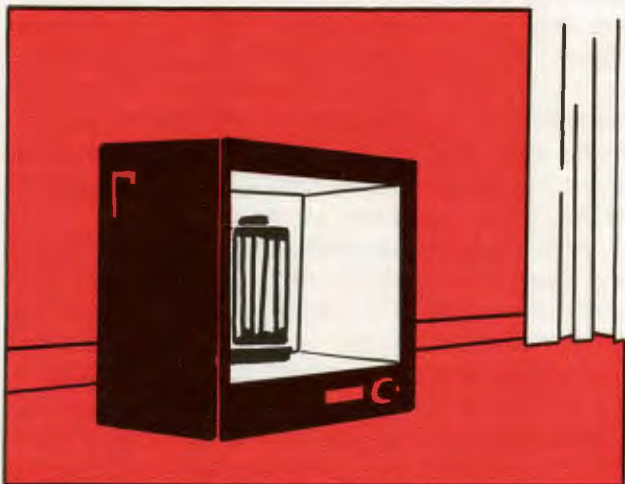
New model heaters are gravity fed and use a wick. This is a substantial safety advantage compared to the older units, but there are still problems. An improperly set wick will give off more pollutants, so it's important to know what a safe wick setting is. The wick also has to be changed. Knowing when to do this and how to put a new wick in is very important. If you aren't sure, have a professional do it. The newer models have a low center of gravity so they can't be tipped over as easily as older models. They also have an automatic cutoff that's supposed to shut off the flame and stop the flow of kerosene if the heater is jarred or upset.

The heaters are designed to use only K-1, water-clear kerosene. If K-2 kerosene is used, an unacceptable level of sulfur dioxide is given off. Any other type fuel, especially gasoline, is dangerous and may cause flash fires. Kerosene heaters should always be refueled outside and never while in use or when hot. Newer models have removable fuel tanks for easy refilling, but there will always be drips—wipe them up. Kerosene expands when heated, so to prevent overspill, fill up only 80 percent of the tank.

wood stoves & kerosene heaters

Many newer models have fuel gages.

Kerosene heaters should be used only for zone heating, that is, one to two rooms at a time. Whether



you have a convection or radiant heater, set it on a level surface at least three feet away from any object. And if you have small children around, keep in mind that the outside of the heater gets very hot—hot enough to burn.

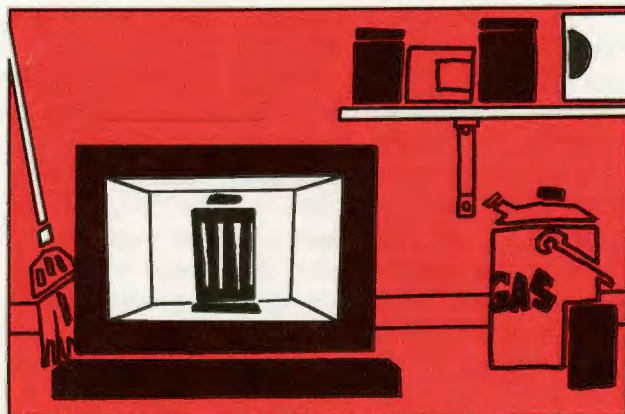
Kerosene heaters deplete oxygen. You should always keep the room that the heater is in ventilated, especially if it isn't a third-generation heater. The amount of time a heater is used in one day and the age of the wick make a difference in the amount of pollutants given off. If you have a well-insulated home, open a window at least an inch and put the heater under that window. If your home is not insu-



lated well, just keeping the door to the room open should be sufficient.

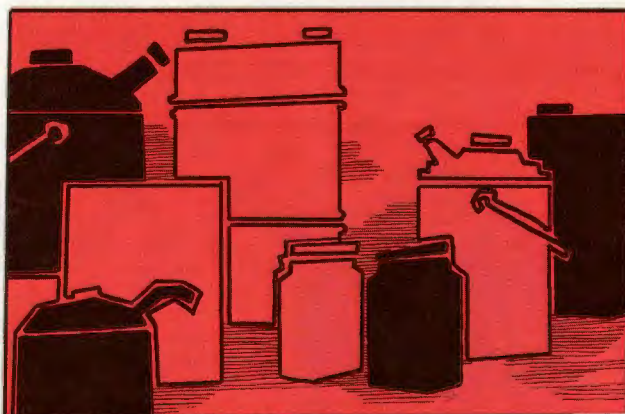
Proper maintenance is a must. This includes cleaning or changing the wick, cleaning the tank, and periodically adjusting the electric ignition.

Don't put a kerosene heater in an area where there are flammable liquids or quantities of combustible dust. That means putting a kerosene heater in a



garage or workshop is dangerous. Never use kerosene heaters on boats, no matter what the manufacturer states.

Storing kerosene can also be dangerous. Kerosene should be stored in a metal container reserved for kerosene only. And to avoid confusion, it shouldn't resemble a gasoline container. Keep the kerosene in a cool, well-ventilated area away from the house and garage. Don't stockpile kerosene;



stockpiling is dangerous and might be against the law.

Before buying a wood stove or kerosene heater, make sure it has a UL rating. Never leave either one unattended and always have the proper fire extinguishers and detectors available. Wood stoves and especially kerosene heaters are only as safe as you make them. Remember that you're dealing with fire. Take extra care.

TAC Safety Awards

Crew Chief Safety Award



SSgt Clay R. Dean



Sgt Craig A. Spengler

SSGT CLAY R. DEAN and **SGT CRAIG A. SPENGLER** are this month's winners of the Tactical Air Command Crew Chief Safety Award. They are members of the 48th Fighter Interceptor Squadron, Langley Air Force Base, Virginia.

Sergeant Dean (crew chief) and Sergeant Spengler (assistant crew chief) were performing ground crew duties on an F-15A being run to leak check a recently replaced AMAD oil line. With the #2 engine running, the #1 engine start sequence was initiated. At about 10 percent rpm the pilot told Sergeant Dean that rpm had stagnated and that he was disengaging and shutting down the JFS. Sergeant Dean was moving underneath the aircraft to investigate when the belly of the airplane adjacent to the centerline pylon

burst into flames. Sergeant Dean advised the pilot of the fire, told him to shut down and egress then turned to help Sergeant Spengler move the fire extinguisher into position under the burning aircraft.

Sergeant Spengler discharged the fire bottle onto the flames and into engine bay vents, extinguishing the fire. Other maintenance personnel had contacted the fire department and upon arrival firefighters discharged additional agent as a precaution.

The courageous actions of Sergeant Dean and Sergeant Spengler prevented the loss of an F-15 and injury to personnel. They have earned the Tactical Air Command Crew Chief Safety Award.

Individual Safety Award

A1C STEPHEN W. GRIFFITH is this month's winner of the Tactical Air Command Individual Safety Award. He is an electrician with the 35th Component Repair Squadron Battery Shop, George Air Force Base, California.

Airman Griffith has a knack for observing and correcting safety hazards. When he started work in the battery shop, Airman Griffith noticed the ventilation system wasn't moving toxic vapors out of the shop. He contacted civil engineers and had a larger ventilation fan installed. He sealed electrical outlets that were located too close to the shower. And he created a protective shield to keep people who work on generators from getting an electrical shock.

He skillfully performs his duties as an electrician. Airman Griffith, on loan to an AMU, was fixing a faulty landing gear light on an F-4E when he found an improperly insulated landing gear switch that caused a spark in the landing gear

TAC ATTACK



A1C Stephen W. Griffith

handle. Because of what he found, an inspection was made of all aircraft.

Airman Griffith is a skillful professional who displays safety awareness and attention to detail. He has earned the Tactical Air Command Individual Safety Award.

FATIGUE AT NIGHT:



Remember last month's article on "Night Flying and Fatigue?" It was about circadian rhythm and human performance—a bit academic and theoretical, right? This story brings it all back home. Before you get too carried away cramming to catch up on all your training squares before the year ends, take the time to read it. Then ask yourself, do I really need to do everything in one day?

At 4 in the morning, an F-106 touched down for a full-stop landing after a night intercept training mission. The drag chute blossomed, and the airplane began to decelerate. After a thousand feet of landing

roll, the landing gear began to retract. The aircraft settled to the runway on the external fuel tanks and the forward fuselage and then slid to a stop. A small fire flared up beneath the aircraft, fed by residual fuel from the external tanks. The fire was quickly put out by the crash response force. The pilot climbed out without injury.

The airplane's nose gear was fully retracted; the nose gear door was open. The right main gear was retracted, and the left main was nearly fully retracted. The landing gear handle was up.

Afterward, no mechanical failures were found in the landing gear system when it was checked. The aircraft appeared to have no problems which could

A CASE STUDY

have either caused or contributed to the mishap. Since the landing gear handle was up and no mechanism was found that would raise the handle without the pilot's help, it would appear that the pilot himself raised the handle.

Although the gear will not retract on the ground with the struts compressed, even if the handle is raised, that protection is not effective right after touchdown. Aerodynamic forces prevent strut compression to the degree necessary to engage the safety switches until the airplane decelerates to well below landing speed.

Still, why would the pilot raise the landing gear handle after touching down? The answer is obvious: he wouldn't do it consciously. But as you may recall from last month's article, we lose coordination when we suffer from short-term fatigue. After touchdown, the pilot would normally move his hand from the throttle to the drag chute handle, deploy the drag chute, then move his hand to the idle thrust switch to move it to the on position. The motions he used to move the idle thrust switch were exactly the same as the motions required to raise the gear handle. If he was tired, he could have grabbed hold of the wrong handle.

Was he tired? The fact that he was landing at 4 a.m. tells us something. But if he had prepared his body well for night flying, that fact may not mean anything. So let's take a look at how he got ready for this sortie.

The day before, the pilot was on alert. At 1645, about 36 hours before the mishap, he took off on a training sortie while on alert, landing at 1900. Afterward he had dinner, returning to the alert facility at 2030. Then he studied until 2330 for a simulator check on emergency procedures that was scheduled for the next afternoon. He fell asleep at about midnight.

The pilot was awakened the next morning by the telephone at 0800. After rising at 0900, he studied for his simulator check until noon, took a lunch break, and then continued studying until 1530. The emergency procedures check was scheduled for 1630. He rested from 1530 to 1600, when he was relieved from alert, 12 hours before the mishap.

The pilot arrived at the simulator at 1615 and went through the emergency procedures check. The simulator mission was completed at 1830. That allowed him 30 minutes to eat supper before reporting for a 1900 exercise brief. After the briefing he preflighted his assigned aircraft, set it up for a scramble, and then waited at a maintenance office for an airborne order time.

At 2125 he received the order. He took off 16 minutes later and landed with an emergency at 2205. He debriefed the emergency, worked on the flying schedule, and preflighted another airplane. At 0153 he took off on his second sortie, which ended with a crunch at 0406.

Was he tired? Before his second flight, he forgot to sign off the exceptional release on the 781H, and he forgot to initial the last entry in the 781A. Normally, he does both. On the approach that ended in the mishap, the pilot made several errors on the radio. Twice he used the wrong call sign, giving a different call sign each time. Then he read back clearance to descend to 3,300 feet as 4,400 feet.

Was he tired? Would you be tired if you followed his schedule? His crew duty period technically started when he reported for his simulator at 1615, but by then he'd already put in a full day of study. He had the mishap 11 hours and 51 minutes after his official crew duty day began.

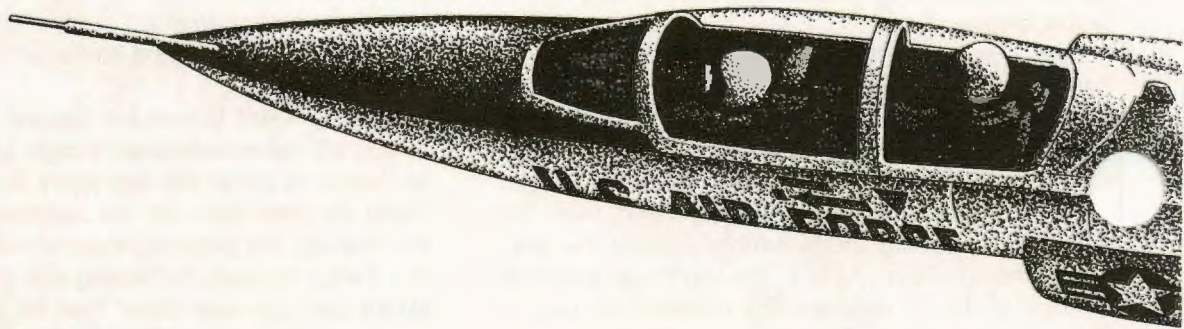
Besides being long, the day was stressful. Checkrides, even in the simulator, bring out the adrenalin. Then the pilot had to deal with an emergency on his first flight that evening. More adrenalin.

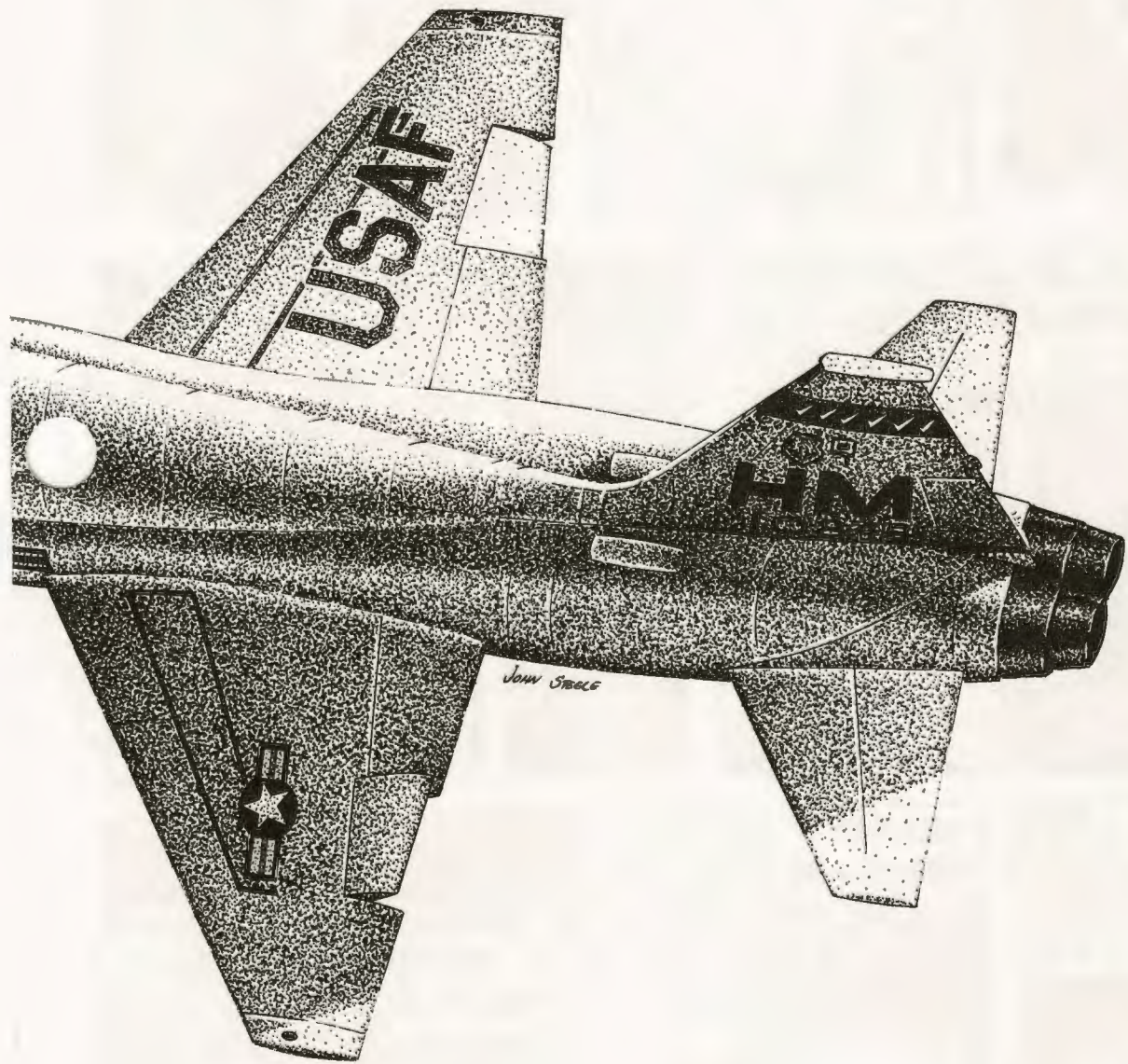
What the adrenalin does is fire up the body's afterburner, burning energy at a tremendous rate. You get a bonus in alertness and available energy at the time, but you pay for it later.

The fact that the pilot slept from midnight to eight in the morning the day before suggests that his body was on a normal (diurnal) circadian rhythm. If so, when he landed at 4 the next morning, he was at or near the lowest point in his performance curve.

Was he tired? If we'd been in his shoes, we'd be exhausted. Some better questions are, was he set up for this mishap? Is anybody you know headed in the same direction? ➤

AT-38





FLEAGLE'S CHRISTMAS HOME-COMING

WELL, CHRISTMAS AGAIN AND ME WITH NO PLANS.



IT JUS' DON'T SEEM RIGHT TO FEEL THIS DOWN ON ONE OF TH' MOST IMPORTANT DAYS OF THE YEAR.



I DON'T THINK HE MEANT FER ANYONE T'BE UNHAPPY ON HIS BIRTHDAY.



IT WUZ NEVER LIKE THIS WHEN I WUZ HOME. TH' TREE, TH' FOOD, PRESENTS, LOVE...



THERE AIN'T A DERN THING TO KEEP ME FER CHRISTMAS.



SURE WILL BE GREAT T'SEE MOM AN' DAD AN' PEA ISLAND ONE MORE TIME.



I WONDER IF BROTHER ERIC WILL BE THERE?

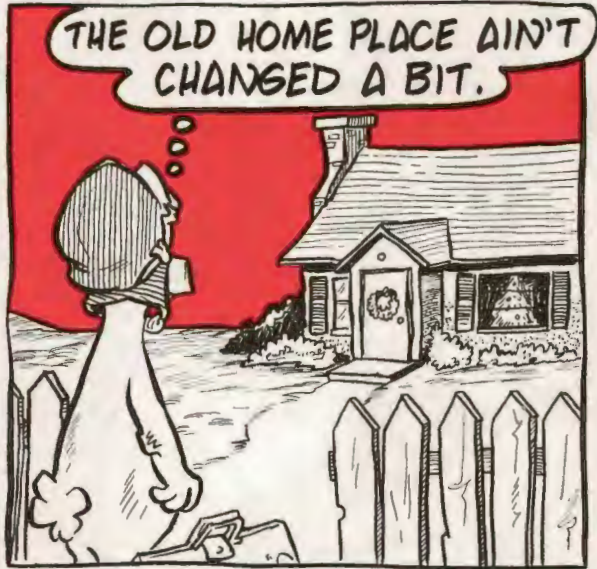


A CAMPUS SOMEWHERE IN THE SOUTH

I'M THINKIN' THAT I MIGHT MAKE TH' CHRISTMAS SCENE AT PEA ISLAND THIS YEAR.



HARRISON



HAPPY HOLIDAYS,
FROM THE FLEAGLE FAMILY
AND THE TAC OFFICE OF SAFETY



TAC QUARTERLY AWARDS



TSgt Wolfgang D. Hannig

GROUND SAFETY AWARD OF THE QUARTER

TSGT WOLFGANG D. HANNIG is the recipient of the Tactical Air Command Ground Safety Award for the third quarter of 1982. He is a member of the 550th Aircraft Maintenance Unit, 405th Aircraft Generation Squadron, 405th Tactical Training Wing, Luke Air Force Base, Arizona. Due to Sergeant Hannig's efforts, the 550th AMU did not have any ground- or flight-related fatalities or permanently disabling injuries in the past year.

Sergeant Hannig developed a weekly briefing guide of various safety topics for the AMU. He designed numerous displays on ground flight safety and foreign object damage for the AMU's safety bulletin boards. Sergeant Hannig put so much variety and impact in his safety program that the 12th Air Force Safety Staff Assistance Team rated his program as the best on base.

As a technician, Sergeant Hannig proved himself exceptional. On many occasions he acted as specialist flight chief, and he normally served the dual role of specialist flight supervisor and chief aircraft pneudraulic specialist. Because of his knowledge and training program, the 550th AMU regularly had the lowest repeat and recurring pneudraulic discrepancy rate in the wing, while maintaining a cumulative 70 percent fully mission capable rate.

Sergeant Hannig's enthusiastic approach in promoting safety awareness and his knowledge as a technician have made exceptional contributions to wing safety. He has earned the Tactical Air Command Ground Safety Award of the Quarter.



Amn Warren E. D'Alessandro

WEAPONS SAFETY AWARD OF THE QUARTER

AMN WARREN E. D'ALESSANDRO is the recipient of the Tactical Air Command Weapons Safety Award for the third quarter of 1982. Airman D'Alessandro is a munitions maintenance specialist with the 23d Equipment Maintenance Squadron, 23d Tactical Fighter Wing, England Air Force Base, Louisiana.

Airman D'Alessandro is a very safety-conscious person. While delivering BDU-33D/B practice bombs to the flight line, the MB-4 Coleman tug he was operating caught fire. He immediately notified munitions control, extinguished the fire, disconnected the explosives-loaded trailer, and kept nonessential personnel clear until the fire department arrived. Not only did he take swift and correct action for a serious fire, he also prevented a possible explosives accident.

Airman D'Alessandro is constantly looking for ways to do things better. He pinpointed and corrected a serious foreign object damage problem concerning lead seals on 30-mm ammo cans. Seals were not accounted for after they were emptied and returned to the storage area. Airman D'Alessandro set up a system to account for these seals, and because of his recommendation, plastic seals are now used.

Airman D'Alessandro's enthusiasm, initiative, and safety awareness have significantly contributed to weapons safety, and have earned him the Tactical Air Command Weapons Safety Award of the Quarter.

chock talk

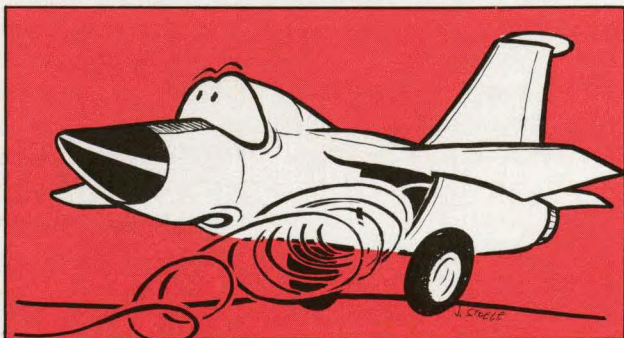
*...incidents and incidentals
with a maintenance slant.*

COILED CORD CAUSES FOD

An F-111 was taxied to the hot brake area for a maintenance leak check of the main wheel well. The airplane had been worked on because of a bleed air problem.

In setting up for the engine run, a maintenance crewmember and an observer remained on the ground. The crewmember hooked up his headset to the aircraft interphone at the nose interphone box. Most of the interphone cord was coiled on the ground about 30 feet to the left and slightly forward of the left engine intake.

With the engine running, the crewmember moved to the wheel well by way of the number 3 weapons pylon and under the engine bay behind the blow-in doors. As the crewmember moved in to check for leaks, the coil of intercom cord was dragged toward the intake. Instead of the cord playing out, the whole coil moved. With the engines at full military power, it wasn't long before the coil of cord was sucked into the intake through the lower left blow-in door.



As soon as he realized what had happened, the ground crewmember tried to pull the cord out of the blow-in door, but he could only pull out part of it. Then he ran to a position abeam the left cockpit and signaled the crew in the cockpit to shut down the engine. The crew immediately did so.

While this was going on, the observer on the ground, who was not checked out on engine runs, had seen the cord go in the blow-in door. He had reacted instinctively by trying to help the other crewmember. In retrospect, he probably could have been more help if he'd stayed where he was and immediately signaled the crew to shut the engine down.

The damage from the incident was about \$3,000. It shows that although a coil is a neat way to store a cord, that same coil can cause damage when it gets too close to an intake. A better way might be to use a shorter cord hooked up at the wheel well interphone connection.

F-111 HYDRAULIC FIRE

After landing, the aircrew of an F-111 turned off the runway and stopped to do their checks and to report the airplane's maintenance status to job control by radio. While the aircrew was talking to job control, they noticed the right primary hydraulic light begin to flash. Primary pressure was still good. The aircrew told job control about the light. Job control requested that they taxi to parking.

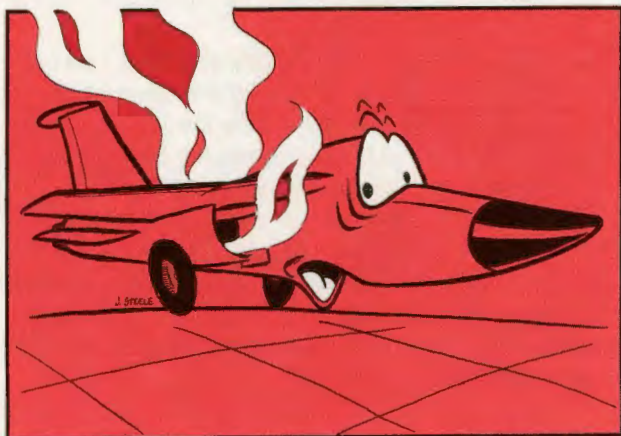
Just after the aircrew changed frequencies, they saw the right primary hydraulic light become steady. They switched back to job control frequency and told control what had happened. Job control asked if they could still taxi. Seeing that the pressure had dropped to about 2,600 psi, the aircrew decided to call the supervisor of flying (SOF).

The SOF told the aircrew not to taxi until the problem was checked by maintenance. Then the SOF called maintenance and asked them to send someone out to the aircraft to check it for leaks. They sent out a hydraulic specialist, but he arrived at the airplane without an interphone cable.

The specialist checked the hydraulic reservoir in the wheel well. It was nearly empty. The specialist couldn't talk to the aircrew, so he called job control and told them what he'd found. Job control told him to signal the airplane to taxi and to marshal it into the first parking spot.

The aircrew taxied on the specialist's signal. Cockpit indications remained the same during taxi. When the airplane arrived at the parking spot and

was chocked, the aircrew shut down the engines. After engine shutdown, smoke could be seen coming from around the right engine. As the aircrew climbed



out of the cockpit, the maintenance crew opened the fire access panel. Seeing a fire, a crew chief began spraying on the fire with an extinguisher. He put out the fire, but in the process he got some of the extinguishing agent in his right eye. The crew chief was taken to the hospital, treated, and released. No one else was injured.

The hydraulic problem was caused by a burst seal on the number 2 primary hydraulic pump. The resulting fluid loss caused the pump to overheat. The small fire damaged the hydraulic pumps, a wire bundle, and the fiberglass rub ring for the third stage engine fan.

The fire would probably have been prevented if the aircrew had shut down earlier and not taxied. But the aircrew lacked the information to make that decision. If the specialist had taken along an interphone cable, he could have informed the aircrew. That would have been the simplest solution.

But job control could also have helped get the information to the aircrew, although in a roundabout way. Instead of taking on themselves the decision to taxi, they could have passed the information on the empty reservoir to the SOF, who also had contact with the aircrew. The SOF and the aircrew should have made the decision.

GOLIATH TODAY

By MSgt Mike Hess
474 Tactical Fighter Wing

Goliath laughed
When David faced him alone;
"You're going to what,
With that little stone?!!!"

"Ha! This will be
One of my easiest fights!"
And he was still laughing
When David punched out his lights.

Now today's engines
Are good sized too;
But unfortunately,
The same thing is holdin' true.

All it takes
Is one little stone;
And a pilot
Could be walking home.

It's awfully embarrassing
For a plane so tall
To come crashing down
From something so small.

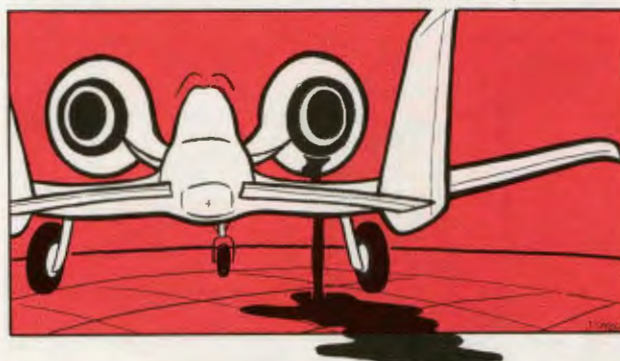
But it will continue to happen
Unless we clean up our act.
It's the only way
To keep our engines intact.

So pick up the stones
That come into view.
Or there may be a Goliath
Fallin' on you!

A-10 OIL CAPS, AGAIN

As the pilot started engines on an A-10, the crew chief spotted an oil leak on the right engine. The crew chief advised the pilot and he aborted.

The oil was coming from the oil tank filler cap. The cap had been locked before it was properly seated.



So the locking mechanism wasn't engaged, which prevented a good seal and allowed the oil to leak out. The crew chief had installed the cap, and the assis-

Chock Talk

tant line chief had signed off the oil cap security check in the AFTO Form 781.

After the abort, the crew chief reserviced the oil reservoir and reinstalled the filler cap. The assistant line chief again signed off the security check. The engine was run with no discrepancies, and the airplane was put back on the schedule for a later sortie.

On that sortie, about 20 minutes after takeoff, the oil pressure caution light illuminated. The oil pressure was fluctuating from 55 to 65 psi. The pilot pulled the throttle to idle, and the oil pressure stabilized at 35 psi. The caution light went out. The pilot headed back home and landed without any further problems.

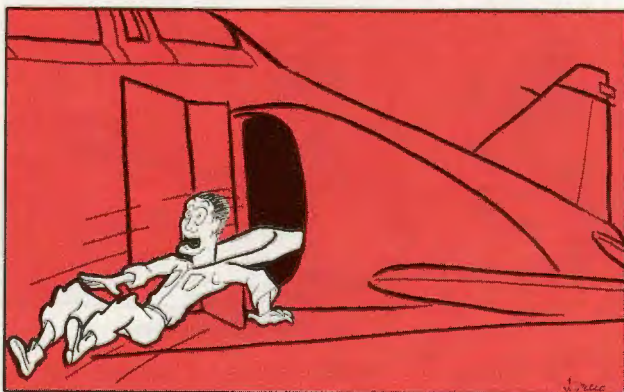
This time the oil had drained out the SOAP sample tube. The cap on the tube had been installed, but it had not been properly locked either. The oil leaked past the seal. When the reservoir was reserviced, it took 8 pints of oil. After the cap on the SOAP sample tube was installed properly, the airplane had no recurrence of oil pressure problems.

The oil caps on an A-10 are tricky to install. That's why there's so much emphasis on doing it right, and that's why a check of the caps' security by a supervisor is required. Of course, the purpose of the supervisor's check is defeated if he does not actually check the caps.

ENGINE ATTACKS LOOSE PARKA HOOD

Although cold weather clothing is necessary for our protection from the elements, it can also create some hazards we're not used to. For instance:

When the weather began to get nippy, one of the members of the end-of-runway (EOR) crew wore his



parka. But it wasn't cold enough for him to have the hood up over his head, so the hood was hanging

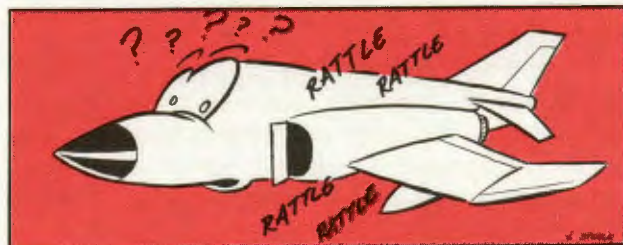
down on his shoulders. When four aircraft taxied out, he went over to give them their EOR check. As he walked near the intake area, his parka hood was pulled in by the engine suction; he was pinned to the intake.

The aircrew didn't immediately see what had happened. But the pilot shut down the engine because he heard a buzzing sound and saw the rpm decrease at the same time the engine temperature was rising. Fortunately, there was no serious injury.

The lesson is not that we can't wear protective clothing. Sometimes we need to. But when we do, we must make sure all the parts are fastened down and aren't free to flap in the breeze. Otherwise, those parts of our gear may go wandering off, and they could take us with them.

FOD MYSTERY

After the F-4 took off, as the pilot was bringing the throttles back out of afterburner, the left engine compressor stalled. The pilot moved the throttle to idle, and the compressor stall cleared. The pilot then



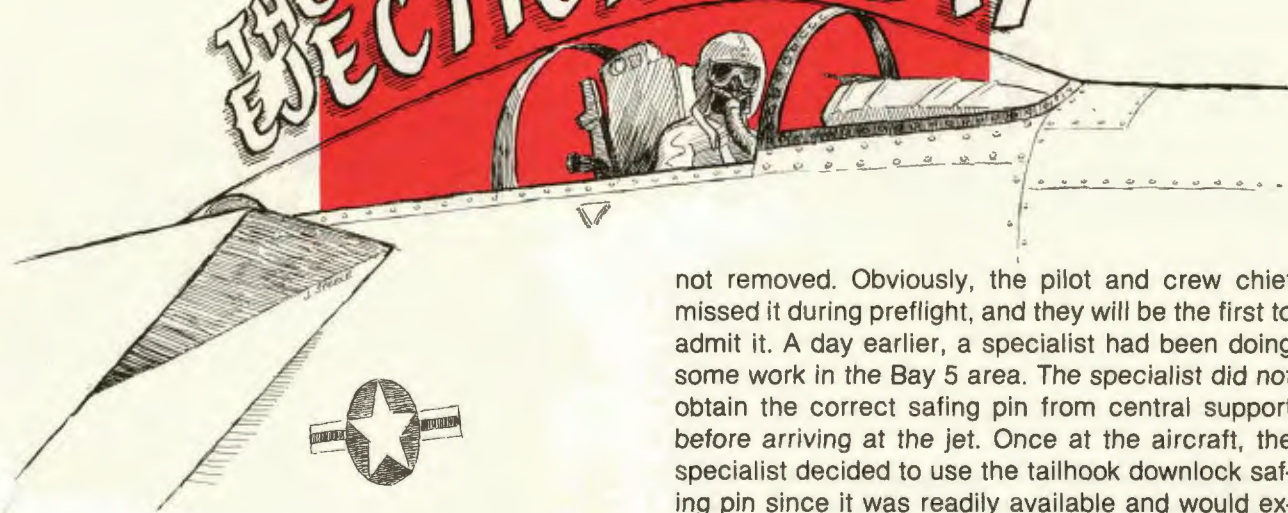
brought the airplane back for a successful emergency landing.

The engine suffered extensive compressor damage from the 10th through the 14th stages. The damage appeared to have been caused by a very hard, one-inch-long, cylindrical object with a small diameter. The foreign object was not found, but we do have a clue where it came from. Three days earlier, during work on this engine's variramp, the tip of a punch broke off. The workers involved conducted a search but couldn't find the missing punch tip.

In a case like this, the procedures call for notifying the quality assurance office and making a lost tool report. This unit's MOI states that when an item cannot be found, the aircraft may be released for flight by no one other than the chief of maintenance. But in this incident the quality assurance office was not notified, no lost tool report was submitted, and the first-level maintenance supervisor released the airplane for flight without even notifying the chief of maintenance.

So, where do you think the FOD came from?

THE OVERLY SAFE EJECTION SEAT



An F-15 pilot recently flew a mission in a de-armed ejection seat. How could that happen, you say? Please read on. Approximately one hour after takeoff, the pilot noted a flapping sound near the rear canopy section and, suspecting a possible loose panel, returned to base. Other than a little excitement regarding a possible missing panel, recovery was uneventful—that is, until postflight inspection, when the crew chief had the misfortune of discovering the tailhook downlock safing pin was installed in the canopy-actuated initiator. Yes, there was a red "maintenance use only" streamer (which was badly frayed on one end) attached to the pin. Also, the large tailhook unlock pin was loosely attached to the same streamer.

It seems that the loose end of the streamer was sucked out of Bay 5 through the crack between the canopy rail and canopy. The flapping of this streamer in the airstream created the noise perceived by the pilot to be a possible loose panel. The overwhelming fact of this incident is that if the pilot had needed to eject, the canopy would jettison normally, but the ejection seat would not fire!

Let's trace back a few steps and try to determine how this improper pin was installed and why it was

not removed. Obviously, the pilot and crew chief missed it during preflight, and they will be the first to admit it. A day earlier, a specialist had been doing some work in the Bay 5 area. The specialist did not obtain the correct safing pin from central support before arriving at the jet. Once at the aircraft, the specialist decided to use the tailhook downlock safing pin since it was readily available and would expedite the performance of his task. Additionally, the specialist did not document the aircraft forms with a red-X entry—a required procedure in accordance with TO 00-20-5. When questioned, the specialist was uncertain about the need for a red-X entry. This was a typical day in which the specialist had several jobs requiring his expertise. So he signed the forms and left the jet with the substitute pin still installed. The next morning the exceptional release was signed, and the jet was ready to fly even though it had an ejection seat that wouldn't work.

We were lucky this time. Can we learn a few lessons from this incident to avoid another test of fate? Here are a few for starters:

- Aircrews—Use your checklist. Take the time to adequately preflight your ejection seat.
- Crew Chiefs—Check Bay 5 area. Check the forms and recognize red-X entry requirements.
- Specialists—Follow your tech orders. Don't take shortcuts; they could be costly. If you have questions, ask your supervisor.
- Supervisors—Review, and revise if necessary, the system to issue safing pins. Is someone accountable for every pin on every aircraft? Ensure your people are trained. Create and maintain the awareness you expect.

— Courtesy 313 AD/SEF

WEAPONS WORDS



GIVE THE PILOTS A CHOICE

The pilot of an A-7 was pulling off from his second strafe pass. He ceased firing at 2,200 feet from the target and began a normal 4-G recovery when he heard and felt a thump. The range officer had been



calling out the cease-fire ranges. he saw nothing unusual about the pass.

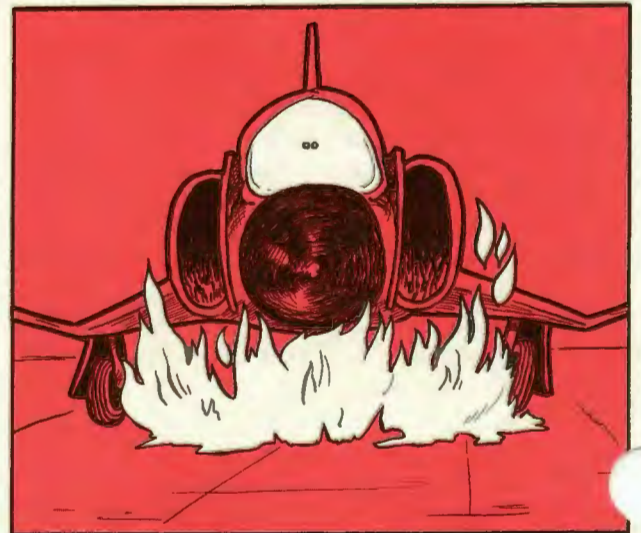
After the aircraft landed, maintenance found that a 20 mm slug had entered the intake duct causing engine damage before it exited at the 3 o'clock position of the engine inlet extension.

What caused the ricochet? Well, there was standing water in the impact area of the strafe pits. The range officer hadn't gotten around to telling the flight about the water. If he'd told them, at least the pilots could have had a say in the risks they were taking.

SKIP SOME STEPS AND SHORTEN THE SORTIE

Two 370-gallon fuel tanks crashed to the concrete ramp below an F-4. The pilot in the cockpit was momentarily taken aback. All he had done was turn on the left master switch to check the battery.

A fire developed. The aircrew climbed out of the airplane and helped the maintenance troops fight the fire. Using the flight line fire extinguishers, they quickly put out the fire.



The airplane was loaded with two TERS holding three MK-82s each on the inboard stations and a SUU-23 gun on the centerline, but only the wing tanks had jettisoned. Both the wing tank safety pins and the SUU-23 pin had been removed by the crew chief as he followed his tech data. The pilot had checked that the tank jettison switches were safety wired off and that the emergency stores jettison button (the panic button) wasn't pushed in before he turned on the master switch. Afterwards, all the cockpit switches were found in their correct positions.

Before the aircrew had come out to the airplane that morning, the weapons load crew ran a 25-day jettison check of the outboard stations, although it wasn't noted in the aircraft forms. The technician in the cockpit used the panic button for the check. He held the button down for each wing station. His partner operating the meter at the breeches read 28 volts DC power at each breach. But the meter never showed zero volts at the end of the check as the checklist requires.

The load crew also failed to run a stray voltage check in conjunction with the jettison check. That requirement is in the checklist, too.

An investigation of the airplane circuitry after the mishap showed a continuous 28-volt current at the tank pylons whenever external or internal power was applied. The missile jettison circuit breaker was popped. When the troubleshooters took off the armament control relay panel, they found a relay (44K312) that had two contacts melted together in an energized position. These two contacts can be activated only through the panic button jettison circuit; they provide current to the tank pylons and the right inboard MAU-12.

When the pilot turned on the master switch, battery power energized the outboard pylons and jettisoned the tanks. The current didn't reach the right inboard MAU-12 because the missile jettison circuit breaker had popped.

The melting of the contacts apparently happened when the panic button was incorrectly used to run the jettison check. Completing the check by ensuring a zero voltage reading when the button was released would have pointed out the problem before any damage was done. A stray voltage check in conjunction with the jettison check should also have revealed the hazard.

But then, this load crew didn't properly follow the tech data steps. By skipping a few, they finished sooner. The aircrew also were finished with their sortie sooner than they had expected.

BOMB CHECK WORKS TOO WELL

An F-111 aircrew was checking the dual bomb timer system. Conventional bomb was programmed on the number 3 weapons select cassette indicator. A weapon was present on station indicator pushbuttons 3, 4, and 5, and the bomb arming option indicator showed nose/tail arming.

All doors on the SUU-21 dispensers on stations 3, 4, and 5 were closed. The crew chief was in the wheel well holding the Enable/Test switch to Enable. As the pilot moved the Master Arm switch to Arm, the WSO pressed station indicator button 5 to set up the check. The indicator showed "SEL." Neither the aircrew in the cockpit nor the crew chief in the wheel well noticed, but the doors of the SUU-21 on station 5 opened.

The pilot pressed the weapons release button. When the 10 seconds set on the timer expired, a Mk-106 practice bomb was ejected from the SUU, firing the spotting charge. No one was injured and the aircraft was not damaged.



The WSO didn't know that the SUU-21 doors could open on the ground when the nuclear arming switch was off. The doors normally won't open when B-61 is selected on the cassette. But this time, conventional bomb was selected on the cassette.

The whole incident could have been avoided simply by following the checklist. It says to use an empty station for the check. Looks like there's a good reason for the checklist requirement.



HOLIDAY CHECKLIST

Have a safe holiday season. Use this checklist:

Toys

- Don't buy toddlers toys made of brittle plastic or having sharp edges.
- Plug-in electric toys should have a testing laboratory label.
- Chemistry and tool sets should include safety goggles.
- Note that most accidents involve bicycles, skateboards, roller skates, sleds, toboggans, snow disks, and anything with projectiles, like BB guns, darts, bows and arrows.

Lights

- Only use lights that have a testing laboratory label.
- If your lights, new or old, have broken sockets, frayed wires, or loose connections, replace the set.
- Never use electric lights on a metal tree.
- Don't overload extension cords. Three sets of lights per single cord is the maximum. Protect wires

from injury—don't run them under rugs.

- Outdoors, use only lights and extension cords specifically made for outdoor use.
- Always unplug all lights before you go to bed or leave the house.

Trees

- A fresh tree is best—the needles shouldn't fall off easily or break when bent.
- Cut one inch off the base and keep the tree in water both before and after you set it up.
- Don't use real candles on a tree.
- Plastic trees should have a fire retardant label.
- Place tree away from fireplaces, heat registers, and radiators. And make sure the tree isn't blocking doorways.
- Use unleaded trimmings.
- Keep all decorations out of the reach of small children.

Gift Wrapping

- Don't burn gift wrapping, boxes, cartons, or packing material in the fireplace.



Parties

- If you use candles at your party, don't place them near curtains, doorways, or plastic and paper decorations.
- Use nonflammable holders for candles.
- Use flame retardant or noncombustible decorations and Santa costumes.
- After a party, check everywhere for smoldering cigarettes, especially under cushions, behind furniture, and in waste baskets.

DRUNK DRIVING

You've heard it before: drinking and driving don't mix. Here is some more proof: Each year 26,000 people die in the U.S. because of alcohol-related vehicle mishaps. That equates to 500 people killed a week or 73 people killed each day. There are 800,000 drunk-driving collisions each year and more than 65 percent of all single-car crashes are alcohol-related. And although states are taking action to toughen drunk-driving laws, only one arrest results out of every 2,000 drunk drivers.



Until people realize that drinking and driving don't mix, here's what you can do to combat the problem:

- Wear your seat belts. That's the most effective way to counter a drunk-driver attack. Have everyone riding with you use their seat belts and please make sure all children are buckled up. Don't hold a baby in your lap; place the baby in a child restraint seat.
- Don't ride with a driver who has been drinking.
- Practice defensive driving, especially during the most dangerous driving times—between 10 p.m. and 3 a.m. on Friday and Saturday nights.
- If you're going out with a group and you know you'll be drinking, select one person to be the designated soberee, and then be sure to let that person drive.
- If you have to drink, realize that it takes at least one hour per drink to sober up enough to drive.

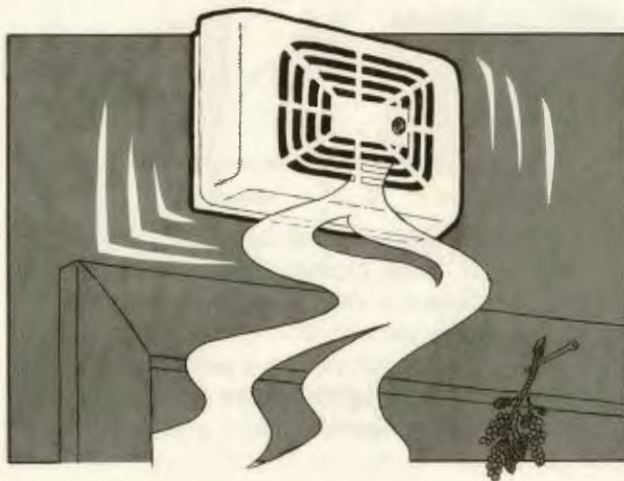
Drinking coffee and taking a cold shower won't shorten the time.

- If you give a party, stop serving alcoholic beverages at least an hour before you expect your guests to go home. Don't let them drive if you know they are intoxicated—let them spend the night or get them a cab.

CHRISTMAS PRESENTS

Out of ideas for what to give for Christmas? Try these:

Smoke Alarms. New features on this year's models include detachable escape lights, some of which activate by the sound of a smoke alarm going off within a 20-foot radius. There are detectors that include the light and alarm as one unit. Installment has been made easier with mounting clips; and for those people who can't install an alarm permanently, many alarms are now made to just hang over a door. The alarms are getting smaller, down to 5 inches in diameter, and many now have hush controls so you can shut off the alarm for five minutes if you have to clear nuisance smoke. A great gift for the traveler is a portable smoke alarm travel kit which includes the detector and escape light, all in a nice travel case.



Smoke Protectors. Most fire victims die from smoke and not fire. Now you can buy a large transparent nylon hood that will give you at least 10 minutes of breathable air. It's roomy enough for you to hold an infant inside, and it adjusts to fit all sizes.

Fire Retardant Spray. An invisible, odorless spray that can be used to treat any fibrous material in the home or the car. It can be used on draperies, upholstery, carpeting, unpainted wood, and your Christmas tree.

Down to Earth

I'LL BE HOME FOR CHRISTMAS

The car is packed, and you're going to leave right after you get off work. You know seat belts save lives, so everyone will buckle up. But how are you going to stay awake?



Here's what the National Safety Council recommends: Wear loose clothes, open your coat, and loosen tight collars or cuffs. Don't eat a big meal just before or during the trip. Don't drive at night if you can avoid it because driving hypnosis is greater after dark. Keep the dash lights as dim as possible—the glare can also be hypnotic. Stop every hour or so and get out of the car and stretch. Have some coffee, tea, or soda. Don't keep your eyes focused on a point dead ahead—keep looking to the right and then left. Don't follow the same car for too long, and if you find your eyes beginning to glaze, run the windshield wipers for distraction. Play the radio, but not slow, soothing music. Sing or whistle; chew gum or eat candy. Keep plenty of fresh air coming in and don't smoke too much—smoke fatigues the eyes. Vary your speed. Unvarying speeds invite hypnosis.

If you find yourself dozing and these tips don't help, it's time to pull over and take a nap.



Of Course You Know This. But if you own a front-wheel drive vehicle and you want your snow tires to do their job, remember to put the snow tires on the front, not the back.

Want to Fool Mother Nature? Make sure you always have these items in your car in case you get caught in a winter blizzard: tire chains, a shovel, extra warm clothing, blankets or sleeping bags, first-aid kit, working flashlight, candles and matches, and bags of sand or gravel. But make sure the sand and gravel can't slide around. Always try to keep a full gas tank, and when you know Mother Nature will be at her worst, stay put.

Baby-Sitters. The National Safety Council recommends that you write everything down and not rely on your baby-sitter's memory. Be sure to include where you're going and the telephone number, the name and phone number of a friend or neighbor, numbers for doctor, police, and fire department, and any special instructions.

Snow Shoveling Tips. Dress for the occasion, especially when the wind chill is below 20 degrees, by covering all exposed skin and wearing several layers of loose-fitting clothes. Use a sturdy, lightweight shovel and push the snow out of the way. If you must lift the snow, take small scoops and use your legs and entire body to help heft the load, not your arms and back. Don't smoke—that makes your blood vessels constrict so your heart and lungs work harder. And don't drink alcoholic beverages—alcohol gives you a false sense of energy; you could overexert yourself. Shovel before eating or wait two hours after you eat. Better yet—pay a kid to shovel the snow for you.

TAC TALLY



CLASS A MISHAPS
AIRCREW FATALITIES
TOTAL EJECTIONS
SUCCESSFUL EJECTIONS

TAC		
OCT	THRU OCT	
	1982	1981
1	24	29
0	14	17
1	21	29
1	18	22

ANG		
OCT	THRU OCT	
	1982	1981
0	5	6
0	2	3
0	5	1
0	4	1

AFR		
OCT	THRU OCT	
	1982	1981
0	1	1
0	0	1
0	2	1
0	2	0

TAC'S TOP 5 thru OCTOBER '82



TAC FTR/RECCE	
class A mishap-free months	
49	1 TFW
36	49 TFW
35	355 TTW
26	347 TFW
23	354 TFW

TAC AIR DEFENSE	
class A mishap-free months	
117	57 FIS
70	5 FIS
67	48 FIS
26	318 FIS
17	87 FIS

TAC-GAINED FTR/RECCE	
class A mishap-free months	
126	188 TFG (ANG)
118	138 TFG (ANG)
117	917 TFG (AFR)
114	116 TFW (ANG)
104	434 TFW (AFR)

TAC-GAINED AIR DEFENSE	
class A mishap-free months	
104	102 FIW
100	177 FIG
66	125 FIG
49	119 FIG & 142 FIG
39	144 FIW

TAC/GAINED Other Units	
class A mishap-free months	
159	182 TASG (ANG)
152	193 ECS (ANG)
147	26 ADS
143	110 TASG (ANG)
139	USAF TAWC

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

TAC	1982	7.8	5.7	5.9	5.2	5.9	5.7	5.1	4.7	4.4	4.1		
	1981	4.0	3.0	3.2	5.6	6.0	5.9	6.3	6.2	6.0	5.3		
ANG	1982	0.0	2.7	3.2	3.4	3.6	2.9	3.1	2.7	2.4	2.1		
	1981	9.3	4.8	4.6	3.3	2.6	2.2	1.8	1.6	2.4	2.6		
AFR	1982	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.5	3.2	2.8		
	1981	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.8	3.4	3.0		

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

HAPPY HOLIDAY, (HIC),
Y'ALL.



ON TO TH' NEXT
(BURP) PARTY.



DON'T REMEMBER
THIS ROAD?



THIS (BELCH) BABY SURE
DO RIDE SMOOTH.



CRUNCH!



SPRONG!



SPLAT!



**IF YOU DRINK,
DON'T DRIVE**

THANK YOU

