# TAC ATTACK

JANUARY 1989

# ANGLE OF ATTACK


Welcome back. I'm glad you made it through the holidays. Now, as we start the new year together, I *know* you'll be fighting over who gets to read the "Angle of Attack" first each month. Right? But, before you pass the magazine along to the next person, hopefully you'll also find time to read some of the other articles in *TAC Attack* and *MAYBE* (?!!!) even look at Fleagle's exploits from time to time.

If you make New Year's resolutions, you've probably already done them for this year. One I hope you'll make to yourself, and to the Air Force, is to increase your awareness in everything you do. I don't want anyone to say they'll try to fly *safer,* work on airplanes *safer,* or do their job at the fire station *safer* this year. Safety is not our primary mission, but it is a vital by-product of our daily efforts if we're aware and do our jobs in the manner we've been taught. If we find something that prevents us from doing our job correctly, let's get it changed. That's safety. Let's be more aware this year.

In reviewing our TAC mishaps during FY 88, I've noticed that many problems in flight mishaps occurred in our aircraft across the board. For example, some aircrews had problems carrying out emergency procedures, whether big or small. Some folks were doing prescribed steps without knowing *why.* That's a beartrap just waiting for the unwary. Our aircrews need to sit down, the experienced along with the inexperienced, and share their hard-earned expertise with each other. Experience is nothing but learned history. When an experienced guy follows the checklist, he knows what he's looking for because of past experience and wisdom gathered from others. If we share that knowledge with others, when the inexperienced crew member has an emergency, he'll know what to expect.

January brings serious weather conditions to most bases in TAC. How will that affect you? Have you thought about the changes that must occur in your normal routine: more clothes to keep you warm, longer preflights, more time needed to taxi out due to ice and snow? **Or,** do you act as though nothing has changed?

Accurately assessing your personal abilities and the impact of changing weather conditions on your daily activities is a result of personal discipline. Good discipline starts with adequate preparation before you ever step into the briefing room. Honestly acknowledging your personal flying and operating limitations is just as vital as being aware of and adequately planning to counter enemy threats during combat. In either case, if you fail to deal with "the threat," the results can be just as serious.

January holds just as many challenges for our support people. All of you working on the flight line and around the base such as crew chiefs, POL, security police, transportation folks and everyone else need to take into account how the hard conditions of winter will affect you. Take a few minutes now to consider how it will impact your daily routine.

Let's make 1989 a tremendous year to look back on next January. Have a great month, pardner.

Jack Gawelko

JACK GAWELKO, Colonel, USAF
Chief of Safety

# TAC ATTACK

DEPARTMENT OF THE AIR FORCE

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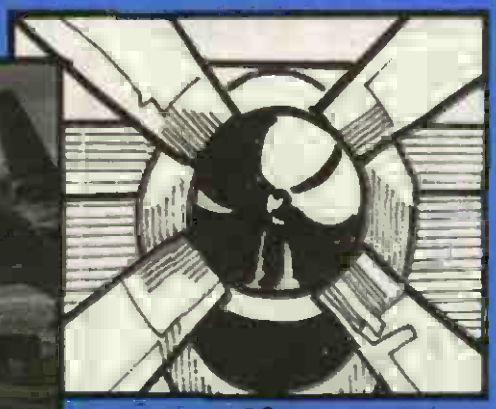

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## features



## departments




**TACSP 127-1**

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# FLYING IN

**Editor's Note:** If true winter weather hasn't already hit your neck of the woods, then January's arrival means it's overdue. The time to prepare for it is now, while you're in the cozy warmth of the aircrew lounge, not after you find yourself in some of the "finest" weather the year has to offer. Virtually no area in TAC escapes the rigors of winter, whether it's the extremes of deployment to Europe or the below freezing temperatures and ice that have hit the South in recent years. Here are a few pointers on winter flying and aircraft operations to get you thinking in the right direction. The rest is up to you.

## PREPARATION

Preparation for any flight begins long before you ever step to your aircraft. During winter months, it's important that you keep physically fit, rested and ready to fly. It's easier to catch a cold during this season, but balanced meals and adequate sleep will go a long way toward keeping you healthy.

**During winter months, it's important that you keep physically fit, rested and ready to fly.**

# WINTER: A BRISK EXPERIENCE

Start your flight planning early. Plan your missions thoroughly since you probably won't be able to accomplish as much as you're used to because of more frequent marginal weather and higher bingo fuels. For medium altitude cruise legs, remember that the jet stream shifts to the south, increases in velocity, and is at a lower altitude. Expect stronger en route winds. Pay particular attention to the altitudes where you can expect to pick up icing and make sure the weather is within your personal limitations. Consider the terrain you'll be flying over, and make sure you have the survival gear you'll need if you have to jettison the aircraft.

**Consider the terrain you'll be flying over, and make sure you have the survival gear you'll need if you have to jettison the aircraft.**

Spend some time checking your destination and en route airfields. Diverting for a lot of reasons is more likely during this time of year, so be prepared. Don't get caught short on fuel or ideas when the time to go somewhere else arrives.

**PREFLIGHT AND GROUND OPERATIONS**

When you're ready to brave the elements and preflight your aerospace vehicle, dress properly. As a minimum, wear long underwear and gloves in addition to your other flight gear. Again, consider the type of terrain you'll be flying over. Prepare for the worst, and you'll be ahead of the game. Use gloves with woolen inserts while preflighting, and keep your lightweight flying gloves dry for cockpit use. If you have to spend a night on the ground, heavyweight gloves and a watch cap will be worth their weight in gold.

Why all the fuss about dressing properly for preflight? If you're doing your walkaround in 20-degree weather, with the wind blowing hard enough to frost your long johns, you'll tend to rush. That's exactly what you don't want to do. Dress so you can give your aircraft the extra close look that is essential. Pay special attention to static ports, control surfaces and gear wells. Ensure that the aircraft is completely de-iced, including frost on the windscreen and canopy areas. Carefully check fuel and hydraulic lines for leaks caused by contraction of fittings and shrinkage of packings.

**Prepare for the worst, and you'll be ahead of the game.**

After you're sure your jet or prop-job is airworthy, it's time to climb in. Be careful of an icy ladder lest you bust your butt. Keep your gloves on. A bare hand on very cold metal can actually leave skin behind.

**Keep your gloves on. A bare hand on very cold metal can actually leave skin behind.**

Engine start and run-up require special precautions. Oil temperatures and pressures must be within specified limits, so keep an eye on the gauges. Cold, thick fluids just won't flow if they haven't been preheated enough, and it's not uncommon for lines, hoses or seals to give away.

When your chocks are pulled, go easy on the throttles. Engines put out more power in cold weather. Taxiing on an icy surface can be an exciting experience as you make your way to

# FLYING IN WINTER: A BRISK EXPERIENCE

EOR. Keeping clear of other aircraft and obstacles can be tricky if ramp and taxiway markings are covered with snow and ice. So, keep it slow and allow more room for turning and stopping.

**TAKEOFF AND EN ROUTE**

If everything checks out, you're ready to fly. Line up on a dry spot if one is available. Brakes may not be adequate to complete a full run-up, so be ready to complete the checks during the first part of the takeoff roll. Check to make sure the pitot heat is on, and that you've selected the correct setting for cockpit and canopy heating. Directional control can be a problem during the roll, so watch out. Make sure your feet are off the brakes—a locked wheel on ice can cause a blown tire, or worse, if you hit a dry spot. On takeoff, you'll accelerate faster than normal. Don't be in a rush to get your gear retracted. Stay below gear limit speed and allow the slipstream to blow off any slush or snow thrown up by your tires; otherwise you may have frozen gear problems on landing. Don't forget that you can get engine ice at high power settings and low airspeeds even when not in visible moisture, so use the anti-ice as directed by your flight manual.

When you're airborne, keep ahead of the weather by maintaining a constant watch on conditions at home station and divert airfields. Stay out of icing conditions, but if you have to climb or descend through it, use the anti-icing system early to prevent ice buildup. It's much better to keep it off in the first place than to try getting rid of it once it's there.

**On takeoff, you'll accelerate faster than normal. Don't be in a rush to get your gear retracted.**

**LETDOWN AND LANDING**

As you approach your destination, don't be too eager to accept descent en route unless you're sure it won't result in excessive fuel use or prolonged flight in icing conditions. Know what you're descending into. Before beginning your descent, turn on your defrosters in time to prevent windscreen frosting. Carefully evaluate landing conditions: RCR, crosswinds, landing surface condition, approach visibility, and barrier location. Be prepared to use all of the information sources available such as RAPCON, Center, ATIS, Tower, the SOF and PMSV (the weatherman).

Be prepared to locate the runway when you break out. A runway obscured by snow may be difficult to acquire visually. Fly an on-speed approach—those extra knots may be good for the

**A runway obscured by snow may be difficult to acqure visually.**

wife, kids and family dog, but that also means a longer landing roll, which you don't need. Plan a firm touchdown to help dissipate some of the energy. Brakes won't be as effective on a wet, slush, or snow-covered runway as on a dry slab of concrete, so the drag bag and/or maximum aerodynamic braking is a must. In a stiff crosswind, be patient and hope the brakes will hold. If you do start to slide, make the most of your nosewheel steering, rudder, ailerons and differential thrust. Don't be hesitant about going around, diverting or snagging the cable. Once you have directional control, you may want to shut one engine down (if you have more than one) to get rid of residual thrust.

Once you get your aircraft under control and clear the active, don't get complacent. Taxiback is often trickier than going out for takeoff. With the same thrust and a lower gross weight, you may have to ride the brakes more. It may be better to shut down and get towed in than to slide off the taxiway. Stay ahead of your aircraft until you're safely in the chocks and you shut down the engine(s).

Climbing down from your plane can be as tricky as getting in. Don't blow it and become a human hockey puck because you're in a hurry to get to maintenance debrief. If you RON or make a stop en route, make sure you or Transient Alert do all those extra little things required during cold weather. Look over the Dash One for guidelines before you leave home.

We've hit just a few of the important areas of flying and operating aircraft during the winter. As always, it boils down to the same old fact. You have the responsibility for ensuring the safe handling and operation of your aircraft. Don't let cold temperatures, ice, snow, freezing winds or some outside agency press you into a corner or catch you with your long johns down. Adequate preparation, both physical and mental, is the key to coping and enjoying the thrills of winter aviation.

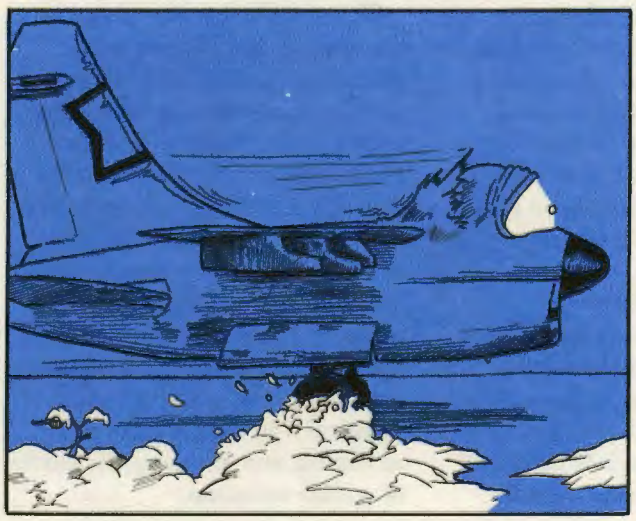
# TAC tips

# INTERESTING ITEMS, MISHAPS WITH MORALS, FOR THE TAC AIRCREWMAN

## All slushed up

An A-7 was redeploying from a close air support exercise in the dead of winter. The pilot encountered slush on the taxiway and during the takeoff roll. At the en route RON base, the temperature hovered between −10 and −16 degrees Centigrade throughout the night and up to time for departure on the last leg home. After takeoff, the nose gear failed to fully retract and showed unsafe. It was extended again and the aircraft was landed without further difficulty.

A good look at the nose wheel well and aircraft exterior showed that the slush thrown up on the first sortie had covered all the gear components. The temperatures at both bases and at altitude turned it into ice—nice and solid. During the second takeoff, the ice prevented the nose wheel uplock assembly from working properly. The condition caused the gear doors to work out of sequence and close first, allowing the nose gear to lodge against the outside of the doors.



This incident could have been headed off with a thorough preflight. Another part of this problem could have been prevented by the pilot cycling the gear according to all-weather procedures in the Dash One. Finally, an awareness of where he'd taxied the aircraft and what the effects might be was essential.

Avoid slush and standing water if you can. But, when you have to move through slush, water and snow while the temperatures are below freezing, take action to prevent them from hanging around on your aircraft and becoming solid matter again.

*And,* open your eyes on your preflight.

## I've got the hypoxia blues

An A-10 pilot was about an hour into his return from a cross-country at FL240 when he began to experience his personal hypoxia symptoms. He declared an emergency, gangloaded his oxygen switches and began a descent to 10,000 feet. Before he leveled off, his hypoxia symptoms disappeared.

After diverting to the nearest suitable base, the pilot was met at the plane by medical personnel. Maintenance folks started working over the airplane and found the liquid oxygen bottle was empty, but the oxygen gauge still read l-l/2 liters.

Hypoxia – it can happen to you. What are your personal signs that you're not getting enough oxygen? There are no Off flags or idiot lights to detect hypoxia and tell you that you're in a rapidly deteriorating situation; you've got to be on top of how you feel and how your oxygen system is operating. Let's hope we'll all do as well as this fellow did.


Fleagle
MACAW, DO YOU REMEMBER LAST YEAR, WHEN I SAT ON THIS VERY STOOL...
TRYING TO FIGURE OUT WHAT MY ACCOMPLISHMENTS WUZ FER TH' YEAR?
YEAH, THINK SO. WHY?
MACAW'S LOUNGE
HARDISON
YOU POINTED OUT ALL TH' THINGS I DONE IN 1987. WELL I DECIDED T'KEEP UP TH' GOOD WORK IN 1988.
UH-HUH
IN FEBRUARY I SHOWED TH' FOLKS A THING OR TWO 'BOUT ICING AND TH' NEXT MONTH, I HIT 'EM WITH A FOD LESSON.
BUT THAT APRIL THING 'BOUT FLOWERS BEATIN' UP ON THAT HONEY BEE, WUZ A BIT MUCH.
I LIKED IT.
I GUESS YOU DIDN'T LIKE TH' PIECE I DID IN JUNE ON G-LOC.
NO, THAT WUZ GOOD.
BUT FLEAGLE, OLE BUDDY, IF YOU DON'T LEARN ANYTHING ELSE IN 1989, TRY TO LEARN AN' RECOGNIZE YOUR LIMITATIONS.
AIN'T THAT ALWAYS TH' CASE. YOU BUST YOUR FANNY TH' WHOLE BLAME YEAR AN' SOME SMARTY PANTS POINTS OUT SUMPIN' YOU DIDN'T LEARN.
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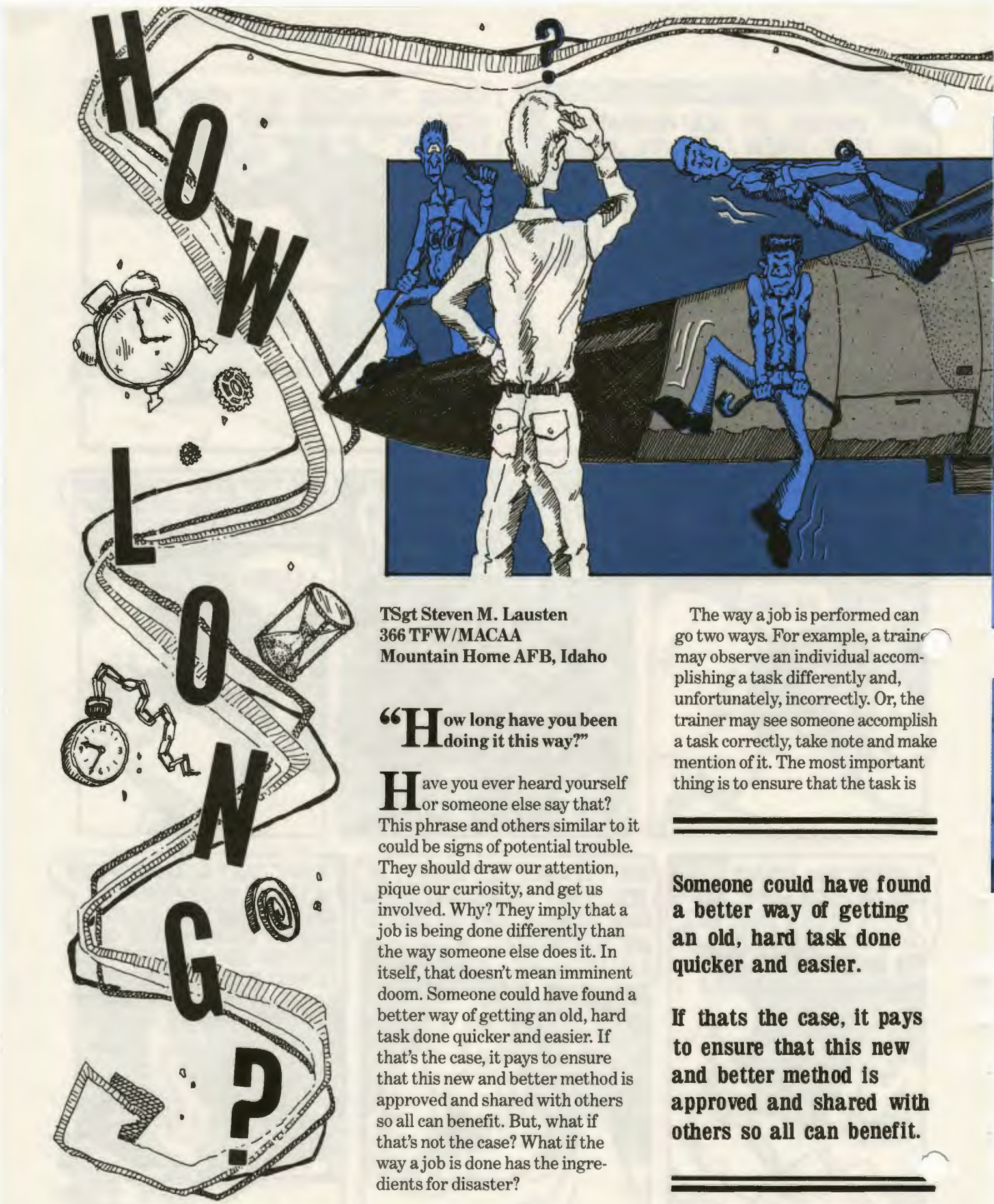


**TSgt Steven M. Lausten**
**366 TFW/MACAA**
**Mountain Home AFB, Idaho**

**"How long have you been doing it this way?"**

Have you ever heard yourself or someone else say that? This phrase and others similar to it could be signs of potential trouble. They should draw our attention, pique our curiosity, and get us involved. Why? They imply that a job is being done differently than the way someone else does it. In itself, that doesn't mean imminent doom. Someone could have found a better way of getting an old, hard task done quicker and easier. If that's the case, it pays to ensure that this new and better method is approved and shared with others so all can benefit. But, what if that's not the case? What if the way a job is done has the ingredients for disaster?

The way a job is performed can go two ways. For example, a trainer may observe an individual accomplishing a task differently and, unfortunately, incorrectly. Or, the trainer may see someone accomplish a task correctly, take note and make mention of it. The most important thing is to ensure that the task is

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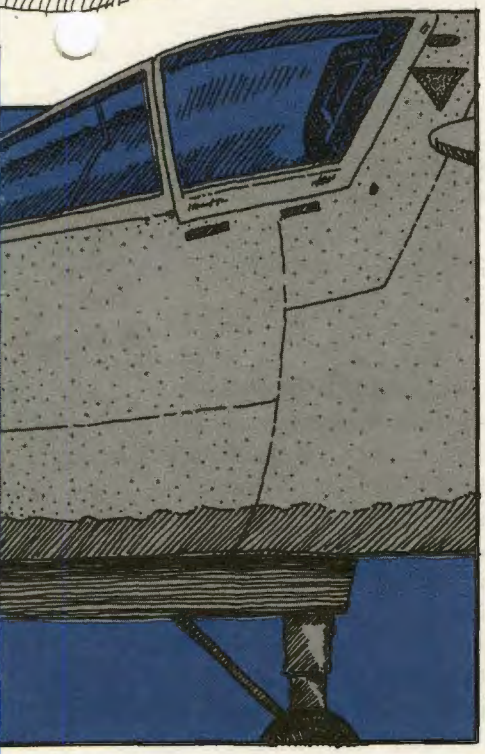


accomplished correctly. If you're sure that one of the individuals is incorrect, by all means point it out. Be sure to back up your positive reinforcement with cold, hard facts (like the TO, for example).

But, what do you do about the person that was doing the job wrong? Stop for a moment and think about it. If you get a bad part from Supply, what do you do? You submit an MDR or QDR to ensure that someone is aware of the problem and can correct it, right? If you notice a worn out widget on an aircraft component, don't you check a couple of other aircraft to see if there's a trend? Well, if the person you see doing a job incorrectly is a trainer, what do you do? Do you ask if they've shown anyone else this "neat," but dangerous, trick? Are there clones of them out there doing the same task in this same incorrect manner?

"Holy Cow, you mean to tell me I trained over 50 percent of the people on the base this task?!"

Now what? Well, someone must get the word out, but no one likes to stand on a soapbox and say "I goofed." Despite that, the person who did the damage should be the one to undo it. Do we sometimes let it slide because we've been in their shoes before and didn't "confess our errors"? Do we walk away hoping that the individual will take it upon themselves to correct the problem? Do we say, "The guy should have followed tech data and not counted solely on his trainer?" All of these chances for correction are just that – chances. If you knew anything about the improper procedures, someone could just as easily say to you, "You knew he was telling others the wrong thing, why didn't you follow up to be sure the correct word was released?"

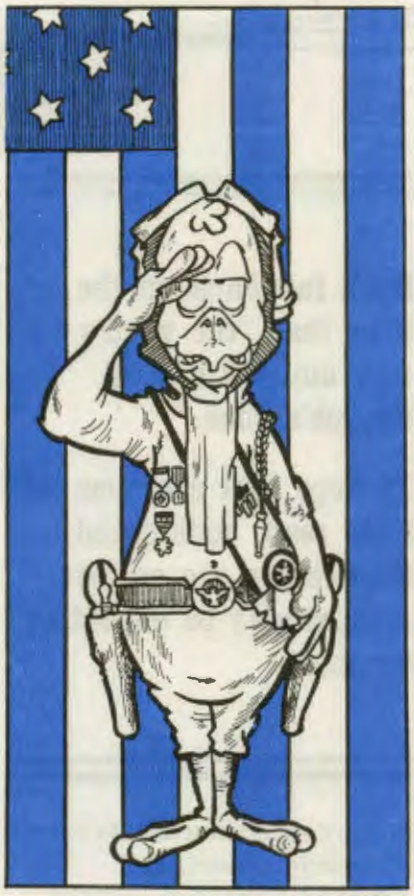
If the individual doing the damage doesn't want to say, "I goofed," you still must be ready to get the word out. People are creatures of habit. It is not hard to teach an old dog new tricks, but it is hard to teach any dog a new way of doing an old trick. Like so many of our tasks, our hands and minds become comfortable in accomplishing tasks in one specific manner, and to relearn the task in a new manner requires both new thought and new movements. Old habits die hard. Don't fall back on the hope that "the word's now out, my half of the job's done." To hope that everyone will look, read, understand, then follow the correct method may be expecting too much. After all, we showed the individual the procedure and then tasked them on how to do it, we may have even reinforced it a couple of times. If we have people out there who have been incorrectly instructed on how to perform a task, we have to take positive steps to correct the wrong and reinforce the right.

**Don't fall back on the hope that "the word's now out, my half of the job's done."**

**To hope that everyone will look, read, understand, then follow the correct method may be expecting too much.**

Now let's take a look from the other side of the problem. Let's say you have a guy doing something wrong and this individual isn't anyone's trainer. In fact, he or she has never trained a soul in their entire lives. Just how did this "bright star" acquire this unique procedure? Was it a self-made creation, or did someone show them this procedure? What? He was taught this! Guess what? Go back to square one.

It's tough these days to stay on top of all the things we must do on a daily basis. These kinds of things only add to the "round tuit" pile. But what of the consequences of not looking or acting? Can we afford not to get involved? Can someone else afford our lack of action? The answer is "No." Sure, I hate saying "How long have you been doing it that way?," but I'd rather hear that than "Did you know one of your troops was doing a job that way?"



# FLEAGLE SALUTES

**Second Lieutenant Liam Dooley**, 434 TFTS, 479 TTW, Holloman AFB, NM, averted a catastrophic crash into a populated area at Holloman AFB when a serious AT-38B flight control malfunction occurred. The control malfunction caused an uncommanded, violent pitch-up and right roll as he lowered his flaps on downwind for a landing. Prompt full forward stick and full afterburners were required to prevent an immediate stall as he raised his flaps in an attempt to correct the problem. Lt Dooley then discovered that 40 to 60 degrees of left bank were necessary to control his pitch attitude. He requested his flight lead to rejoin for a visual inspection, calmly discussed his problem with the Supervisor of Flying, and attempted extension and retraction of the gear and flaps in accordance with the checklist. He also isolated the pitch trim motor by pulling the appropriate circuit breakers, but this and all other attempts failed to alleviate the control malfunction. The aircraft was virtually uncontrollable in a landing configuration. Level flight could only be maintained through use of bank and power, and ejection appeared to be the only solution as fuel was now critical. As the left engine flamed out due to fuel starvation, Lt Dooley ensured that the aircraft was over an uninhabited area and initiated ejection.

Lt Dooley demonstrated superb airmanship. His rapid reaction to a critical situation, plus his calm, methodical analysis of the problem, prevented an immediate ejection and thus prevented possible loss of life if the aircraft had been allowed to crash into the base. Lt Dooley's timely decision and skillful actions have earned him a Fleagle Salute.

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**Sgt Carey B. Shoff**, an aircraft electrical system specialist in the 74 AMU, 23 TFW, England AFB, LA, was performing routine maintenance on the flight line when he noticed that the number one engine of a nearby A-10 had been started with the engine cover still installed. The avionics technician inside the cockpit of the aircraft was not using the necessary technical data to check the position of the throttles, circuit breakers, etc., and had caused the engine to start when the auxiliary power unit was brought on line. Realizing that the number two engine would also begin to start automatically and possibly result in the ingestion of both engine covers, Sgt Shoff quickly ran to the aircraft, climbed the boarding ladder and successfully shut down the engine. Sgt Shoff's alertness and quick actions have earned him a Fleagle Salute.

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**TSgt Wayne H. Bruce**, 21 TASS, Shaw AFB, SC, was postflighting an OT-37 parachute when he noticed a flaw on the automatic parachute opening device which caused the release assembly casing to break in half under light pressure. Knowing that the device is vital to the safe ejection and recovery of a mishap pilot, TSgt Bruce highlighted the problem to ensure that all unit parachutes were grounded and inspected before further use. Ten additional defective release assemblies were discovered and a message was sent out to all affected units and agencies advising them of the problem.

Due to TSgt Bruce's thorough post-flight techniques and attention to detail, a potentially dangerous deficiency was detected before a problem could occur. His dedication to safety and quality maintenance has earned him a Fleagle Salute.

# AIRCREW OF DISTINCTION

Maj Thomas J. King

Capt Evan J. Smith

1Lt Thomas M. Cole

SSgt David J. Phillips

Sgt Richard C. Ellison

**41 ECS Davis-Monthan AFB, AZ**

Maj Thomas J. King, aircraft commander, and the crew of his EC-130H Compass Call aircraft were cruising at flight level 270 on the first leg of an overseas deployment when the aircraft shuddered and yawed severely to the right. The pilot, Capt Evan J. Smith, Maj King, flying in the right seat, and Sgt Richard C. Ellison, flight engineer, quickly scanned the engine instruments and verified that the left two engines were operating normally. The number three engine on the right wing was inoperative and the number four engine was operating erratically with a turbine overheat. The number three engine was immediately shut down, and the throttle retarded on number four, but the overheat persisted. Capt Smith directed its shutdown as well, but the condition lever (the primary means of engine shutdown) would not move. Maj King then pulled the fire handle and the engine wound down, but the overheat light remained on. Throughout this period, the pilot had to apply full rudder trim away from the inoperative engines to help counteract the adverse yaw.

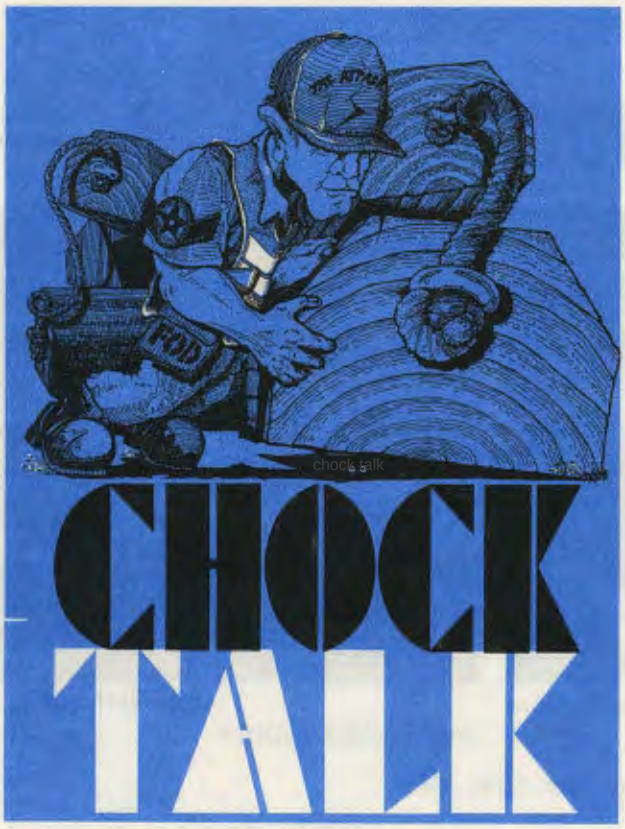
After the engine shutdown checklists were completed, a fire light illuminated in the number three fire handle. The extinguishing agent was discharged and the bleed air supply to the right wing removed, but the fire light remained on.

The crew and SSgt David Phillips, airborne maintenance technician, visually confirmed that the number three propeller assembly, reduction gearbox and engine cowling forward of the wing were gone and that the number four propeller had shifted 90 degrees to the left from its plane of rotation, causing a two-foot cut in the wing.

Knowing that the aircraft could not make its destination on only two engines, Lt Thomas Cole, the navigator, briefed the pilots on their options for suitable emergency airfields. The flight manuals were reviewed to ensure all required procedures had been completed and necessary coordination calls made to clear the way for their emergency recovery. Throughout this time, the aircraft was in a constant descent since it was impossible to maintain altitude on two engines.

Capt Smith performed a successful no-flap approach and landing, required due to the unusual antenna configuration on the aircraft. During the landing rollout, both the pilot and copilot applied full right brake to keep the aircraft on the runway due to adverse yaw. After safely stopping, everyone on board quickly egressed because of the potential for fire or overheated brakes.

The outstanding crew coordination and professional airmanship demonstrated by Maj King, Capt Smith, Lt Cole and Sgts Ellison and Phillips saved sixteen lives and a $28 million aircraft, earning them the TAC Aircrew of Distinction.




# Incidents and Incidentals with a Maintenance Slant

## The "Shocking" truth

An F-16 underwent troubleshooting at the sound suppressor of the engine test facility. One segment of the troubleshooting entailed a check of the static and dynamic supervisory control system (SCS). When the test was completed, the engine was shut down so the test equipment could be removed. The power switch on the tester was shut off and the test crew chief began to disconnect the tester from the aircraft. While disconnecting the last cable, the test crew chief simultaneously touched the aircraft, thus completing the electrical circuit. Instantly, he received an electrical shock which penetrated his body through the cable in one hand and out his other hand to the aircraft. As the 400 Hz current paralyzed his hands, preventing him from dropping the test leads, he yelled for help. Another crew member working in the vicinity heard the scream, approached the scene, and quickly kicked the crew chief's feet from underneath him, breaking the connection and receiving a shock in the process. His quick thinking and reaction saved the technician's life.

Reflecting upon the circumstances of the incident, one can easily conclude that it was caused by not following tech data. The T.O. requires the test station to be unplugged from the power source *before* the cables are disconnected from the aircraft. In this case, the switch was turned off, but the equipment was not unplugged.

There is one big conclusion to make on this incident—**Thou shalt *always* follow the tech data!**

## Lost digits

Three pneumatics/hydraulics specialists were installing a stabilizer actuator on an F-111 aircraft. Two of the workers were on top of the aircraft with the third man positioned on the ground, supporting the aft end of the actuator. As they were trying to get everything properly lined up for the final connections, one worker was holding the weight of the actuator with his right hand while checking for proper alignment with his left middle finger. When he slipped and lost control of the actuator, it slid and cut off his extended finger.

Was this "just one of those things" that had to happen? No! These folks didn't use a sling and hoist to support the 125-pound actuator, as required by the tech order. If they had been, one worker would still have all of his digits when he went home that night.

# TAC OUTSTANDING ACHIEVEMENT IN SAFETY AWARD

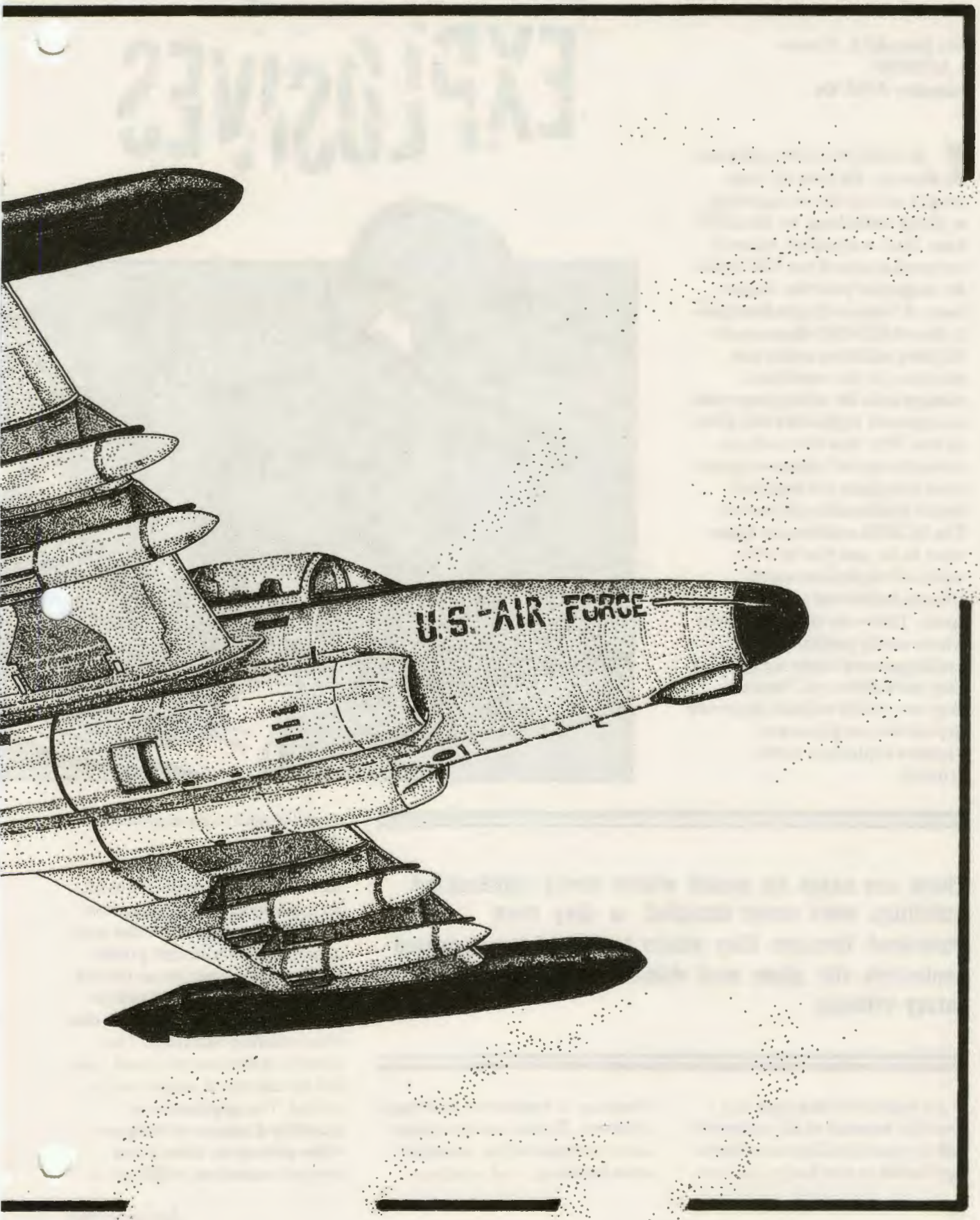
SSgt Thomas E. Maxham's aggressive commitment to safety in the workplace has greatly enhanced his unit's mishap prevention program in the munitions storage and maintenance facility area. For example, when he identified discrepancies in several emergency action checklists used by all munitions branch dispatchers/controllers, he determined the actual requirements for mishap/emergency reporting; coordinated with the necessary agencies; and ensured the publication and dissemination of revised, standardized checklists. As a result, all necessary emergency agencies are notified, response times are improved and safety awareness among all munitions personnel has increased.

Sgt Maxham has also worked hard to obtain funding support for the repair of three hazardous conditions within the munitions storage area. He ensured that hazard reports were submitted, risk assessment codes assigned, and the repair actions prioritized in order to minimize potential hazards to unit personnel. Sgt Maxham has seen the repair work on two projects through to completion, with the third currently underway.

Sgt Maxham's sustained safety involvement demonstrates his professionalism and concern for performing the unit mission safely. His efforts have earned him the TAC Outstanding Achievement in Safety Award.

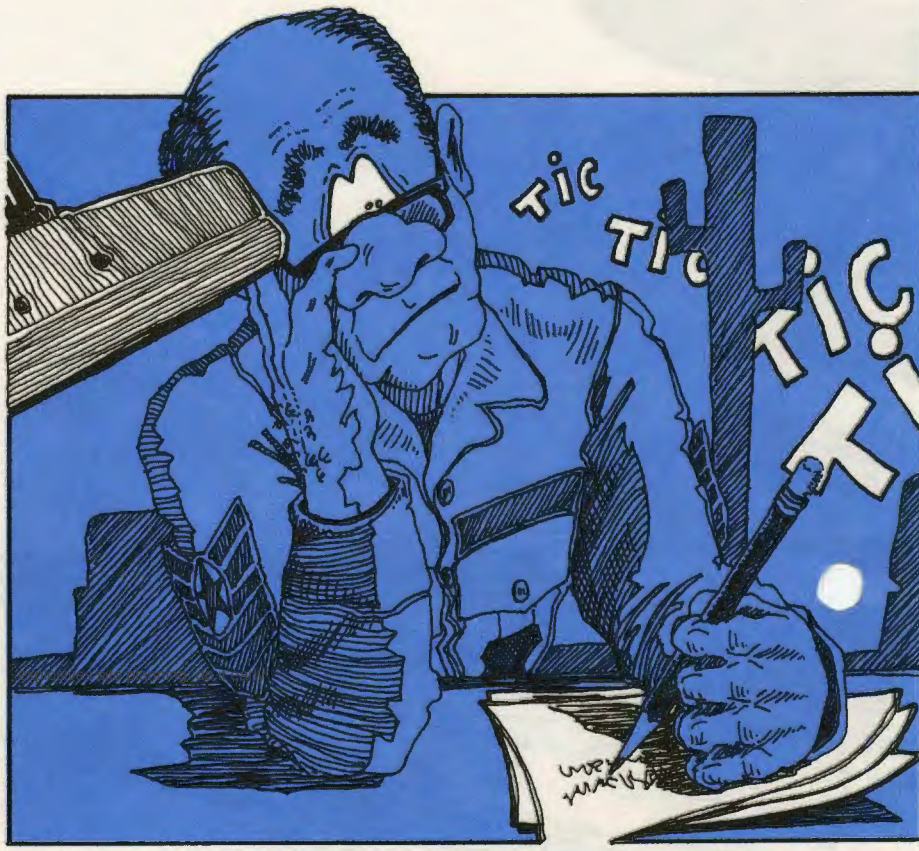
**SSgt Thomas E. Maxham**
**1 EMS, 1 TFW**
**Langley AFB, VA**

# F-89J SCORPION


U.S. AIR FORCE

# EXPLOSIVES

**Mr. Donald L. Carew**
**1 AF/SEW**
**Langley AFB VA**




Life is full of minor embarassments. We have all been caught saying the wrong thing, or doing something we shouldn't have. Such a situation recently occurred at one of our TAC bases. An inspector from the Department of Defense Explosives Safety Board (DDESB) discovered a building addition under construction in the munitions storage area for which there was no approved explosives site plan on file. Why was this such an embarrassment? Approved explosives site plans are required before construction is started. The DDESB and the Air Force want to be sure the location meets all explosives safety criteria before any money is spent. There are cases on record where newly constructed buildings were *never* occupied, or they were destroyed, because they were built without approved explosives site plans and violated explosives safety criteria.

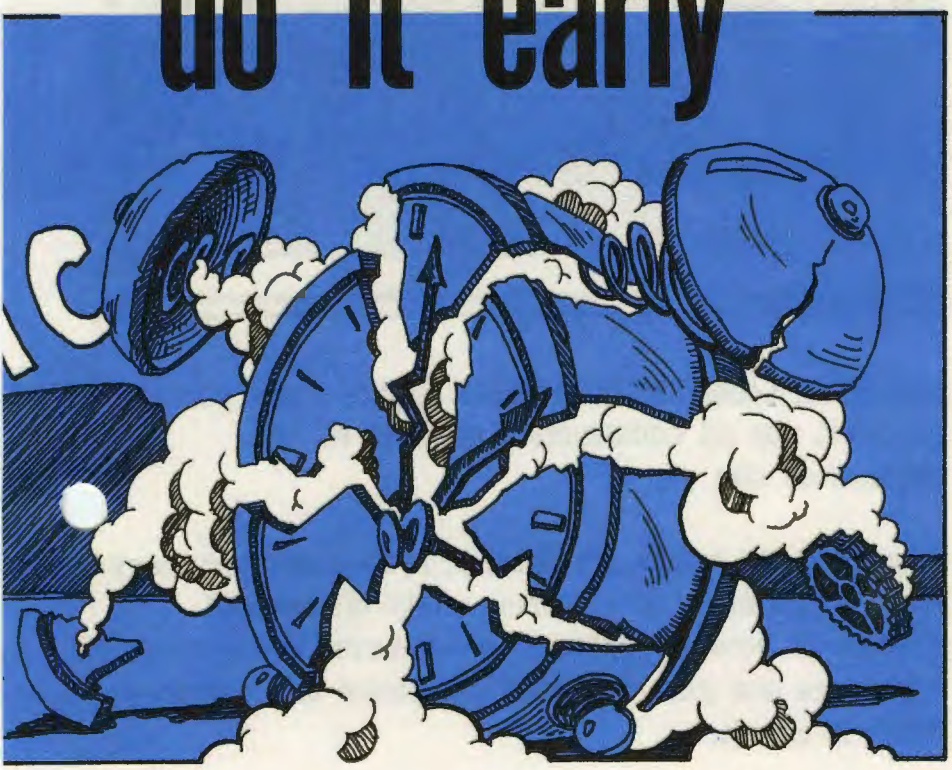
**There are cases on record where newly constructed buildings were never occupied, or they were destroyed, because they where built without approved explosives site plans and violated explosives safety criteria.**

An explosives site plan is a detailed account of all explosives safety quantity-distance criteria applicable to the design and construction of explosives buildings/locations. Explosives site plans are also required for nonexplosives buildings and locations situated within an explosives clear zone.

Quantity-distance criteria identify safe distances between an explosives building/location and various other activities such as inhabited buildings, public traffic routes, operations related to explosives, other explosives locations, utilities and other mission essential activities. The specific distances are based upon the quantities of explosives involved. The application of quantity-distance criteria provides explosives clear zones around explosives buildings or

# SITE PLANNING:

# do it early



**One of the biggest traps is time.**

**It is never too early to submit an explosives site plan.**

**Frequently, the need is recognized with plenty of lead time, but the action is put off until the last minute.**

locations. Any construction activity within a clear zone must first be approved through an explosives site plan.

The explosives site plan is a joint effort between the users of the facility/location, the civil engineer and the weapons safety officer. The plan is formalized with the use of maps, construction design drawings, an explanation of what operations will be accomplished in the building/location and a detailed analysis of the explosives quantity-distance criteria that apply to the operation.

Once the explosives site plan has been developed, it is forwarded through command channels to Headquarters TAC (or host MAJCOM), to the Air Force Inspection and Safety Center (AFISC), and then to the DDESB for final approval before any construction is started.

Explosives site planning requirements are rather simple and straightforward; however, there are several traps along the road to success. One of the biggest traps is *time.* It is never too early to submit an explosives site plan. Frequently, the need is recognized with plenty of lead time, but the action is put off until the last minute. If all things go just right, it takes at least 90 days to obtain approval from the DDESB. However, history has shown that most explosives site plans require additional rewriting and study as they wind their way through the chain of review, with each stop adding more time to the approval process.

Another trap is *the failure to recognize the need for an explosives site plan.* This problem comes primarily from inadequate coordination and lack of

# EXPLOSIVES SITE PLANNING: DO IT EARLY

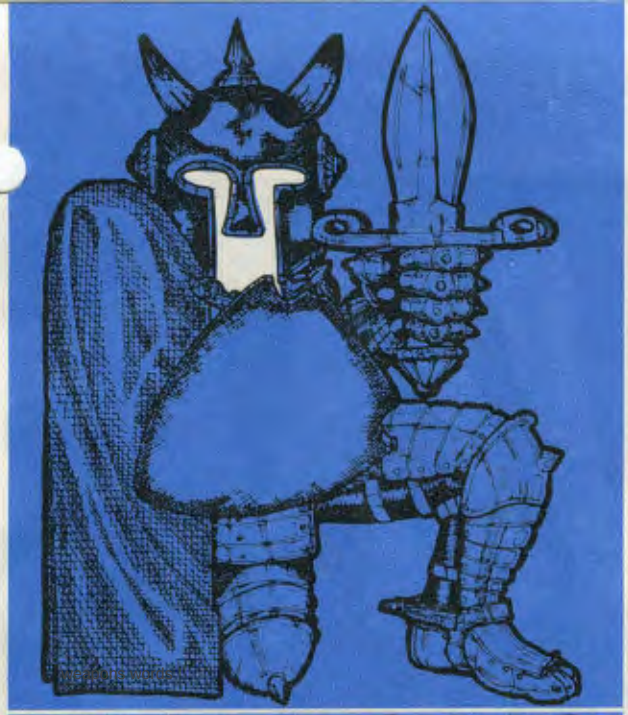

communication. Almost all construction projects begin with an AF Form 332 (BCE Work Request) from the unit requesting the construction. The work request is coordinated among various offices on base. Coordination with the base safety office is the first opportunity for the weapons safety officer to become involved. Sometimes, an inexperienced person outside the weapons safety office will coordinate for base safety, without first checking with the weapons safety officer. The result is usually failure to review the base map for explosives clear zones that would indicate the need for an explosives site plan. The construction project may then continue for months until the weapons safety officer happens to discover heavy earth-moving equipment where it shouldn't be. By then, it is almost too late. Valuable time and money have been wasted. If we're lucky, someone will ask a question that alerts the weapons safety officer to the impending project and the explosives site plan can be developed in time.

Sometimes explosives site plans are not developed *due to a lack of communication based on confusion with terms.* This most frequently occurs when both the weapons safety officer and the community planning staff are new. Almost all construction projects require "site plans;" however, not all construction projects require *"explosives* site plans." Since the two terms are similar, it becomes very easy for an inexperienced weapons safety officer and planner to become confused and believe the required explosives site plan has been completed and approved when it hasn't. In reality, the two plans are vastly different in content, reason for development and approval authority. But, by the time the confusion has been sorted out, valuable time and money may have been wasted.

**Almost all construction projects require "site plans;" however, not all construction projects require "explosives site plans."**

**Since the two terms are similar, it becomes very easy for an inexperienced weapons safety officer and planner to become confused and believe the required explosives site plan has been completed and approved when it hasn't.**

Explosives site planning is a critical factor in the orderly development of the base master plan for construction of essential mission support facilities. It is vital to contact the base weapons safety officer early in the development cycle for all plans concerning construction on your base. Remember, early contact with the base weapons safety officer can lead to quicker and better resolution of explosives siting problems. Late contact can lead to embarrassment.



# WEAPONS WORDS

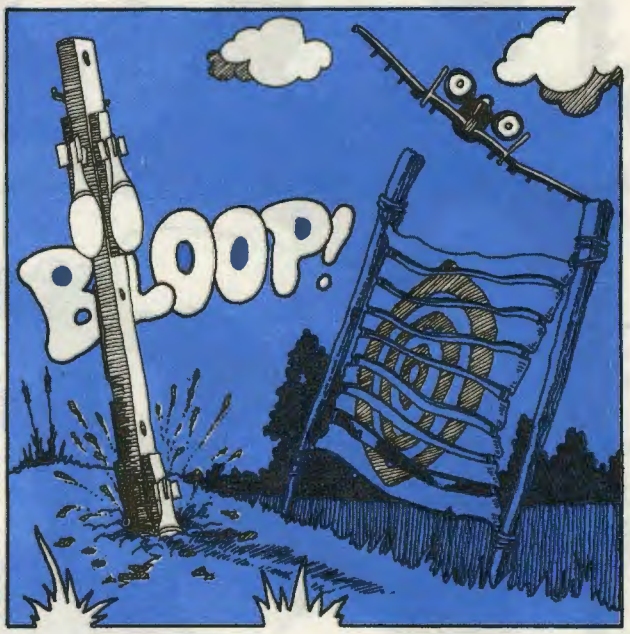
## Bent gadget

It was a hot, muggy day when some maintenance folks set out to do required periodic inspections on some AIM-9 missiles. As one individual attempted to reposition the guidance and control unit on a captive missile body, it slipped from his hand due to perspiration, hitting the cement floor. The G and C unit then fell over, striking the cross bar of the missile maintenance stand and shattering the radome. The end result – one severely "bent" training missile.

Why talk about "hot and humid" work conditions as we head into the winter months? No matter what time of year it is, your work environment and the existing weather conditions are important to how you do your job. During the summer months, you have to cope with perspiration or equipment and aircraft parts that have grown hot because of the heat. During the fall and winter months, you also have to cope with moisture (from seasonal rains and condensation), cold working conditions, and clumsiness caused by clothing such as gloves and field jackets. You've got to take it all into account and consider the conditions in which you're working.

## Bombs away

The A-10 was loaded wall-to-wall for its range sorties: a TGM-65 on station three and TER's with three BDUs each on stations four, eight and nine. Six passes on the range were made with proper releases; but, on the seventh pass, both the TER and the three BDUs on station nine were jettisoned. (They impacted on range but not on the target.)




The pilot's cockpit switches were all in order and shouldn't have caused the unwanted jettison of a valuable bomb ejector rack. All of the armament control circuitry and hardware involved also passed functional checks done on them.

The culprit turned out to be the TER cable lock ring which wasn't fully locked at the pylon. By not being completely tightened, it allowed the firing voltage to be diverted to the bomb rack and the TER (plus bombs) came off.

We usually preflight ordnance to ensure that everything is properly connected so that the bombs will release on target the first time. Obviously, if this had been a combat mission, three bombs might have hit someone on the head, but they wouldn't have exploded and done their best work. Keep an eye open for connections that aren't secured properly both during preflight and during quick checks at EOR.


**Each of us take unnecessary chances of one kind or another every day when we get behind the steering wheel.**

**We all know that traffic accidents are everyone's concern and that it would be beneficial to all if our detrimental habits could be changed.**

**Janet Gaines**
**TAC Attack**

Always in a hurry! Rush – Rush – Rush! Hurry up – and for what? Do these words have a familiar ring to them? Consider what could happen when you are behind the steering wheel in this state of mind. Do you think the minutes you save (maybe) are worth the risks involved? Let's apply this pace to


driving habits and traffic accidents. Have we really gotten any farther than we would have had we applied an attitude of "it's better to be safe than sorry" while driving?

Ever since I can remember, I have been kidded about my driving habits and, after considering these remarks, decided it was time for me to take a hard look at my habits to see what improvements could be made. How about you? Each of us take unnecessary chances of one kind or another every day when we get behind the steering wheel. We all know that traffic accidents are everyone's concern and that it would be beneficial to all if our detrimental habits could be changed.

The adage "old habits are hard to break" is real life, but recognizing that it could be a matter of life or death should be incentive enough for us to make the change. A good driving record does not necessarily mean we are good drivers or that we have good driving habits. Along with our driving habits, there are many other conditions which must also be taken into consideration such as: available light (day/night); prevailing weather (rain, snow, sleet, fog); road type and condition; volume of traffic; condition of your vehicle and driver fitness (physical, mental, or emotional).

**Learning the principles of defensive driving would certainly improve our driving skills and habits.**

The area where I live is undergoing major changes which add to already congested road systems. Because of the rapidly expanding population requiring new businesses, schools, shopping centers, hospitals and so forth, significant construction work on the highways and roads is a must. The result, however, is heavy traffic flows and congestion which present irritations and frustration while we're driving. So how do you and I cope with these irritants and what is the solution?

Basically, the answer is our **ATTITUDE.** A change of attitude is one solution which can significantly impact our driving habits and save our lives. Attitudes normally come from our mental perception and the envi-

# DRIVING YOUR ATTITUDE


ronment around us. An attitude change could give us a different perspective on the irritants which constantly confront us (whether it's the other driver or the congestion).

Our human emotions always play a significant role in driving habits, and, one way or another, you and I are the main controlling factor in our emotions. Hostility, anger, impatience, anxiety, and sadness are just a few of the feelings we need to be aware of and realize will affect our driving. **ALL** emotions should be considered risks. Just one of them can impair our ability to concentrate, and the risk of an accident due to inattentiveness is greatly increased. Any impairment, whether emotional or physical, adds up to driving risks and should be taken into consideration before we attempt to drive.

To increase our control over most traffic situations requires effort. Learning the principles of defensive driving would certainly improve our driving skills and habits. There are several driver-related factors which are evident in most preventable collisions. These factors include knowledge of traffic rules and regulations; driving skills (training); perceptual skills (awareness of what's going on about you); and the risks involved. Applying defensive driving skills and habits when you're on the road means driving to prevent an accident despite adverse driving conditions and the actions of others.

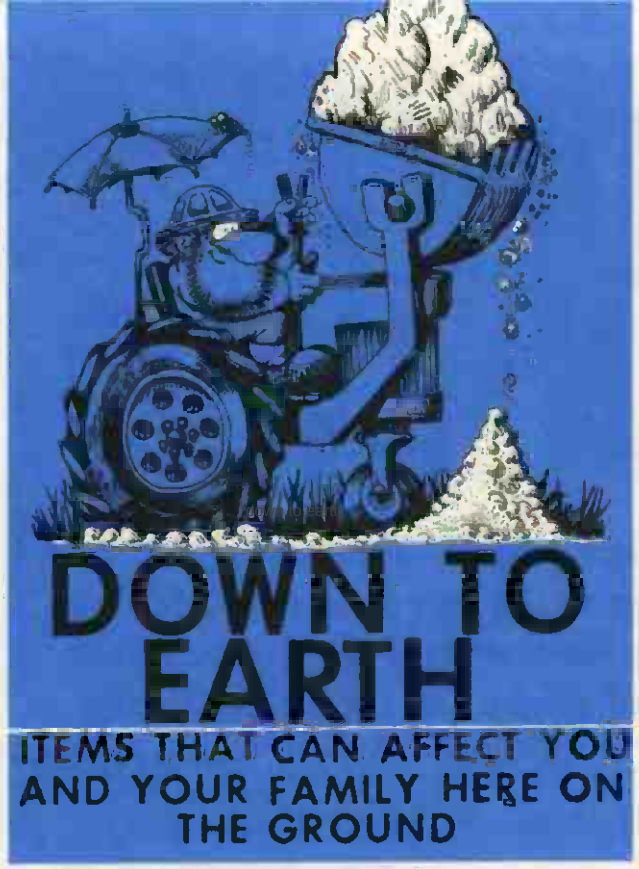
**When all else fails, an important point to keep in mind is**

**"Do unto others as you would have them do unto you."**

Any improvements which we can make in our attitude will help us cope with environmental hazards. Today, our environment changes so rapidly, often without warning, that it's necessary to be aware of our immediate surroundings. The defensive driver is continually looking for changes in traffic patterns, or for any sign that conditions are changing. A defensive driver is constantly on the lookout and plans ahead for possible conditions and situations.

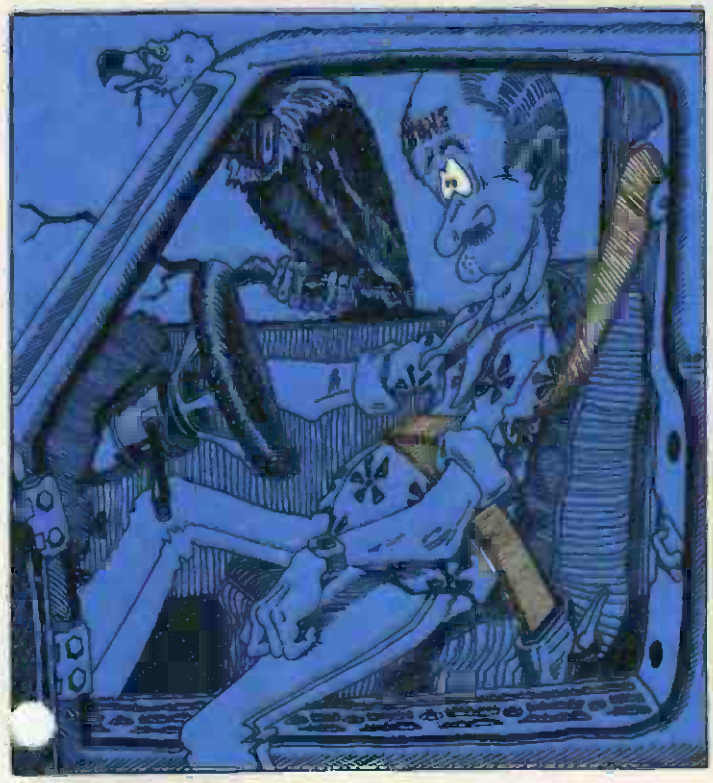
Knowledge of local and state laws, as well as physical layout of the roadways, is of major importance in preventing accidents through defensive driving. It's our responsibility to keep abreast of these changes. Basically, all of the factors I've mentioned are important and have significant impact on our driving. After examining all aspects of safe driving habits, the solution to all of them remains a change in attitude.

So let's make an attitude check a part of our daily routine to ensure our frame of mind and driving skills are in the best condition possible. When all else fails, an important point to keep in mind is "Do unto others as you would have them do unto you." When this rule is applied, your driving habits and attitudes will be greatly enhanced.




## A fatal mistake

Wearing the shoulder portion of a seat belt under your arm rather than positioned across your clavicle (collarbone) can be a fatal mistake.



You might be tempted to place the upper portion of your seat belt under your arm to relieve discomfort. But that practice can result in serious or fatal injuries in crashes.

"Loads far in excess of the injury tolerance of the lower chest and upper abdomen are imposed by the shoulder belt in the underarm position," report researchers in the *Journal of Trauma*.

If a seat belt is worn correctly, some crash forces are absorbed and the remaining ones are spread over relatively strong portions of the body.

(Courtesy of *Safedriver*, September 1988, National Safety Council.)

## Do you care?

**MSgt Hank DeLooff**
**177 FIG**
**Atlantic City, NJ**

The following sequence of events recently occurred on one of our TAC bases.

**Time**

1300 – Contractor grinding steel grates without safety goggles.
1330 – Another worker says, "20 years ago I *lost my eye* doing exactly the same thing you're doing."
1333 – Contractor puts on safety goggles and resumes grinding.
1345 – Grinding wheel disintegrates, striking safety goggles; *no* injury except to goggles.
1346 – Break time versus eye surgery.

Regardless of how well your safety management system appears to be working, human factors frequently enter the picture, evidenced by comments such as:

- "I'm too busy to get those safety goggles right now."
- "I can do it faster without safety glasses."
- "I just plain 'forgot' to use eye protection."

Sometimes we lose sight of the fact that we can easily "lose our sight." Fortunately the near-victim's eyesight in the above incident was saved by someone who cared enough to let him know he was at risk. Once informed, the near-victim made the smart decision to use eye protection. You can bet he's glad he did. Quite often, it's people who *care* that help us prevent serious mishaps. Do you care?

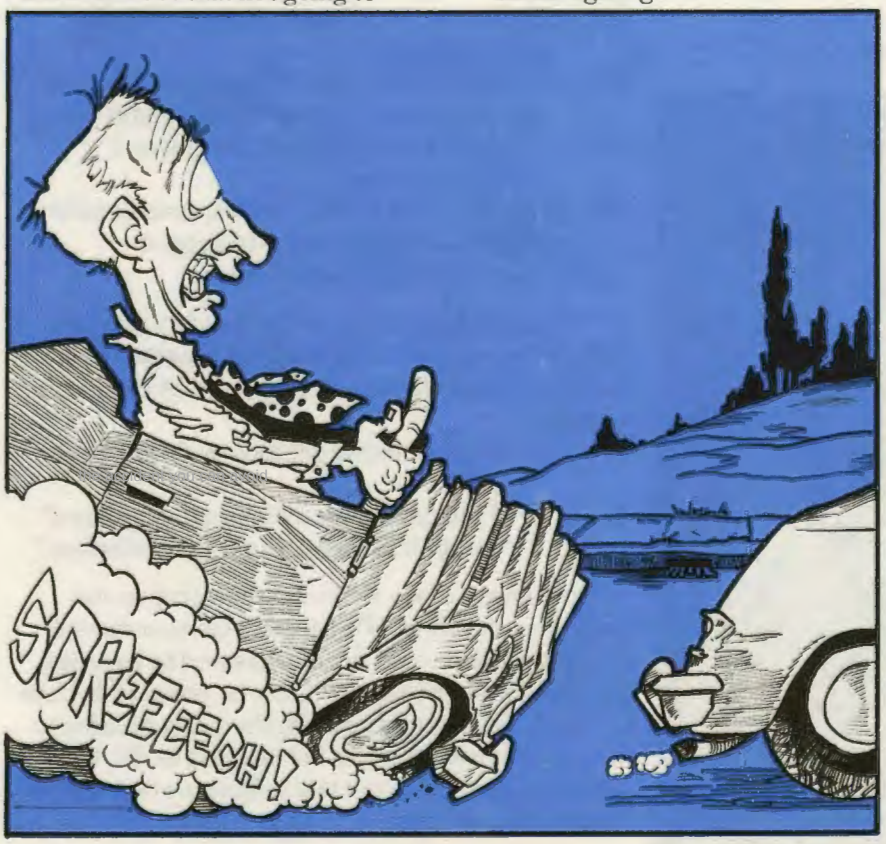
# THE ACCIDENT YOU CAN AVOID

**Most people call them "rear-enders," but as one driver points out, "It's a front-ender if you're the guy that gets his front end smashed." Whatever, it's a far too common type of accident, and one that can usually be avoided if you, as the driver in the rear, take a few precautions.**

**1. Stay alert for sudden stops.**

Expect the driver in front of you to stop *anywhere, anytime.* Look for clues that he's going to stop . . .

– Driver slows down.
– Directional signals blink.
– Brake lights go on.

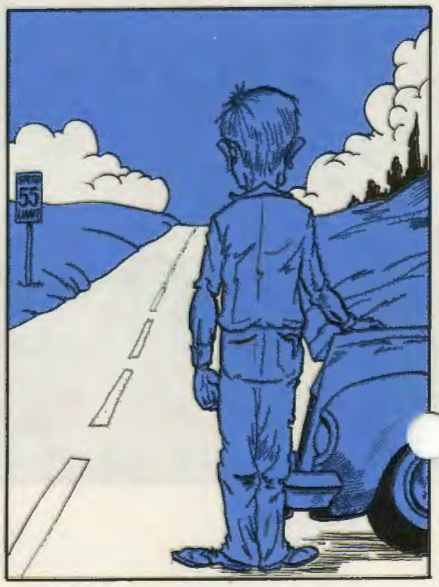



**2. Stay ahead of the situation.**

Watch the traffic and side roads. Keep an eye on what's happening way up ahead. Often you'll spot when the driver in front of you may have to stop suddenly.

Here are some tipoffs . . .

– Vehicles entering from side roads or ramps.
– Traffic signals ahead.
– Someone cutting into your lane up front.
– Road repairs ahead.
– Pedestrians or animals trying to cross the road.



**3. Stay back.**

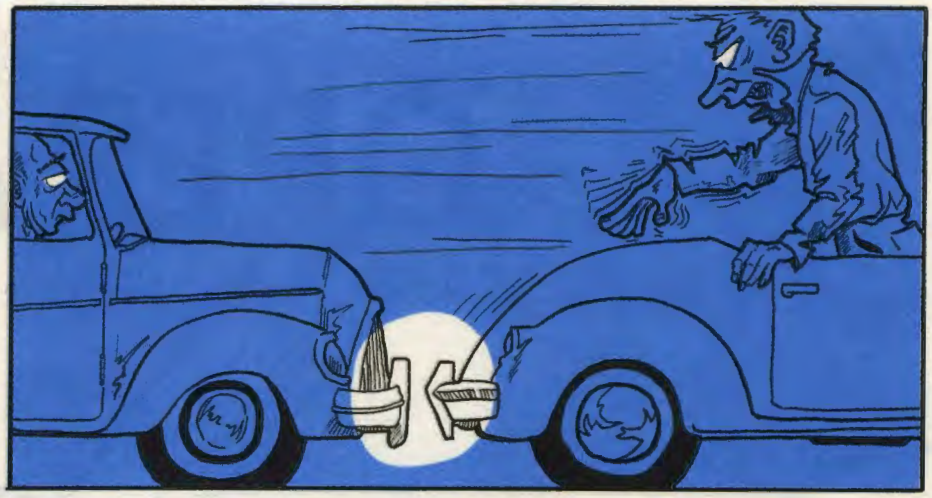
Keep your distance – allow a safe interval at all times. Increase the interval on a slippery pavement.

Watch out for . . .

– Slick ice – three to twelve times more stopping distance needed.

– Tightly packed traffic – makes keeping your distance difficult.

– Smaller vehicles – they can stop quickly.



**4. Start stopping sooner.**

When you know you have to stop – DON'T PUT IT OFF. Delayed braking is doubly dangerous since, if you can't stop as short as you figured, you ram the vehicle ahead. And, if you do get away with it up front, *you* might still get clobbered from behind.

Stay away from . . .

– Unnecessary sudden stops.

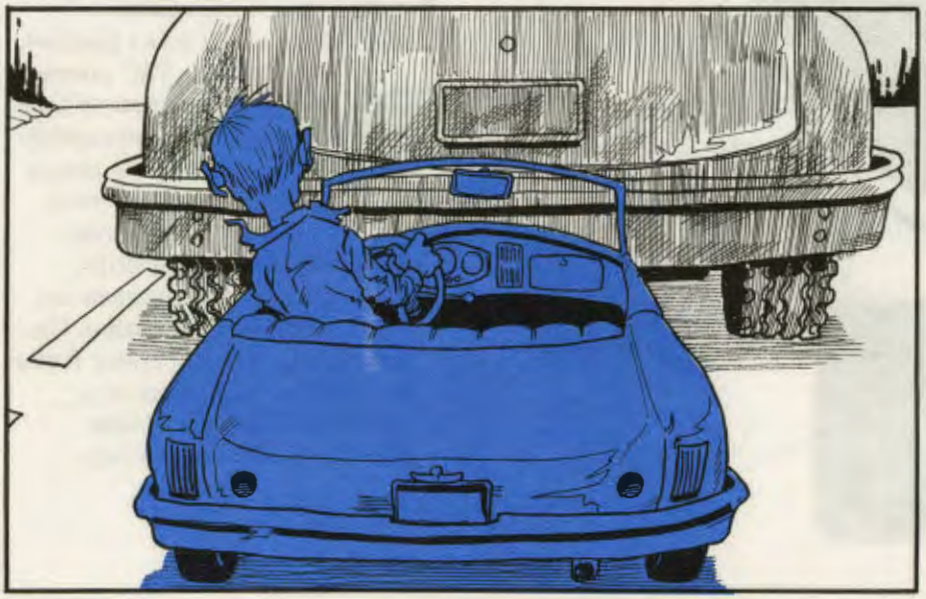
– Speed too fast for weather conditions.

– Too much speed for the type of road.

– Maintaining expressway speed after a turnoff.

**5. Drive defensively.**

Don't ever put yourself in a position where the motorist in front has control of your destiny. Don't *assume* he's going to do something and then place yourself in a position where an accident is bound to result. Always drive with a healthy note of doubt about what the other driver is going to do and you'll come out way ahead in the end. (Adapted from article in *Safedriver*, September 1988, National Safety Council)



# OPERATOR

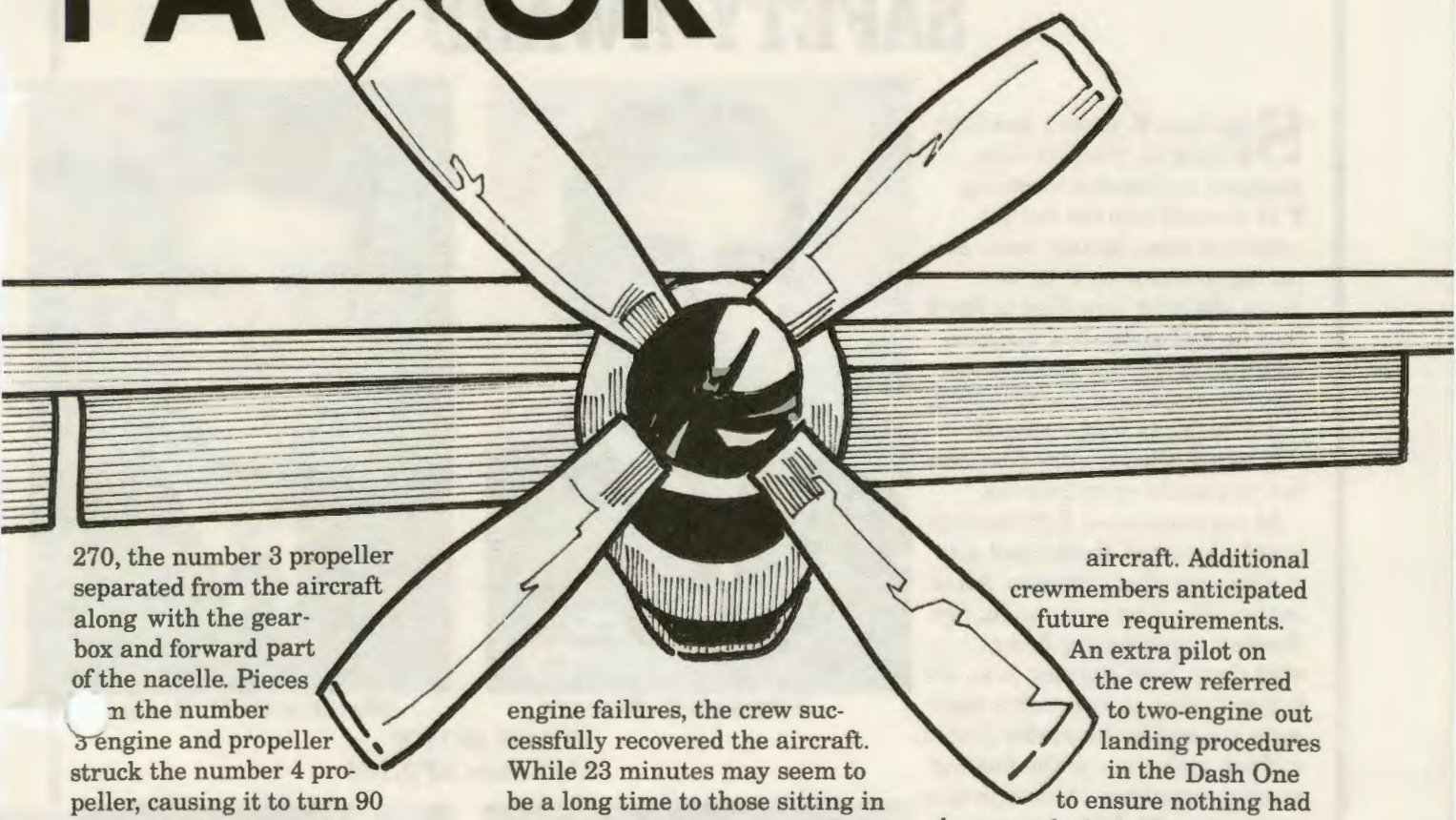
Maj Bob Copenhafer
TAC/DOV

The ultimate success or failure of a mission rests on the shoulders of the aircrew, especially when things don't go as planned.

The average TAC aircrew member can expect at least one bona fide emergency in his/her flying career. Usually, the aircrews display exceptional knowledge and flying skills, preventing further aggravation of a deteriorating situation. Unfortunately, when operator factor is identified as a cause in a mishap, a disproportionate amount of adverse publicity often overshadows outstanding past performances. It is time to correct the imbalance. The following story will show how an aircrew, faced with a serious compound emergency, pooled their resources and, through a coordinated effort, recovered a severely crippled aircraft. In multi-place aircraft, it is called crew coordination; in single-seaters, intra-flight coordination. Call it what you will, the same principles apply to all aircrew members.

As a result of the catastrophic failure of the number 3 engine, with subsequent compound emergencies, a Compass Call crew experienced a situation never before encountered by a[n] EC-130H aircraft. Flying at F[L]

# FACTOR



270, the number 3 propeller separated from the aircraft along with the gearbox and forward part of the nacelle. Pieces of the number 3 engine and propeller struck the number 4 propeller, causing it to turn 90 degrees and cutting a large swath through the leading edge of the wing. In less than 30 seconds, the crew coordinated the shutdown of two engines. To avoid any confusion, the ugly picture looked like this—the EC-130H has lost its number 3 propeller; i.e., permanently departed the aircraft. Meanwhile, number 4 has "turned" for the worse with the three remaining prop blades parallel to the fuselage. The number 3 engine fire warning light is illuminated. The leading edge of the wing has damage, extent unknown. What is known is this, the aircrew is faced with both prop and possible bleed air malfunctions—not an enviable situation.

Twenty-three minutes after the engine failures, the crew successfully recovered the aircraft. While 23 minutes may seem to be a long time to those sitting in a warm, safe environment, this aircrew had their hands full assessing the situation and developing a recovery plan, not knowing how much longer the right wing was going to hold together. Factors to consider: closest divert bases, terrain en route, two-engine capability, fuel dumping, jettisoning rear antennas to reduce drag, flying a two-engine no-flap approach/landing in the aircraft for the first time, and risking further structural damage, etc. The aircraft commander took charge of the situation, accepting inputs from the crew. Crew duties were assigned and accomplished in a professional manner. Crewmembers not only performed their own duties, but also maintained situational awareness within the aircraft. Additional crewmembers anticipated future requirements. An extra pilot on the crew referred to two-engine out landing procedures in the Dash One to ensure nothing had been overlooked. The mission crew commander responsible for the crew in the mission compartment assigned emergency exits and coordinated the landing with the divert base. The airborne maintenance technician constantly scanned the right wing for further malfunctions.

Put simply, the operators were key to the successful outcome of this mishap. Their combined, coordinated efforts prevented a potential multi-fatality mishap. In many ways this resembles the type of coordination required in a multi-ship formation, especially in emergency situations. The bottom line is that the ultimate success of the mission rested on the shoulders of the aircrew, and their combined team effort made it happen.

# TAC OUTSTANDING ACHIEVEMENT IN SAFETY AWARD

SSgt Luis E. Rivera and SSgt Ronald M. Hackett were assigned to marshal incoming F-15 aircraft into the hot pit refueling area. As they were preparing to direct an F-15 into place, the pilot signalled to them that he had no brakes. Comprehending the pilot's predicament and the urgency of the situation, Sgt Rivera ran to the aircraft and marshalled it away from the hot pits to the open taxiway.

At the same time, Sgt Hackett grabbed a set of chocks and met the aircraft along the way. After getting the pilot's attention, Sgt Hackett signalled for him to shut down both engines in an attempt to slow the aircraft's momentum, and he hurriedly placed a chock under one of the moving landing gear tires. Although this action stopped the movement of the aircraft, hydraulic fluid was spewing out from the main landing gear, and there was smoke under the aircraft. Fearing the fluid might ignite, Sgt Hackett immediately climbed up and helped the pilot egress from the disabled F-15.

While Sgt Hackett was helping the pilot, Sgt Rivera maneuvered oncoming traffic away from the dangerous area to keep other taxiing F-15s from bottlenecking on the active runway.

Due to the quick and accurate responses of Sgts Hackett and Rivera, potential damage was avoided to a valuable TAC aircraft. Their professionalism and outstanding performance have earned them the TAC Outstanding Achievement in Safety Award.

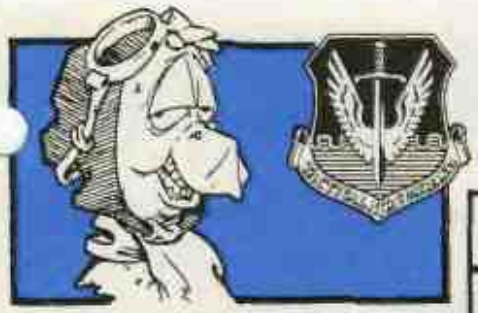
SSgt Luis E. Rivera

SSgt Ronald M. Hacket

**SSgt Luis E. Rivera** **SSgt Ronald M. Hacket**

**49 AGS, 49 TFW**
**Holloman AFB, NM**

49 AGS, 49 TFW Holloman AFB, NM



# TAC TALLY

| | Total | | | TAC | | | ANG | | | AFR | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NOV | THRU NOV | | NOV | THRU NOV | | NOV | THRU NOV | | NOV | THRU NOV | |
| | | FY 89 | FY 88 | | FY 89 | FY 88 | | FY 89 | FY 88 | | FY 89 | FY 88 |
| CLASS A MISHAPS | 2 | 3 | 5 | 2 | 3 | 4 | 0 | 0 | 0 | 0 | 0 | 1 |
| AIRCREW FATALITIES | 1 | 1 | 2 | 1 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| • IN THE ENVELOPE EJECTIONS | 0/0 | 1/0 | 4/0 | 0/0 | 1/0 | 3/0 | 0/0 | 0/0 | 1/0 | 0/0 | 0/0 | 0/0 |
| • OUT OF ENVELOPE EJECTIONS | 0/0 | 0/0 | 0/0 | 0/0 | 0/0 | 0/0 | 0/0 | 0/0 | 0/0 | 0/0 | 0/0 | 0/0 |

• (SUCCESSFUL/UNSUCCESSFUL)

## TAC'S TOP 5 thru NOV 1988

| 1st AF | |
|---|---|
| CLASS A MISHAP-FREE MONTHS | |
| 99 | 318 FIS |
| 46 | 325 TTW |
| 34 | 57 FIS |
| 13 | 48 FIS |
| | |

| 9th AF | |
|---|---|
| CLASS A MISHAP-FREE MONTHS | |
| 69 | 33 TFW |
| 42 | 507 TAIRCW |
| 22 | 23 TFW |
| 17 | 1 TFW |
| 13 | 4 TFW |

| 12th AF | |
|---|---|
| CLASS A MISHAP-FREE MONTHS | |
| 38 | 35 TTW |
| 32 | 474 TFW |
| 24 | 37 TFW |
| 20 | 49 TFW |
| 14 | USAFSO |

| ANG | |
|---|---|
| CLASS A MISHAP-FREE MONTHS | |
| 216 | 110 TASG |
| 191 | 138 TFG |
| 173 | 177 FIG |
| 168 | 114 TFG |
| 132 | 155 TRG |

| AFR | |
|---|---|
| CLASS A MISHAP-FREE MONTHS | |
| 99 | 482 TFW |
| 89 | 924 TFG |
| 77 | 906 TFG |
| 51 | 507 TFG |
| 38 | 917 TFW |

| DRUs | |
|---|---|
| CLASS A MISHAP-FREE MONTHS | |
| 16 | USAFTAWC |
| 8 | USAFTFWC |
| 2 | 28 AD |
| | |
| | |

## CLASS A MISHAP COMPARISON RATE

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

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TAC | FY 89 | 1.7 | 2.6 | | | | | | | | | | |
| | FY 88 | 6.4 | 3.4 | 3.0 | 2.7 | 2.6 | 3.3 | 3.0 | 3.1 | 3.3 | 3.2 | 3.0 | 3.4 |
| ANG | FY 89 | 0.0 | 0.0 | | | | | | | | | | |
| | FY 88 | 0.0 | 0.0 | 0.0 | 0.0 | 0.9 | 2.2 | 2.5 | 2.7 | 2.9 | 3.0 | 3.5 | 3.2 |
| AFR | FY 89 | 0.0 | 0.0 | | | | | | | | | | |
| | FY 88 | 0.0 | 10.6 | 7.7 | 5.9 | 9.5 | 7.9 | 6.7 | 5.8 | 7.5 | 6.8 | 6.2 | 5.7 |
| Total | FY 89 | 1.1 | 1.7 | | | | | | | | | | |
| | FY 88 | 4.3 | 2.9 | 2.4 | 2.2 | 2.5 | 3.2 | 3.1 | 3.1 | 3.5 | 3.3 | 3.3 | 3.5 |
| MONTH | | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |

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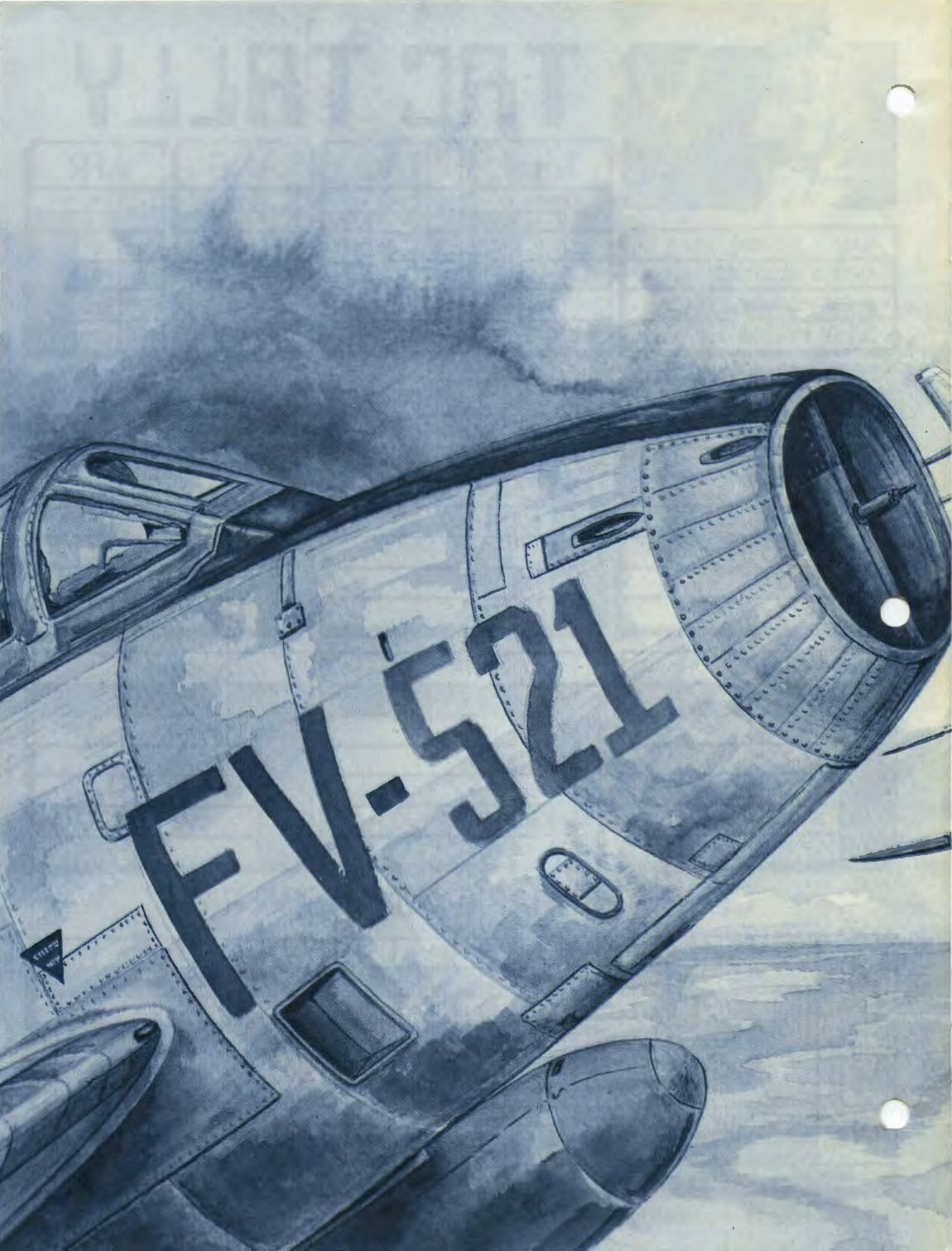
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