Interceptor

JUNE 1972

552 AEW&C WING

. . see page 5

Interceptor

FOR THE MEN RESPONSIBLE FOR AEROSPACE DEFENSE

VOL 14
NO 6

SPOTLIGHT

When a man's goal is to finish the day, he has a job. When his goal is to finish the job, he has a career.

INTERCEPTOR

DEPARTMENTS

SPECIAL FEATURES

OUR COVER

INTERCEPTOR salutes the 552 AEW&C Wing at McClellan AFB, California. Flying six different configurations of the famed "Connie," the 552d has established a commendable record by flying 750,000 hours in over 17 years without a fatality.

". . . because you are responsible for your destiny."

When reminiscing about things past, most people tend to remember only the joyful events and to blank out the unpleasant. That is why we rarely hear about the "bad old days." Unfortunately, the safety officer is not permitted the luxury of such selective recollection. When he recalls "the things we did last summer," he is haunted by grim statistics, the macabre chronicle of unbelievably bizarre reports — right out of Edgar Allen Poe.

He remembers too well how "some" people spare no effort in their attempts to kill and maim themselves. Some methods of self-destruction were original — in fact, almost ingenious, while others followed the customary tradition of too fast, too much, too little, too late, didn't know, or just didn't think. In looking forward to the coming summer, safety officers and their commanders are often forced to look head, more with hope than with faith — wondering in how many new ways and in which old ways we will lose our most valuable resources — people.

Every spring, ADC sponsors a concentrated attack on summer safety hazards in the hope that timely emphasis on potential hazards associated with the season will be recognized, respected, and treated accordingly. This year we will again highlight a particular safety hazard each month until September. Bulletins, pamphlets, and posters will describe not only how we failed to avert these hazards in the past, but how we can avoid doing the same thing again this year. One thing I want to make clear is that bulletins, pamphlets, and posters, in themselves, are useless unless you recognize the moral of the story. Getting your attention is only half the battle — getting you to understand the underlying message that is being portrayed is more important! And *if* we can just get you to respond "safely," then the message is getting across.

When you see these handouts, stop and think for a moment — they're written for you — because you are responsible for your destiny. Then get to be an expert on these seasonal hazards so you can enjoy a safe summer with the confidence that you'll be around in the fall.

COL JOHN M. VARGO
Chief of Safety

HOT LINE

SINCE JANUARY 1972, FIVE ADC AND ANG(ADC) AIRCREWS HAVE DIED BECAUSE THEY DELAYED THEIR EJECTION OR MADE NO DECISION TO EJECT WHEN THEY WERE FACED WITH A CATASTROPHIC EMERGENCY DURING A CRITICAL PHASE OF FLIGHT. IN EACH CASE THE PILOT WAS RELATIVELY INEXPERIENCED HAVING LESS THAN 700 FLYING HOURS. CONVERSELY, A HIGHLY EXPERIENCED PILOT WITH MORE THAN 14,000 HOURS, EJECTED WITHOUT HESITATION AT 300 FEET WHEN HIS ENGINE FAILED ON FINAL APPROACH. HE IS ALIVE TODAY. GENERAL MCGEHEE HAS STRONGLY EXPRESSED HIS DEEP DISTRESS OVER THESE SEEMINGLY UNNECESSARY FATALITIES. HE HAS STATED THAT THE FIRST CONSIDERATION IS AIRCREW SURVIVAL AND THAT PILOTS SHOULD NOT CONSIDER ATTEMPTING A FLAMEOUT LANDING UNLESS THE CONDITIONS ARE ABSOLUTELY IDEAL. HE EMPHASIZES THAT NO STIGMA WILL BE ATTACHED TO CREW MEMBERS WHO DECIDE TO EJECT WHEN THE PROBABILITY EXISTS THAT THEY CANNOT SAFELY RECOVER THE AIRCRAFT. HE FEELS THAT AIRCREW MEMBERS HAVE NOT ADEQUATELY PREPARED THEMSELVES TO REACT TO THOSE EMERGENCIES WHEN THEIR ABILITY TO REACT IMMEDIATELY AND CORRECTLY IS THE DECIDING FACTOR BETWEEN LIFE AND DEATH. HE ALSO URGES THAT ALL PILOTS HAVE A PLAN, PRIOR TO FLIGHT, AS TO WHAT PROBABLE ACTION THEY WILL TAKE WHEN CONFRONTED WITH AN EMERGENCY DURING A CRITICAL PHASE OF FLIGHT. HE CONSIDERS A CRITICAL PHASE OF FLIGHT TO BE ONE WHICH WILL RESULT IN A FATALITY IF THE PILOT DOES NOT IMMEDIATELY TAKE THE PROPER COURSE OF ACTION. EXAMPLES ARE: ENGINE FAILURE ON TAKEOFF, FINAL APPROACH, OR GO-AROUND: OR FIRE ON TAKEOFF. GENERAL MCGEHEE STRESSES THAT HIS PRIMARY CONCERN IS SAVING LIVES, NOT AIRCRAFT, AND THAT ALL PILOTS SHOULD MENTALLY PREPARE THEMSELVES TO REACT IMMEDIATELY TO UNEXPECTED EMERGENCIES WHICH MIGHT OCCUR DURING CRITICAL PHASES OF FLIGHT.

Serendipity OF SAFETY

I know a guy who, in his career, has really had some flying experience. He's flown airborne radar surveillance and tactical control missions in combat. He's flown airborne intercept control missions and weather recon. He's done antisubmarine patrol and space capsule tracking and recovery. One time he assisted in the separation of the naval surface fleet during atomic bomb testing in the Pacific. He's flown in tropical humidity and monsoons, desert heat, fog, smog, and blizzards. In his time he's flown out of California, Florida, Iceland, Korea, Thailand, Taiwan, and Japan. What's more interesting about the variety of this guy's experience is that he got it ALL in the SAME SQUADRON.

His squadron is in the 552nd Airborne Warning and Control Wing whose home is at McClellan AFB, California. This variety of missions is not only a part of the history of the 552nd, but a major portion of its present activity. These guys have more detachments than the Mafia.

Although they fly only one type aircraft, the E/RC-121 Warning Star — better known as the Constellation or "Connie — they fly no less than six different models of this venerable bird. Some have clean lines, while some are covered with antennas and radomes. Some have three movable tail surfaces, others two. Several airplanes formerly served with the Navy while others were used for numerous tactical and research activities. As a result, few cockpit layouts are the same. In order to change UHF channels you first have to locate the UHF control box. If variety is the spice of life, then life may be somewhat "overseasoned" in the 552nd. Here is a Wing flying a variety of versions of six models of an aircraft from "umpty-ump" locations on all kinds of missions in all kinds of weather. One would have difficulty finding an operation that could vary from standardization and get into trouble more easily than this one. Yet, with all this diversity of equipment and operation, the 552nd has amassed a safety record almost without comparison. Through it all they have flown for over 17 years (that's three quarters of a million hours — 50,000 of them in combat) without a fatality, and have a zero accident rate for the past 43 months.

Virtually any unit could compile an enviable safety record if they were to limit their flying operations to only sure things. What's the old saying about "If you don't do anything, you can't do anything wrong?" But it was obvious, when the tasks were laid on the 552nd that this wasn't going to be the case. These people have so many irons in the fire that it seems like just getting the operation to "operate" at all is a full time job.

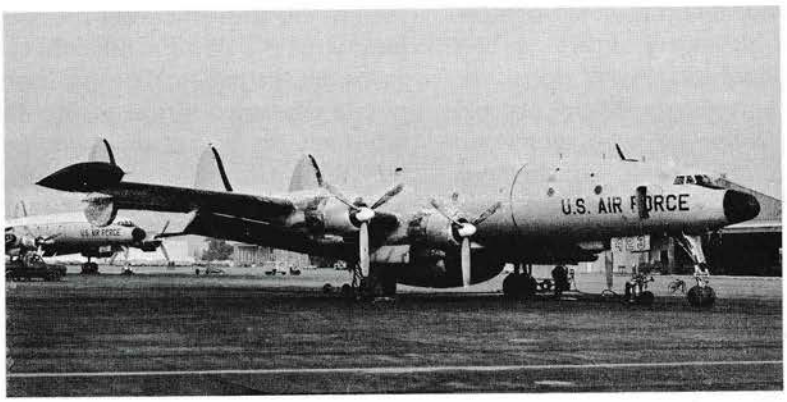
Fortunately, someone there a long time ago had the wisdom to realize that the only way such a fragmented operation could ever run at all, let alone safely, was to set up a quality standard at the home 'drome that everyone could follow no matter where they were flying or what they were doing. This standard, by necessity, would require each person in the organization to give his best effort to support it. Everyone would have to stick to the rules without fail and not try to slip anything under the rug or take any unauthorized shortcuts.

Getting an organization organized under such a concept is fairly fundamental. Everyone knows that this is the ideal way to start out. The proof of whether or not your original concept is valid will be how your program works — on a continuing basis.

The Commander of the 552nd believes in the fundamental concept of everyone doing things the same way and the right way. Here's how he gets his people to believe in it. First of all, he realizes that the complexity of his Wing's mission can cause his people to become completely engrossed in just getting the job done. So he has to insure that they think safety and act safely but without concentrating on safety as such. He feels that it is best to start out with a safety philosophy that everyone can live with and everyone can believe in. Once he gets everybody believing in his program, he has to make sure they continue to support it. The best way to get the "Indians" to support a program is to let everyone know that the "Chiefs" actively support it. So he makes sure that everyone knows

The G-Model. This is the basic transport model and closely resembles the original commercial version of the Lockheed Constellation. It is the primary support aircraft used for local transition flights, training, flight checks, and moving personnel and equipment.

The D-Model. The most familiar, basic surveillance model with its upper and lower radome transceiver radar antennas. Its "manual" search and control function is presently giving way to major automatic equipment modifications, and is slated for operation with reserve forces in Florida. The Q-Model looks just like the "D" from the outside but has been internally modified for specific requirements peculiar to special surveillance missions.



The T-Model. This newest modification is replacing the majority of the D-model force throughout the world. The completely modified internal equipment of this model is presently undergoing constant change and testing for existing mission commitments as well as a prelude to the future AWACS weapon system.

that if they supported the program; that if they did their utmost to get the job done as efficiently and safely as they could, the "Man" and all his staff would be 100% behind them. What he was trying to do was present a safety program that everyone could willingly accept as the only way to go.

From the first day when a man in the 552nd begins his aircrew ground training, he learns that the safety program is a way of life. The Boss has said and he steadfastly maintains that professionalism and safety are inseparable for successful mission accomplishment. As the new man progresses through both his air and ground training, he feels the influence of the Wing Standardization/Evaluation section. They reemphasize what the Commander wants in both the theory and practice of safety.

Before a pilot can become an Aircraft Commander in this Wing, he must meet a board that consists of the Wing Commander and his staff. After this meeting, where he hears a review and reemphasis on all aspects of safety, he leaves with little doubt as to what is "paramount." He will find that every subsequent flight and board activity is a reinforcement of these safety fundamentals formulated a long time ago.

Even with such "high-toned" basic philosophies and stated command support, a program does not run itself. To have it work on a long-term basis requires continual supervision. The Commander's sincere concern for the safety of his men is only credible when the supervision reflects the attitude of "watching over" rather than "look-

ing at." To maintain such an attitude in such a far-flung operation requires the continual attention of the Commander, his Staff, and the Safety Specialists at all levels. To implement this attitude, the Wing has additional duty safety officers at each location. These men, all qualified Aircraft Commanders, are selected for their positive attitude toward the safety philosophy and are trained by the Wing safety office to help support the program at the local level. These men conduct safety self-surveys at each location each month. Such "at home" looks at each unique operation is a valuable adjunct to the more formal surveys conducted periodically by the Wing Safety Officers.

The 552nd has strongly supported the OHR program and has reaped many benefits from the support of its people throughout the world. It's not hard to find a blank USAF Hazard Report form anywhere the 552nd files. You'll find them in briefing rooms, dispatch offices — almost anywhere there is an operation. If a man in the 552nd submits an OHR he can expect an immediate response and a personal answer as to what happened to his report. If his OHR is approved for official action, he can be assured of ASAP action.

The 552nd has had a long and successful career. Although its operation looks smooth, it hasn't been easy. It has required the constant attention to the original precepts set forth a long time ago. That means that everyone goes one way — the safe way. For the 552nd it seems to work. ★

552d AIRCRAFT COMMANDER'S CODE

As a 552d pilot, I recognize my obligations:

1. To the United States Armed Forces, who trust that I am professionally qualified for the tasks expected of me.
2. To my crew who trust their lives and safety to my skill and who expect me to exercise my best judgment and leadership.
3. To my fellow pilots, who depend upon me to follow established good practices.
4. To my co-workers who are constantly striving for greater achievements and more effective methods to accomplish our mission.
5. To my organization which entrusts me, in the conduct of my flights, with moral and economic responsibilities.

To discharge these obligations, I will at all times observe the highest standards as an officer of the United States Air Force, and as a professional pilot.

1. I will never knowingly jeopardize the safety of a flight by undertaking a risk to satisfy personal desires, nor will I fly when my mental and physical condition might lead to additional risks.
2. I will use all means at my disposal to assure the safety of every flight.
3. I will aggressively maintain my proficiency as a pilot and keep abreast of aviation developments so that my judgment, which largely depends on such knowledge, may be of the highest order.
4. I will conduct myself, both on duty and off, to reflect credit upon myself, my uniform, and my country.
5. I will constantly strive to keep my standards high.
6. I pledge adherence to these principles so that I may contribute a safer and more effective role in the combat mission of the 552d, and advance the dignity of my profession.

THE DEVIL AT SIX O'CLOCK

Capt. J. D. Williams
Canadian Forces
417 OTS CFB Cold Lake

A new term and a new philosophy has captured the hearts of motor vehicle operators the world over in the past few years. The term, "Defensive Driving." The idea is great — it saves lives and preserves vehicles. Has no one ever thought of "Defensive Flying?"

We who fly might justly be accused of having some sort of phobia about the whole concept of safety. We know within ourselves that our way of life has its inherent dangers, but the old image of the "tiger" lingers in our minds from a bygone day, and what "tiger" ever worried about safety?

Well let's get just a little practical. We in the Canadian Forces will probably be working on a fixed budget for some years to come. The budget means in essence, that there will be no replacements forthcoming for seriously damaged or destroyed aircraft, and that in turn means fewer cockpits for all of us, tigers or otherwise, to fill. Now it's all fine and dandy for us to demonstrate the "aggressiveness" which all of us were taught to display as student pilots, but if that aggressiveness loses airplanes, then it seems to me that we are defeating our own purposes. The very term "aggressiveness" to me suggests that there is somewhere at least, an "enemy." True enough. There is an enemy, an enemy to be fought at every opportunity, an enemy in the presence of whom it would pay us to be "defensive." WE, OURSELVES, ARE THAT ENEMY.

How many friends have you lost since you started military flying? If you've been at it for five years I'll bet that five guys you knew quite well have dug themselves smoking black holes in the ground, and if I'm wrong it's probably because my estimate was on the low side.

How many of those friends were shot down by enemy aircraft or by anti-aircraft fire? How many died in action in a combat theatre? Within our own forces the answer is obvious — none — yet they died nonetheless and nothing is going to bring them back, and the aluminum they rode in is good now only for pots and pans — if it was left in big enough pieces to justify picking up and melting down.

"The devil makes me do this" is a well understood excuse in all of our lives. Let me cite just a few examples of what I'm talking about and see if maybe they don't ring a bell.

- An aircraft took off for a weekend jolly. Less than an hour later it was scrap aluminum in a farmer's field, two pilots were dead, and a lot of questions led to the not very satisfactory conclusion that the pressonitis had claimed two more victims. Chalk one up for the devil at six.

- A T-Bird took off to have its picture taken. An unplanned loop with a ton or more of unthought-of fuel on board made the recovery a little low — a foot or so low, it seemed to those of us who were watching — not much, but more than enough to kill the driver. Another kill for the devil at six.

- A real hot driver in a real hot high level bird impressed some ice-fishermen and probably himself and his navigator also. We can't be sure about the crew, because the devil at six got to them before we did.

- At least two drivers tried 180° turns after a power loss at low level in an attempt to reach a runway. Neither made it. Instructors since time immemorial have preached against this graveyard turn. The devil made them do it.

- A young instructor drove into the ground on a low level nav trip, after much more experienced flyers had either punched up or turned around. He wasn't watching his six o'clock and the devil got another kill. If you haven't noticed, that makes the devil way more than an ace, and if I sound bitter it's because all of the guys mentioned were friends of mine, and there are more I could name.

"Hindsight" you may well say, "is noted for being 20/20." You'll get no argument from me on that count, but let's really be honest. How many of us know of at least one guy who is "an accident waiting for a place to happen?" I think a lot of us do, and if and when that accident actually does happen we'll sit around piously and roll our eyes and tell each other about poor Joe Blow's near accidents which finally culminated in the real one. Each of us will have had a hand in Joe's execution.

Why don't we prevent these accidents? Because pride goeth not until *after* the fall, in actual fact, and none of us wishes to destroy the pride of a fellow aviator. We'd rather defend his pride and let him kill himself — or perhaps kill us. We're the devil's wingmen.

I'm not saying that we should in some way "inform" on the guy, I'm saying that we should "inform the guy himself." Often I think that's all that would be needed. A short, serious talk, a little advice, and a lot of our problems could

be prevented. Most of us are a little beyond the kindergarten stage. Sure we err, sometimes accidentally, sometimes purposely. Most of us, and I certainly include myself in this category, err, get "the word", and go forth presumably to "sin no more." We are the lucky ones; the unfortunate ones never get "the word" whether because everyone else is too "nice" to give it to them, or because their first big mistake is also their last. I suggest that "Flying Defensively" might well start on the ground when we're all on the war story telling kick. Some war stories indicate accident potential. They should be interrupted by a little well-directed preaching. "Unusual attitudes" don't always involve aircraft in wierd positions. Sometimes they are symptoms of forthcoming problems with pilots. Sometimes a pilot with a bad habit or two needs further instruction; sometimes such a pilot shouldn't even be flying. The only thing that can be said for certain is that doing nothing is not going to help. Talk defensively, the life you save may be your own.

In much the same way of thinking we could "Fly Defensively" through re-examining some of our time-honoured techniques. Two examples come to mind in the realm of formation flying alone: First of all the "joinup". All of us have seen some pretty near things in this phase of flight. Why? Because someone a long time ago decreed that it's more "professional" to zorch into position than to slide in nice and gently. That someone, probably long since dead, really put the ole devil in our six. Sure if you're very current you can get in quickly, but if you're a little rusty, do you have the guts to admit it and take your time? I doubt it in most cases, but what is more important, will someone please tell me what the rush is in the first place?

Secondly comes the question of formation instrument letdowns. We do them because it's a good way to get a lot of aircraft on the ground in a short time, and because we might someday lose our electrics and have to get led down through the murk. The problem is that right from square one we don't get enough training and practice to be really proficient — and once again the devil's in firing position.

We do these things, and a lot more like them because we believe in the concept of aggressivenss. I could go on naming examples until the cows come home, but the point is that we're barking up the wrong tree. Aggressiveness in the best military sense of the word is an eagerness to do battle with the enemy. It isn't measured by how quickly you join up in peacetime formation (within reason) nor by what lousy weather conditions you'll accept. It involves carrying on at all costs to reach a target, and having reached it, carrying out a successful attack. We've been led into misplacing our standards because the real thing is so far away from us all. Ask our American friends what really counts. They've been the route. They know that outside the combat theatre the greatest pilot killer and aircraft destroyer is — the pilot himself. Now it has been proven that even in the combat zone, more aircraft were lost through accidents than enemy action. Heaven knows we can't afford to lose aircraft. If aggressiveness is the personality trait that gets the mission accomplished, then I submit that defensiveness is the trait that makes the manpower and hardware available for the mission in the first place.

If you don't flight plan correctly you'll never get a chance to be aggressive. Flight planning is defensive planning.

If you don't know your EOs (Ed. note: Emergency Procedures) cold and you encounter an emergency you won't have a prayer. Quick, correct reactions are defensive reactions.

If you don't follow the rational dictates of your mind, if you let your pride or desire to showboat lead you, you'll pay eventually.

Self discipline is defensive discipline. If you study flying in general, and flying your own particular aircraft in particular, until you know every possible facet of the business, you may just come to believe that knowledge is your best possible defensive weapon.

Defensive driving means anticipating every possible dangerous situation and either avoiding such situations or, where this is utterly impossible, at least being prepared to take the appropriate action.

Defensive flying requires the same level of anticipation and the same preparedness. Believe it or not, even tigers are known to keep their eyes and ears open and take an occasional whiff of wind. Defensive flying is simply a way of stacking the deck in your own favour in the never ending struggle with "the devil at six o'clock." ★

Courtesy of Flight Comment

SPEEDLINE

The Ultimate Weapon Is Alive and Well and Recuperating in California

When the F-106 Delta Dart came into the Air Force inventory, it was designed to carry the ADC standard. Equipped with an airborne computer, data link communications, radar and IR guided missiles, and a nuclear armed rocket; it was to be the ultimate weapon against the manned bomber threat. But the state of the art changes quickly and almost before the weapon system could prove its worth, newer and better equipment became available. Changes in technology fostered new penetration and attack tactics which changed the basic defense threat — and dictated new and expanded air defense roles for the F-106.

To keep up, and hopefully ahead, of these new challenges, Air Force has continually modified the F-106. They have replaced vacuum tube assemblies with more reliable solid state components, updated the navigation and communication equipment, and increased the aircraft's range with new, greater capacity, fuel tanks. With no replacement aircraft in sight, the next best step was a continuing modification program; and to accomplish this, AFLC adopted the Speedline program.

Depot level modifications to the F-106 have been performed at many locations through the years. One of the prime facilities for this work was, and still is, F-106 IRAN (Inspect and Repair as Necessary), but the personnel there are limited by time and hangar space. (It takes three years for the entire fleet to cycle through IRAN.) Originally to overcome these limitations, special maintenance teams traveled to the individual units to accomplish the more urgent changes. But this method was expensive and downgraded the capability of the fighter unit. In July 1971, Speedline began its operation in permanent quarters at Hamilton AFB, CA. This method permits AFLC to schedule one or two aircraft from each squadron through a more efficient assembly line process, and share the workload between Speedline and IRAN.

INTERCEPTOR recently visited the Hamilton Speedline facility to see this updating process. This project is a joint ADC/AFLC effort with teams from both of these commands performing complementary tasks. We talked with Captain Bob Flowers who supervises the ADC personnel, and his counterpart Mr. Bud Stroup who heads the all-civilian AFLC team. Together these two teams represent a wealth of experience with the F-106, and their specialties cover the aircraft maintenance spectrum.

The ADC team receives the aircraft from the delivery pilot and prepares it for modification. Then the AFLC team takes over and performs the Time Compliance Tech Orders (TCTOs). When this work is completed, the ADC people check and preflight the aircraft for delivery to the pickup pilot. There were 22 F-106s in various stages of this process when we arrived.

FY-1972 PROJECTS

As we walked through the hangars filled with disassembled aircraft, Mr. Stroup explained the work that was in progress for this fiscal year.

- TCTO 1072. Hot air defog. This system replaces the existing NESA (electrical) defogging system in the F-106A. Hot air is tapped from the engine through the airconditioning heat exchanger and blown through diffusers along the side of the canopy. This air is then recycled through the airconditioning system and contributes to cockpit heating.
- TCTO 1076. Ground refueling system improvements. This TCTO changes valves and fuel lines in the fuel system to allow for a more even refueling capability and the use of low pressure fuel trucks.
- TCTO 1084. Installation of a new Central Air Data Computer (CADC). The new computer (CPU-

111) will give more reliable service and the capability to tie into the new AIMS system. Included in this kit is a new altimeter for the round gauge aircraft.

The move toward smaller, lighter replacement components has reduced the weight in the forward sections of the aircraft. As a consequence of this, TCTO 1084 also includes the installation of weights to balance the aircraft CG.

FY-1973 PROJECTS

While we were at the Hamilton facility, we hoped to get a sneak preview of next year's changes. Like all ADC fighter pilots, we were looking for the clear canopy and maybe an ol' gun — but we saw neither. Captain Flowers explained that the new canopy was scheduled, but probably wouldn't be available until early fall, 1972. The gun was nowhere in sight. We did see a "B" model and an "A" model F-106 that were being configurated with new Engineering Change Proposals (ECPs) under the F-106 Combined Protoproof Test. Although this project is not part of Speedline, project managers have tasked their personnel with installing the new equipment and performing the initial testing. If ADC approves these changes following further testing at Tyndall, Speedline will begin modifying the remainder of the fleet in FY-1973. These ECPs are:

- TCTO 1083. Digital AFCS and digital manual steering. This modification continues the trend toward less analog computations and more use of the previously installed solid state digital computers. A solid state damper amplifier will replace the existing unit and the analog AFCS units will be eliminated. The digital computer will now do the AFCS computations. The change also transfers steering dot computations to this computer and out of the radar subsystem units. Adios hot dots!
- TCTO 1087. Provisions for recording pitch G forces. This mod is part of the Aircraft Structural Integrity Program and entails installing wires to accommodate future test equipment.
- TCTO 1090. Digital missile servo positioning. Another analog function being transferred to the digital computer.
- TCTO 1094. Composite boresight. This is a modification we have been waiting for. It gives the pilot the capability to boresight the radar and IR antennas during a maneuvering engagement and then achieve a lockon without looking into the scope. Other features of this system are: IR tone available anytime the IR head is unstowed, simultaneous radar and IR search, paraamp operation in IR dominant control, expanded "C" reject and recall in track, and single switch elevation scan pattern selection.

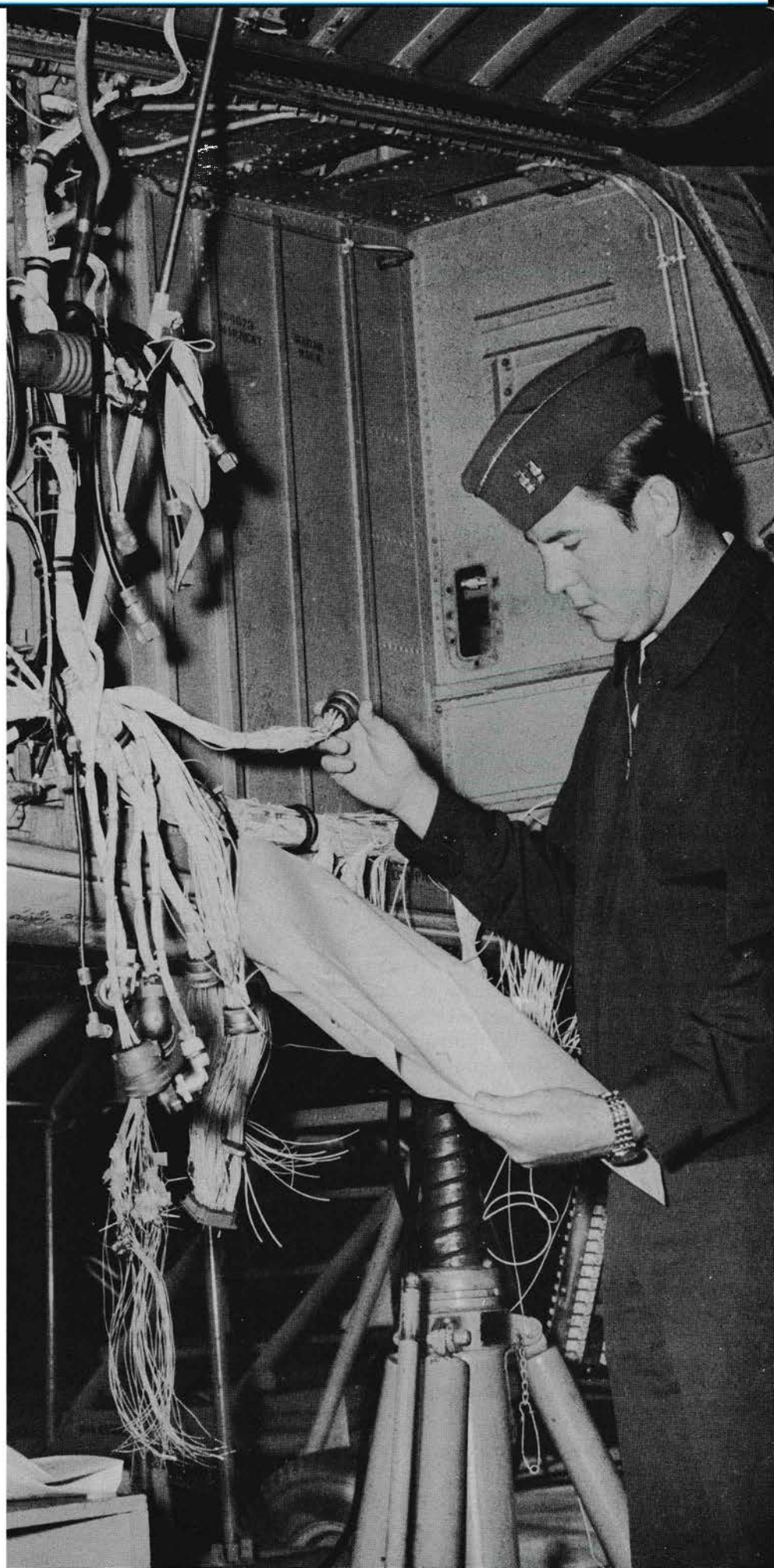
Other ECPs that are in the Protoproof program but not scheduled for Speedline include provisions for digital range computations and a solid state Automatic Frequency Control unit for the radar receiver. Speedline is also scheduled to perform TCTO 1093, which is not in the Protoproof Test. This modification will give the pilot the capability to ripple fire the AIM-4 missiles.

TDY HELP

The combined AFLC/ADC work force at Hamilton Speedline have little trouble keeping up with this year's schedule, but next year the game and the rules change. The modifications being performed in FY-1972 do not alter the aircraft engine or flight controls, and therefore do not require a Functional Check Flight. In FY-1973, the AFCS mod will require an engine roll-back, an engine retrim, and a test hop. Also, the new schedule will call for one aircraft in and one aircraft out each working day. Speedline personnel will be calling on the units for TDY personnel in both the maintenance and the FCF areas, who will work under Captain Flower's supervision.

When we left the Speedline hangars we looked at the row of F-106s parked in front. Some had received this year's modifications and some had not, but from the exterior they all looked the same. We couldn't help comparing them to the Volkswagon. Each year brings a new improved model, but the basic style remains unchanged. Is it an old airplane with new insides, or a brand new airplane with an old-fashioned exterior? In any case, the ultimate weapon is alive and well, and may outlive all of us. ★

ED NOTE: IWS Newsletter, Summer issue, due out in July, will cover the new F-106 Protoproof equipment in more detail. This classified document will cover the operation, switchology, and techniques associated with the new Block S modifications.



Hamilton AFB is now the permanent home of the Speedline Program. Here F-106s from ADC squadrons are periodically cycled through various modifications under civilian contract. The current program includes retrofitting the canopy defog system, installing a new Central Air Data Computer and making refueling system improvements. Captain Flowers, Speedline OIC, and his team prepare the aircraft for modification, check and preflight it for the pickup pilots from ADC squadrons.

DON'T WRITE ON ME

Several months ago our Check Points Department reprinted a warning not to write on aircraft with a graphite pencil. It said that a chemical action occurs between the graphite and aluminum and this causes corrosion and subsequent structural failure. We dropped the subject there, but recently our interest was renewed when we spotted an article in Canada's Safety Magazine, Flight Comment.

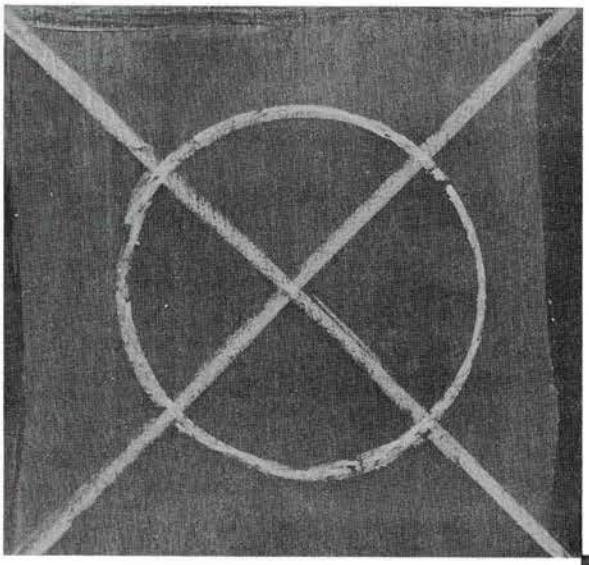
Our Canadian friends conducted their own test to find out if in fact the graphite/aluminum combination would cause serious corrosion. They performed their tests on 7075-T6 aluminum sheeting commonly used as wing skin material. Some test panels were made of unprotected stock and others were alodized. They marked the panels with graphite pencils, grease pencils, and "magic markers" and placed them in a standard salt spray test chamber.

The test results showed that graphite pencils had little effect on panels that were not alodized since they corroded over the entire surface. (Grease pencils and "magic markers" acted as a protective coating to some extent.)

The test results for the alodized panels were quite different. Alodized panels marked with grease pencils showed very little corrosion after twenty hours of salt spray. However, the panels marked with a graphite pencil did corrode where the lines were drawn. When the exposure was continued for 64 hours, localized corrosion continued although general corrosion was minimal.

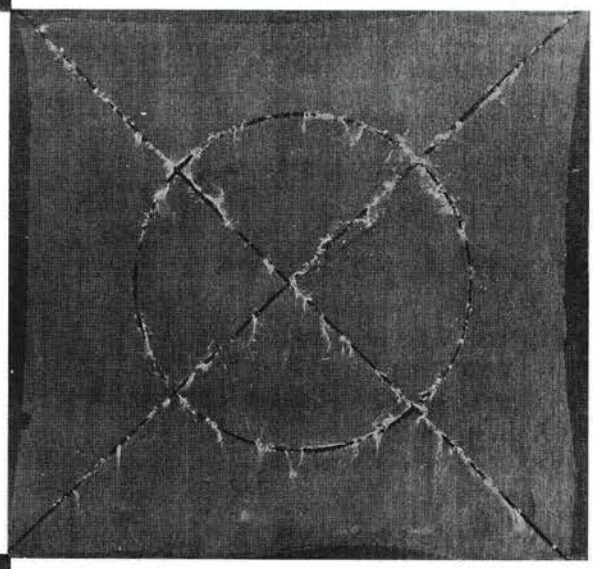
Of course these tests don't compare to actual field experience since we don't bathe the airplanes in salt spray. However, the tests do indicate that a definite hazard exists.

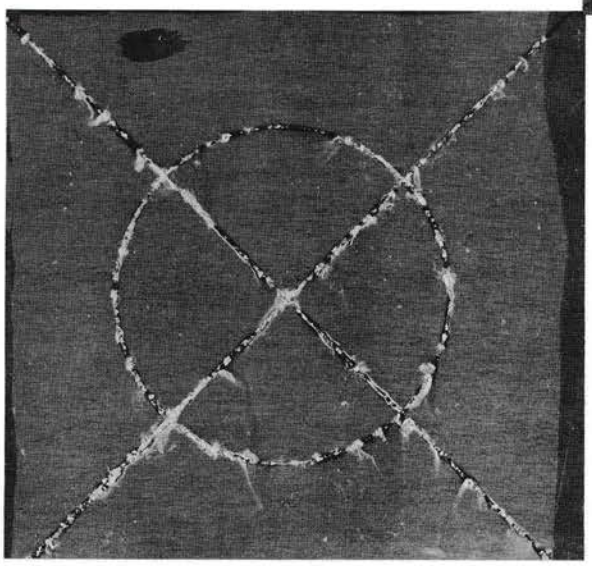
Canadian test experts stated that authoritative references universally note that there is no corrosive reaction between graphite and aluminum alloys. And, that their results do not necessarily negate these references since graphite pencils contain more than just graphite and the predominating corrosive influence in the tests was salt spray. They said it remains somewhat conjectural as to whether the adverse reaction with the pencil markings is electrolytic, catalytic, or just the result of mechanical damage to the alodized barrier layer due to the hardness of the pencil, or some combination of these effects. They concluded, however, that graphite pencils do represent a corrosion hazard when used on high strength aluminum alloy and recommended that they not be used. ★



A 7075-T6 alodized aluminum alloy panel, marked with grease pencil and exposed to salt spray for 20 hours. No general or localized corrosion.

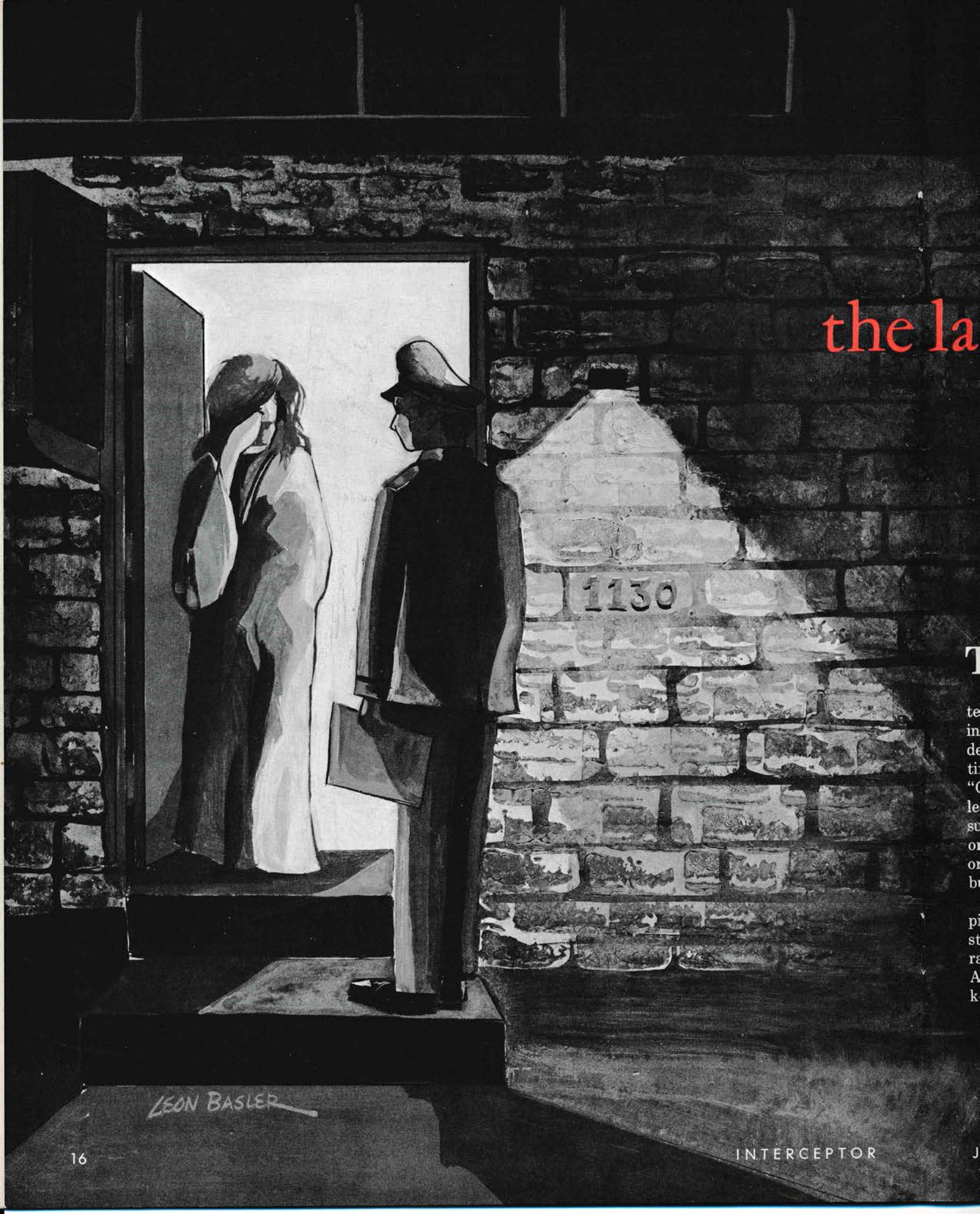
A 7075-T6 alodized aluminum panel, marked with graphite pencil and exposed to salt spray for 20 hours. Localized corrosion occurs on pencil lines. No general corrosion appears.





A 7075-T6 alodized aluminum panel, marked with graphite pencil and exposed to salt spray for 64 hours shows more severe localized corrosion and minimal general corrosion.

Don't mark on airplanes with graphite pencils—use grease pencils.



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he last *Act of Love*

by **CHAPLAIN C. R. MITCHELL**
163 Ftr Gp (AD), Ontario International Airport, Ontario, California

There was a phone ringing somewhere. In that semiconscious state between being asleep and wide awake, your mind tries to integrate ringing telephones into quick dream sequences. But the incessant ringing is like a baby's cry; it can't be denied. It seemed as if the phone had rung a dozen times before I could get to it and mumble a hello. "Chaplain, this is Colonel Sutton, we have a problem here at the base." For any chaplain a statement such as this in the middle of the night means only one of two things, an accident with serious injury, or a death. This time, there had been no accident, but there had been a death.

One of the pilots in our squadron, an airlines pilot, came out to stand an alert. Jack was an outstanding ADC interceptor pilot with an expert's rating. He recently had a complete physical for the ANG and the airlines and was in great shape. He kept that way by jogging, watching what he ate, and getting the rest he required. Jack had flown that night, debriefed, showered, and was getting ready to get something to eat. He began to feel sick, he thought it was the flu — it had already made the rounds of his family — his wife and their three children — so he thought it was a natural consequence. Yet this was something more. He hurt in his chest and arm. He decided he needed to go to the hospital and one of the other pilots volunteered to take him. Jack died before they could drive him there. The duty officer called the Squadron Commander and the Group Executive Officer. Then he called me; it was 0200.

The personnel records were appropriately locked up tight. "Was Jack a Roman Catholic and in need of the last rites of his Church?" Nobody knew. Then I remembered the Religious Interview cards in my office. His card supplied that infor-

mation and gave an immediate profile of Jack and his family. They had recently moved into a new home — for them a dream come true. The move had been so recent that all their belongings were still in packing boxes. A young wife, Anne, three children, a new home — dreams and hopes. Who was going to tell them?

Fortunately, a fellow pilot in the squadron knew Jack and his wife quite well. We called him and he agreed to help. This would be a great help. A friend at this time gives some immediate comfort and helps answer the first questions of how? when? and where is he now? You can't answer the lingering question of "Why did this happen?" as easily or quickly. Sometimes that takes years — if it is *ever* answered satisfactorily.

We started on our trip to Jack's new home in San Diego while it was still dark, but we knew that daybreak was not far away. It would be a difficult day. Outside that home, in the chill of early morning, we agreed that Ron (the friend of the family) would go first and break the news, while Colonel Sutton and I would come in in a few minutes. Standing in the greyness of the morning we could hear the words of surprise of finding a friend on the doorstep at such an hour. Within moments, the real meaning of this visit became evident in the look of shock and the quiet cry of pain.

What followed for Anne, was the beginning of the process of grief. Her first few hours were spent in trying to get a numbed brain and consciousness to grasp the depth of the words that she had heard in the early morning from a friend in the front hall. Her emotions came and went like waves as first one realization of the meaning of her loss is followed by another. She is now a widow; she has no husband; her children, no father; there is no head of the house. Their dreams will be unfulfilled. He won't be coming home again. These realizations, one after another, came and as the magnitude of the loss grew, her tears flowed.

We called some of their family and notified a few friends. The front room began to fill with loved ones and friends offering their sympathy and help. Comfort takes on a new meaning at this time. Comfort means "strength together." It is a deep help just to have some people who care around you at a time like this, if they do nothing more than fix coffee, answer the phone, help with the children, or just be there.

Later that day and the following day some other questions had to be asked and answered. Questions such as "What kind of a funeral should she arrange and where?" "Flowers or memorial gifts?" "If a memorial, then what organization?" To many, these questions fall on almost deaf ears. Their grief is too present and the possibility of death had rarely been considered. In this case the questions were answered. Jack would have a military funeral and I was to conduct it. Because the military cemetery in the area was full, the committal would take place near Jack's home town. The squadron planned a four-ship flyby with one of the aircraft splitting out and up creating the dramatic "missing man" formations as they passed over their comrade's grave. A firing squad would fire three volleys, a bugler would play taps, an honor guard would fold the flag and give it to the widow. Then the service would be finished. It all started for me four days earlier at 2:00 a.m.

Yet many other questions still awaited the widow and her children. Fiscal questions, survivors benefits, home relocation, developing a new life style, when, where, how? These questions are still being answered and will continue to be answered for many months to come.

As Chaplain, I realize again how difficult it is to answer funeral questions in these early moments of grief. I also was deeply grateful that there was a friend to stand at the door at daybreak — it helped. I also realized how little we know about our loved ones' wishes concerning their funeral. So I asked for some time at the next Unit Training Assembly to talk with the rated personnel. I interpreted what had happened and what was helpful to Jack's family. We up-dated all of the Religious Interview Cards. Each man was urged to develop some sort of a will. The Judge advocate's office offered their help. Then I asked if they would take 10 minutes and indicate their wishes concerning their funeral. At this, there were those who suggested that they weren't ready or figuring on dying. Most of us aren't. Death comes to someone else, but not to us, at least not to us in the prime of our life, and every chronological age is our "prime," isn't it? Yet most responded at that time or after they had talked it over with their families. They then filed these wishes with our Chaplain's office, hopefully never to be used, but if necessary, it would express a concern and love for those who remained, the ones who had to make the tough decisions.

Perhaps you would want to answer those questions after talking the matter over with your loved ones. Then you can file your thoughts with your unit's chaplain with another copy going into your home file and another to your own minister, priest, or rabbi. In those cold grey mornings before the door bell rings and the days of grief begin, it sure will make it much easier for all concerned. ★

ABOUT THE AUTHOR

Chaplain Captain C. R. "Dick" Mitchell is the Group Chaplain for the 163 Fighter Group (AD) California Air National Guard at Ontario. He is a native of Richmond, California and is an ordained minister of the United Presbyterian Church. Chaplain Mitchell holds a Doctorate of the Science of Theology from the San Francisco Theological Seminary. In addition to his Air Guard activities, he serves as a staff minister in Riverside, a Chaplain at the University of Redlands and is a Counselling Therapist with offices in Ontario.

ED. NOTE: Personal Affairs specialists tell us that the AF Form 246 (Record of Emergency Data) is undoubtedly the most important document in any of our personnel records. We use it to officially notify the next of kin when one of us dies. They tell us that it is the responsibility of each of us to keep the 246 up to date.

Another important form that can help us is the AF Form 13 (Survivor Benefits). When this is properly completed, it shows us what benefits our survivors can expect. It covers such things as the amount of money they will receive in their particular personal situation from VA, Social Security, their life insurance settlement plans from both the government and your commercial policies. It will also tell you what average monthly income they can expect. If you don't have one, see your Personal Affairs Officer today.

Chaplain Mitchell feels that each of us should seriously consider the details which appear on the personal information checklist below.

PERSONAL INFORMATION IN CASE OF EMERGENCY, ACCIDENT, OR DEATH

NAME
ADDRESS
PHONE

I WOULD LIKE THE FOLLOWING INDIVIDUAL TO ASSIST IN INFORMING MY FAMILY IN CASE OF SERIOUS INJURY OR DEATH:
Name
Address
Phone
Relation

THE FOLLOWING MEMBERS OF MY FAMILY HAVE A SERIOUS PHYSICAL OR EMOTIONAL PROBLEM:
Name
Relation
Problem

IN THE EVENT OF MY DEATH:
Notify immediately
If at night wait until morning

IN THE EVENT OF MY DEATH I DESIRE THE FOLLOWING TYPE OF FUNERAL AND DISPOSITION OF MY BODY:
The usual funeral service
Graveside only
Memorial Service with the body previously disposed of as noted below:
  Memorial service where?
  When?

I would like my body disposed of as follows:
  Burial in ground (National cemetery, local cemetery)
  Burial in a vault (National cemetery, local cemetery)
  Cremation with ashes disposed of as follows:
    At sea, local or National cemetery, otherwise
  Donate my body to medical research or the following medical school
  Other

I WOULD LIKE THE FOLLOWING INDIVIDUAL TO CONDUCT MY SERVICE IF POSSIBLE

Chaplain
Local clergyman, priest, or rabbi

IF POSSIBLE I WOULD LIKE A

Firing squad
Taps
Flyby

INSTEAD OF FLOWERS I WOULD LIKE A MEMORIAL ESTABLISHED WITH

GENERAL COMMENTS CONCERNING THE ABOVE

A PERSONAL WORD TO MY FAMILY

Last month INTERCEPTOR sat in on an ANG (ADC) safety workshop for commanders. We heard Colonel Lewis J. Neyland, Commander, 4th Weather Wing and Staff Weather Officer for NORAD/ADC, tell how the reductions in force will affect the Air Weather Service and its principal customer, the pilot. Colonel Neyland is a Command Pilot who has flown 27 different types of Air Force airplanes. He has spent most of his twenty-eight years as a weatherman supporting and flying fighters from such diverse places as Montana, Iceland, Europe, and SEA. We asked him to jot down some excerpts from his presentation so you'll know why this good poop really means . . . .

bad news for pilots

You have read a couple of excellent "Words of Weather Wisdom" articles in the INTERCEPTOR recently by my illustrious assistant, Lt Colonel "Spice" Spicer.

His basic objective has been to help you get the most out of existing weather services, either at home plate or while airborne. However, when it came time to pass out the bad news, it's not difficult to guess who got the job. So, without further ado, I am going to lay it on the line for you without sugar-coating.

You are well aware of the current budget squeeze on the USAF. The Chief had to trade off support forces for fighting machines. When one or the other has to go, there's no contest.

Air Weather Service is a support organization and it has really been whacked. During the next few months, here's what we'll lose:

1. Total manpower down nearly 25% to about 7900 (the lowest it has been since before the Korean war).
2. Reconnaissance airframes down a third.
3. Two of eight wings disbanded.
4. Six squadrons down the tube.
5. NEARLY ALL REPRESENTATIVE OBSERVATION SITES (ROS) WILL BE CLOSED!
6. Most ZI base weather stations may close part time!

What is the impact on you when you are flying or supervising flying? Let me show you how two key reductions in AWS service affect you. CLOSE THE ROS.

Impact?

Sometime in FY 73, you, or someone you know, is going to come winging across the field at MDA and see nothing but black murk — after the GCA controller has just told you "the latest observation is 300 feet and 2 miles. . . ." That's when the sphincter gets tight. I know, I crossed the threshold lights at my alternate with eight gallons on the T-Bird counter one time after that same situation happened to me at Maxwell in the days before they had an ROS.

Let me refresh your memory on what the ROS does for you so you'll know what capability is being lost and be better prepared to compensate for it.

Until the mid-1950s, the weather observer had his instruments in the base weather station and he reported the airfield weather from there (they still have this setup at most ADC/ANG airports). He worked industriously at supporting the forecaster by operating teletype and facsimile machines, answering the telephone, making coffee, etc., and hopefully somehow had time to go outside to observe the weather. Are you surprised that sometimes the weatherman's first hint of rain was when a wet Wing Commander came stomping into base weather?

Recips could live with this but as jets phased in, we began to have accidents and incidents because pilots were put in untenable positions by weather reports that were not representative of the NOW situation. Consequently, in the late 1950s, USAF authorized weather stations five more observers and a building somewhere on the airfield where they had a good view, and just as important, where they could

devote full time to observing weather changes and reporting them to Tower, GCA, Rapcon, and on the Air Defense Tactical Weather Teletype to the FIS CAC, the BUIC and SAGE blue rooms, etc. We presently allow them two minutes from the time the weather changes significantly to finish reporting the change to everyone. A few ADC/ANG joint use airports also have this setup (Niagara, McEntire, Bangor until recently, etc.) with a small detachment of AWS blue suiters located there to do the job.

THE PROGRAMMED CLOSURE OF NEARLY ALL ROSs IN FY 73 WILL PUT US BACK INTO THE 1945-1950 CONFIGURATION.

SELF-PRESERVATION

What can you do to help yourself? If the weather is at all marginal, have an HONEST ALTERNATE and be prepared to use it. If you don't have to — great. But, watch out next time. If you are supervising operations from home plate, use the guy in the RSU to help watch the weather. If you don't like what he sees, jog the weatherman at base weather or Region, or tell the Region SD, but *do something* because chances are strong the weather observer is snowed under with teletype paper and won't catch the change in time to help you recover your planes.

CLOSING BASE WEATHER STATIONS (BWS)

USAF is seriously considering reducing the hours of operation of nearly 60 BWSs in the ZI. Since the weather forecaster requires one to two hours of preparation time to be ready to brief, closing the base weather station for eight hours per day effectively reduces local forecasting services to 14 to 15 hours per day.

Impacts? Here are a few:

1. When you call PFSV, there may be an ominous silence.

2. There won't be any local weather radar watch during periods the weather station is closed. This, of course, will affect local warnings of severe storms and radar watches for aircraft.

3. When the base weather station is closed, there will be no one to observe and report seasonal weather such as snow and freezing precipitation. This could affect all local operation by causing extended delays in alerting snow removal crews and clearing the runway.

4. This degraded local surveillance will result in less effective local weather warnings and increased danger to life and property.

5. Without having an observer to warn you of severe weather, you may have to take storm precautions (tying down aircraft and AGE) almost daily, causing wasted manhours, material, and money.

6. Since the quality of forecasts is directly proportional to the availability of timely observations for the area of interest, you can expect a reduction in the quality of forecasts.

7. Outdoor maintenance functions such as down-loading and hardstand operations will be adversely affected.

8. You may unnecessarily shut down your refueling operations because someone who is not a trained observer incorrectly reports lightning flashes closer than they actually are.

9. Accurate local temperature observations will not be available, affecting load/offload of fuel or water, engine performance figures, and personnel exposure precautions.

SO NOW WHAT?

The self-preservation tactics I suggested above to counter the observing problem will help you stay alive for the present, but for the long haul we'll need more drastic medicine. Our whole operational flying system is based on good weather support. Notice I didn't say, "based on a perfect weather system." When that support capability is seriously degraded, as it will be, our flying practices must change to compensate.

What changes should we make and who should generate them? Well, you know that an accident usually generates a rash of "don't do that any more" changes in the regulations. That's the hard way! Instead, I recommend that everyone in the flying business join in a multi-pronged program to *prevent* weather-induced accidents. Here are some specific suggestions:

1. Always have a way out in case the weather goes sour.

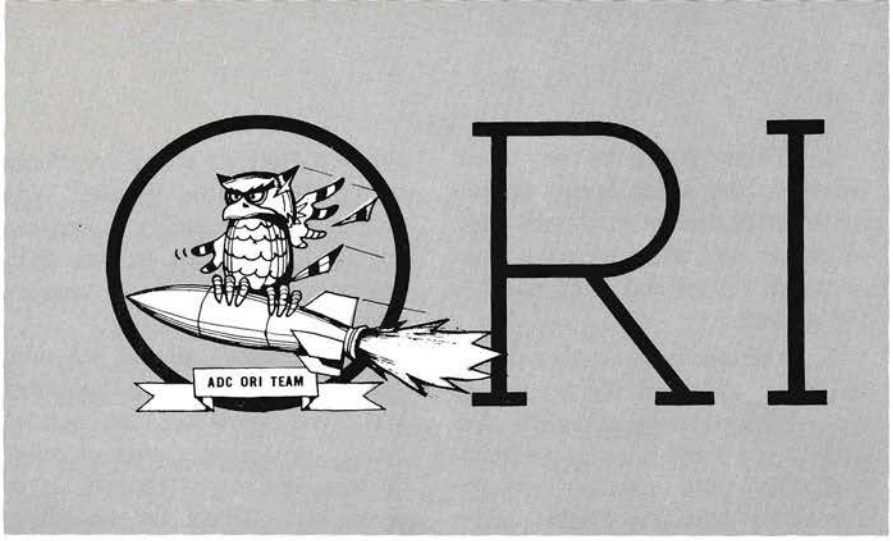
2. Use all the initiative you have and make maximum use of remaining weather services.

3. Know what is available and, just as important, know what weather services are missing.

4. Remember that the NORAD Region weather stations operate around the clock and can help you.

5. When inadequacies in weather service restrict your operation or have gotten you in a bind, forward the details, with your recommendations, through command channels. Of course, if it involves a truly operationally hazardous situation that needs to be handled quickly, you should report it on an AF Form 457, "USAF Hazard Report."

6. Finally, never forget that your friendly weatherman will bust his gusset to help you to the limit of the resources he has available. He has some flexibility in how he uses them and what he can do for you. Did you know, for example, that at a USAF airfield he can train and certify your squadron supervisory people (RSU duty officer, for example) to take the official Runway Visibility Observation? Work closely with him—he is as concerned as you are about accomplishing the mission safely and effectively. ★



OPERATIONAL READINESS INSPECTION TEAM

HQ, ADC

HOW'S YOUR AIM?

In the beginning there was the airplane. The airplane was a modern invention which replaced the balloon because the balloon wasn't maneuverable enough and the cost of helium was going up.

Originally, airplane drivers, or aviators as they liked to be called, were a friendly bunch of fellows who waved as they passed each other on their reconnaissance missions. One day, however, a brick used to adjust the CG on an airplane fell out and tore a hole in Eric Von Heeble's wing. This upset Erich so he retaliated the next day with some bricks of his own. Thus began modern aerial warfare.

The aviators found it difficult to control their machines and throw bricks so they began carrying pistols and the shootout at the O.K. Corral took place in the skies over Europe. Soon, the various inventors had devised ways of carrying machine guns (which made many holes) and one sneaky SOB even hid a machine gun behind the propeller so the prospective victim wasn't even aware he was a victim until it was too late.

Digressing a bit, the Chinese made rockets. These inventions went PSSSHH---------BANG to the "Oh's and Ah's" of the spectators and the "Holy Confucius's" of the enemy. These inventions were to play an important role in aerial warfare.

Back to the near past again. An enterprising aviator, who also had a doctorate in ancient Chinese history with a minor in chemistry, decided that if he could get a rocket to fire from his plane, he could make bigger holes in airplanes. He mounted three rockets on each wing but found that in order to clear his propeller he had to put them out so far on the wing he couldn't reach the fuses to light them. Undaunted, he made longer fuses so he could light them in the cockpit.

After a few rocket aborts because the wind blew out his matches when he tried to light the fuses, our enterprising aviator went to a seance, consulted Ben Franklin, and invented electrical firing circuits.

Now the rockets fired when he wanted them to (usually) but when the prospective victim zigged and zagged, the rocket went straight. Aware that unguided rockets weren't too Sierra Hotel against a maneuvering airplane he then developed a guidance system and quickly had all the rockets modified. Soon bigger yet fewer holes were punched in airplanes, but the injured flying machines didn't always go down in flames.

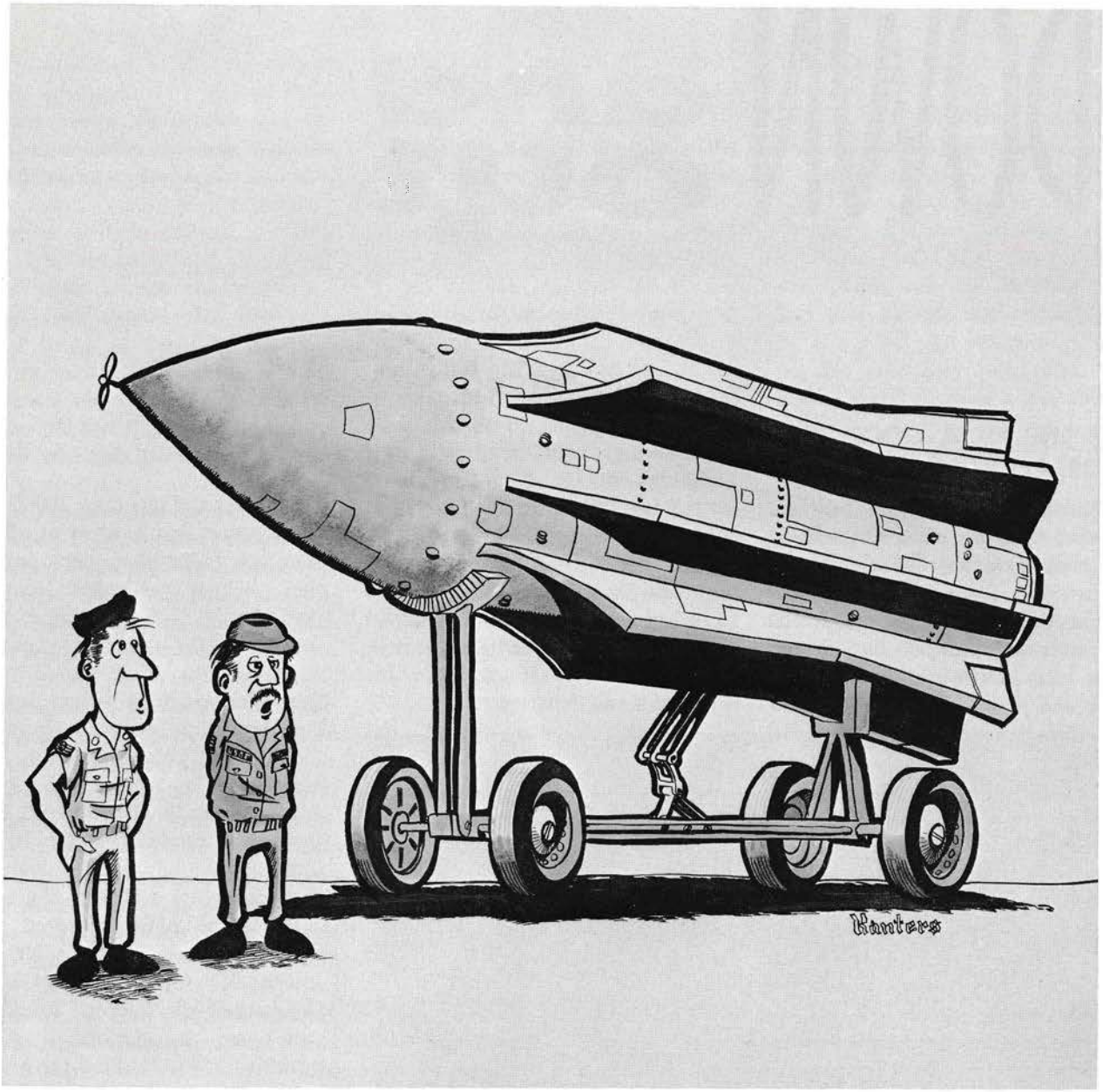
One night at a party, all the aces were griping about the missiles when the munitions NCOIC (who had NCOD) came in. He suggested they tie a bomb on the missile so when it hit, it would explode and the victim would indeed be a victim. This would have worked except the bombs (a) pulled the missiles down in flight or (b) fell off.

The quick thinking NCO submitted a Form 1000 and got the bomb (warhead, he called it) inside the rocket.

When the entire gadget was enclosed in stovepipes from old WWI barracks, the AIM family of missiles was born.

Everything ran smoothly for a time. The missiles were periodically fired at Tyndall and a blue evaluator missile was made so the missiles didn't have to be fired to check the airplane.

One day a new guy asked a far reaching question . . . "How reliable are the missiles in each unit's stockpile?" Silence followed, but then there was action.



" It's a new concept - the passive AIM. It just zooms around in circles until the enemy flies into it."

All the maintenance people and mathematicians began talking and computing and computing and talking. The result is a new ORI evaluation event — a missile console check of eight randomly selected missiles from the unit's stockpile. Depending on the number of missiles which do not check good, either a limiting factor, major deficiency, or overall unit unsatisfactory for the ORI may be assessed. Of course, we hope none of these assessments happen to your unit. But remember the AIM family of missiles is also dependent upon quality maintenance and accurate console checkouts. We'll be checking your stockpile in future ORIs and we would hate to see your unit do outstanding on all the other events yet not on this one. It would be a shame to see you wandering about your ramp mumbling, "I can't believe I flunked the W - H - O - L - E thing!"

JAMES M. THOMAS, Colonel, USAF
Director, Operational Inspection

DOWN and out

THE END OF A GOOD CROSS-COUNTRY

The pilot of Reed 04 had just finished stowing his flight bag in the armament bay of the F-102 when the transient alert crew chief informed him of a slight delay. The air cart that services the aircraft with high pressure air was a little slow and it would take a few minutes for it to build up to a full service.

"No problem, I'll just go back to base ops and have another cup of coffee. Besides the weather is warmer here than up at the home base."

This was a special flight for Reed 04, possibly his last. There was a set of retirement orders waiting for him in the near future.

"Well, this has been a good cross-country," he thought. "The aircraft has held up pretty well except for a few flight control oscillations on the second leg and a possible IFF malfunction coming into here. But the IFF problem could be a malfunction in Approach Control's equipment, everybody else read my squawk OK. . . . My running into Jim at the club last night really made this trip worthwhile. That steak and the night life on the "strip" really capped it off. If you've got to quit flying, you might as well go out in style."

It was a little after noon now, but he was in no hurry. He had all day to get back. He'd just relax and enjoy this last flight.

When the air supply was pumped up, he made his preflight, started, and taxied out. He received his clearance and departed.

The takeoff was normal, but when Reed 04 checked in with Departure Control, they could not read his squawk.

"Either their equipment is still broken or I'm in for a miserable flight," he thought. "I'll have to explain my problem to every controller on the way home. Well, I'll find out for sure when I check in with Center."

When the pilot checked in with the Center, the controller there confirmed Reed 04's IFF was inoperative. He was cleared to FL 230 and told to make a position report at the first enroute fix.

One minute later the pilot transmitted again. "Center, I'm having severe control oscillations and I'm returning to my departure base."

This was the last radio contact with Reed 04. Shortly after this, the pilot ejected and the aircraft crashed into a remote hillside. The end of a good cross-country flight.

He left the airplane at about 12,000 feet and less than 200 knots. The ejection seat worked as advertised, but as the chute deployed the pilot's helmet was pulled from his head. At the time, the helmet visor was down, the chin strap was fastened, and the mask was in place. The pilot received severe bruises from the chute straps, including a chest injury, which appear to have been caused by a loose fitting parachute. During the descent he did not deploy the survival kit. On impact with the ground, he was knocked unconscious by a blow to the head.

When the pilot recovered consciousness he noticed an airplane circling an area a few miles away. He checked his "beeper," found the switch on, and decided it wasn't working. After checking for broken bones and other injuries, he walked to the top of a little hill and spotted a highway in the distance. He felt his legs begin to tighten and his other injuries start to ache, so he decided to walk out rather than face a possible overnight stay in the landing zone. After about a two mile walk he saw a helicopter overhead, fired his pen gun flare, and was rescued.

The accident board that investigated this accident had very little to work on. The aircraft, with its

nearly full fuel load, was almost totally destroyed. The pilot of Reed 04, because of his injuries, was unable to remember anything that happened before or during the accident. The board assessed the primary cause as a flight control malfunction, but they were unable to determine which component or components had caused the problems. They listed as possible causes a leaking hydraulic system or a faulty electrical system supplying false impulses to the flight controls. Pilot factor was also assessed as a possible contributing cause in that he elected to continue the mission with a known flight control problem.

When analyzing an accident of this type, where the facts are limited, the risk of "runaway" conjecture is high. So for that reason, we will attempt to keep our finger-pointing to a minimum. However, the following items seemed to glare up at us from the reports:

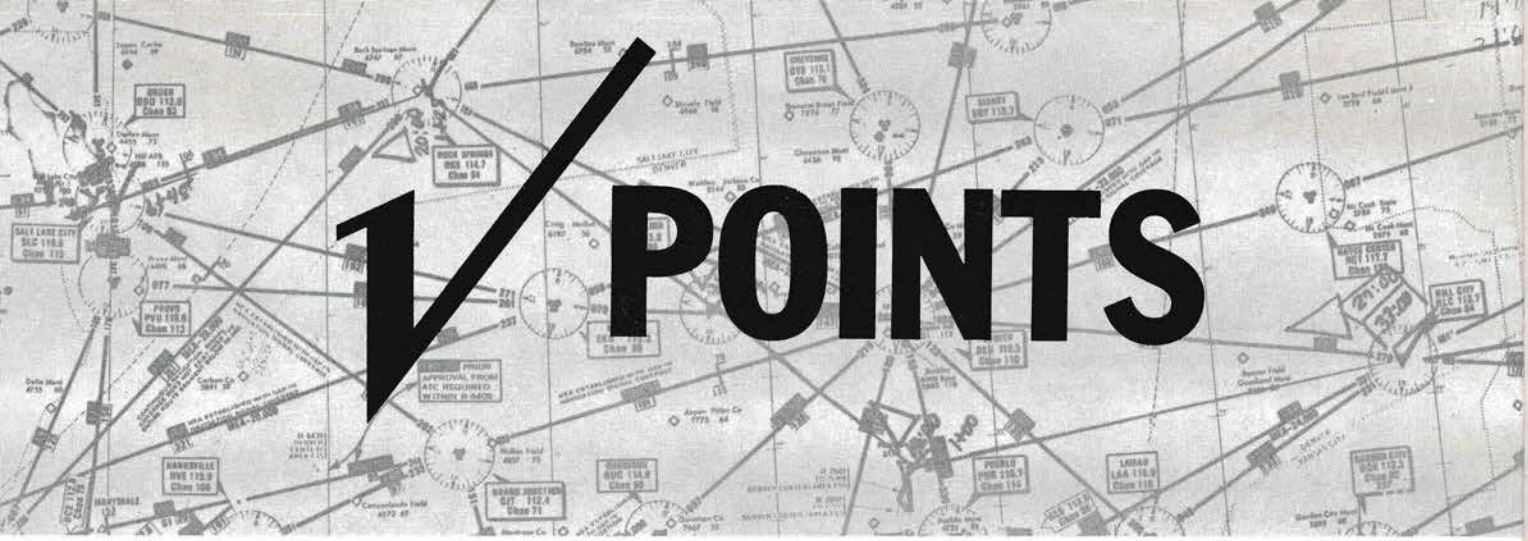
- The pilot either suspected, or knew of, a flight control malfunction on landing at an enroute base. He and the transient alert personnel talked about the problem and then visually checked the fluid levels and accumulator pressures — all were in the green. No entry was made in the forms and no maintenance was requested. When Reed 04 landed at the next stop, he had a reported malfunction in the SIF/IFF transponder. Again he made no entry in the forms and failed to request maintenance assistance.

Before the accident, either of these problems *could* have been minor. But the fact remains that it is always an unsafe practice to fly with a known or even suspected malfunction. (Another aspect of this practice is that it leaves the pilot wide open for criticism should anything happen to the aircraft while flying in this condition.) The time required for adequate maintenance is short when compared to the risks involved.

- During ejection the pilot's helmet was ripped off and he sustained bruises from an ill-fitting parachute. Granted, in this case and in others recently, the opening shock of the F-102's force-deployed chute has appeared to be rather severe, and life support personnel are investigating this problem. But bruises are a small price to pay for the added low altitude protection afforded by this new chute. However, injuries of this type can be greatly minimized by insisting that all life support equipment be properly fitted and that all straps are tightened snugly. When it's time to punch out, you probably won't have time for a last minute adjustment.
- Once on the ground, the pilot should have stayed with his survival gear and chute. After an ejection, a pilot is in no position to assess his own injuries. (See "Injured Until Proven Healthy" — INTERCEPTOR, January 1972.) The "beeper" that was discarded as inoperative would have worked if he had pulled out the antenna. The fact that aircraft are circling near by is a good sign someone is looking for you. Stay put, relax, and maybe you'll think of a way to help them.

Every now and then each of us gets a chance at "a good cross-country." Take the time to make sure the aircraft and your personal equipment will take you there and back. And remember, if you were supposed to carry writeups with you, they'd put hip pockets on flight suits.

During chute deployment, metal fittings on the left riser caught on the pilot's helmet and ripped it from his head. Investigators found the helmet with the visor down, the chin strap snapped, and the oxygen mask still hooked.



V POINTS

We would sincerely appreciate your inputs mailed directly to:
The Editor, INTERCEPTOR, Hq ADC (SED), Ent AFB, CO 80912

V Have you ever landed at a cross-country base without your credit card and tried to get fuel? Pilots in this situation have tried a multitude of excuses while trying to "con" the fuels man into a quick turnaround. We've heard everything from, "Com'n now, that's Uncle Sam's fuel and this is his airplane; you just fill it and I'll sign for it" to "Gosh, I'm sorry, but you top it off this time and I'll bring the card in the next time I pass through." But, to our knowledge, each of these well chosen speeches has failed. The pilot usually ends up making a trip to the office of the Chief of Maintenance while his new card is being printed. (And, as a side benefit, the pilot's Base Commander may get a little "thank you" note explaining the inconvenience.) The reason behind all of this red tape is that the information on the "Identa-plate" is used to bill the MAJCOM for the fuel and to compute the aircraft's flying hour costs; therefore, no card, no gas. The responsibility for placing the card aboard the aircraft, belongs to the crew chief, but since he normally doesn't fly in the aircraft, he's never around when all the fun begins. (TIG Brief/SED)

V An F-27 airliner recently suffered substantial damage when its tail section hit the runway on landing. It seems the copilot had developed the habit of resting his hand on the flap lever during final approach. The result was a lot more flap than needed and a lot higher sink rate than desired. When the pilot rotated to stop the sink rate, the tail hit the runway. If your copilot doesn't know what to do with his hands while you're flying, maybe you could let him hold the forms or something. (Flight Safety Foundation/SED) Note: F-102 and F-106 pilots: Although there are no flaps in F-102/F-106s, there are other gadgets and switches which might get in the way of idle hands.

V Last year 17 tip tanks were jettisoned from USAF T-33s, and all but 3 were dropped inadvertently. Maintenance, materiel, and the pilots shared the cause factors, but the most pathetic aspects were the excuses given by the pilots. One of the T-bird jocks used the jettison button while attempting to silence the gear warning horn and another used it trying to

fast slave the compass. ADC accounted for 3 of the 17 jettisoned tanks in 1971. This year we have already dumped four, so obviously this isn't going to be our year. We were about to point a finger at the non-ADC pilots (listed above) when one of our own T-bird "passengers" punched the tanks while testing the tensile strength of the new "plastic" guard over the jettison button. Murphy is alive and well, but he's cross-country on a T-33 target mission. (Flying Safety Officers Study Guide/SED)

An old problems has come up again and it seems to be the result of poor reading habits among our aircrews. This problem deals with the pilot in command, a subject well covered in AFM 60-1, AFM 60-16, and the ADC supplements to these manuals. Briefly they state that there will always be one pilot in command of an aircraft or formation of aircraft and that person, regardless of rank or pilot rating commands all persons aboard the aircraft or other members of the formation. This pilot in command will be the approving authority for the aircraft flight and flights of other aircraft in his formation unless this authority is specifically withheld by the individual's flying unit commander. His signature on the DD Form 175, Military Flight Plan, is evidence of his approval for the flight and his responsibility for the release, flight planning, clearance, briefing, and safety of the aircraft/formation. The manuals also state that the flight authorization (flight order) will designate the pilot in command and he will be:

- The IP or FE when he is performing these duties and has access to the flight/engine controls during takeoff, departures, approaches, and landings.
- Specified on the DD Form 175 for multiple/stopover flight plans. The pilot in command for subsequent legs of a stopover flight will be listed in the Remarks section provided the pilots concerned are fully qualified and authorized to function as pilot in command. (Ed. Note: Most units add in this case the statement, "Pilots will alternate command." But even in this case there is only one pilot in command for each flight.)

What all this means is that, when it comes your time to be pilot in command, you sign the flight plan, you have the final say in all decisions concerning the flight/formation, you are responsible, and everyone on board the aircraft/flight should be aware of this. (SED)

SAGAS SING THEIR SAD SATIRE

ANOTHER MARTINI, BARTENDER!

A major who is a pilot in the Air Force was due to take off at 0800 one morning in Berlin. But he had celebrated too much the night before and overslept. He called the operations sergeant and reported that he had car trouble and would be a little late. When the major arrived, the sergeant asked what sort of car trouble he had had.

"I couldn't get the driver behind the wheel," replied the major.

an ounce of PREVENTION

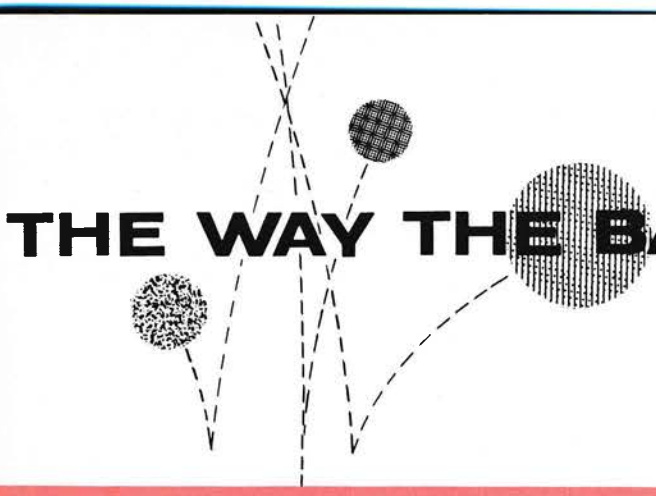
"DON'T BLOW YOUR COOL"

An old fighter pilot was asked what he would do if he were going straight up, had no airspeed, and an unfriendly pilot was hosing him from 6 o'clock. The old fighter pilot's answer . . . "I'd wind the clock." A Navy jock casually asked Phoenix Center to cancel his IFR. When center refused to cancel due to the aircraft being in positive control airspace, the Navy jock casually remarked — "My one and only engine has blown up, my aft section is burning, and I intend to bail out . . . I repeat, please cancel my IFR."

The above happenings may be extremes, but they do point out that some pilots don't blow their cool. Let's face it. If everything comes unglued, all you can do is sit back, analyze the *entire* situation, take *proper* action, and return to the nearest bar as soon as the situation permits to tell your war story. Remember, if the action you take is not proper, you may not get to tell your story . . . you may not get to drink free drinks from the Hero worshippers who are willing to buy. Blowing your cool will result in hasty actions, reduced judgment, falsetto voice, reduced field of vision, and probably wrong decisions. It stands to reason that when the chips are down and the seat cushion is distorted, the pilot must convince the world that he truly has complete control of himself and his bird. While trying to convince the rest of the world, he will at least partially convince himself and shift the odds in favor of a good night at the club. (*ATC Safety Kit*)

THAT REALLY FROSTS ME

Just before a recent night exercise, the F-106s were parked out on the ramp. During the wait for "Delta" a heavy frost formed all over the fighters. When it came time to "go do it," the jocks found that the forward windscreens would clear shortly after they cranked, but the canopies remained covered with frost. This, of course, really restricted side visibility making taxiing at night even more exciting. It seems that TCTO 1-F-106-1072 has improved the F-106 defog system to include a "piccolo" tube that blows hot air on the inside canopy. Even though this mod makes canopy *defogging* more effective, it won't do much for removing frost on the outside. You "Maintainers" will now have to scrape the frost off these modified birds because this new system won't remove canopy frost like the old NESA glass.



THE WAY THE BALL Bounces

ACCIDENT RATE

	ADC	ANG
1 Jan – 30 Apr 1972	2.8	18.0

MAJOR ALL AIRCRAFT

ON TOP OF THE HEAP

MO	ADC	MO	ADC	MO	ANG
55	49 FIS Griffiss	38	4713 DSES Otis	53	158 Ftr Gp Burlington
49	57 FIS Keflavik	37	5 FIS Minot	48	163 Ftr Gp Ontario
44	4650 CSS Richards/ Gebaur	31	2 Fis Wurtsmith	43	115 Ftr Gp Truax
43	552 AEW&C McClellan	27	95 FIS Dover	30	141 Ftr Gp Spokane

ACCIDENT FREE

CUMULATIVE RATE

	ADC	ANG
JET	2.0	19.6
CONV	5.1	0.0

BOX SCORE

ACCIDENTS FOR APR / CUM TOTAL

UNITS DIRECTLY UNDER HQ ADC

	20 AD	21 AD	23 AD	24 AD	25 AD	26 AD	ADWC	552	4600	4650	4677 4713	ANG
F-101	0 / 45.9											3
F-102	0 / 6.7											1
F-106	0 /											
T-33	5.5 / 25.8						1 / 1					1
B-57	0 /											
EC-121	0 /											
CONV	9.5 / 0								1 / 1			

RATE = MAJOR ACCIDENTS PER 100,000 FLYING HOURS ALL RATES ESTIMATED

MINOR ACCIDENTS THIS PERIOD — 1
MINOR ACCIDENTS CUMULATIVE — 2

we point with PRIDE

Capt Stephen A. Wayne
84 Ftr Intcp Sq
Hamilton AFB, California

Lt Col Ronald J. Ryan
84 Ftr Intcp Sq
Hamilton AFB, California

F-106 CONTROL PROBLEMS

Lt Colonel Ronald J. Ryan and Capt Stephen A. Wayne took off on an intercept mission for the purpose of evaluating Capt Wayne's tactical proficiency and instructor pilot qualifications. At the time of departure there was a thin overcast cloud deck with bases at 500 feet. On liftoff the nose of the F-106B rose excessively and the aircraft rolled to the left. Capt Wayne had to use greater than normal control stick pressures to maintain the desired attitude. Mild control oscillations continued for several seconds and then subsided.

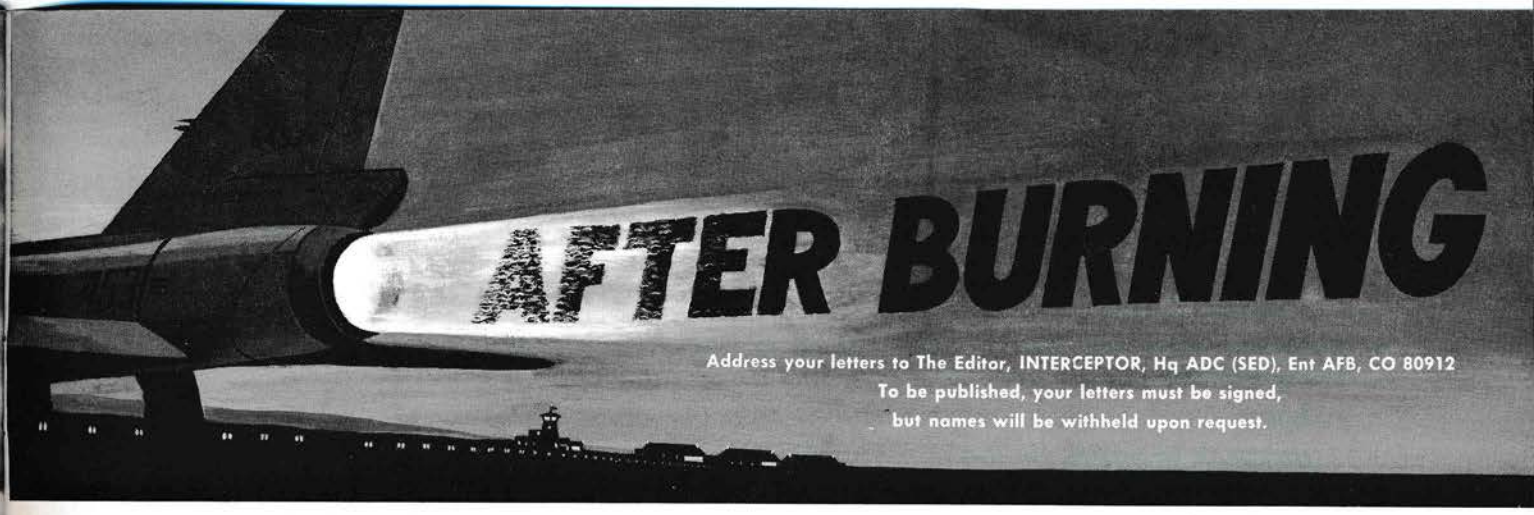
The aircraft responded normally for approximately 30 seconds, then suddenly pitched up and rolled violently to the left. The pilots had to apply extreme forward and right stick pressure to control the aircraft attitude, and even then their control over the flight path was marginal. The aircraft continued in a climbing left turn with about 10 degrees positive pitch and 20 degrees of bank. As their uncommanded orbit carried them over the ocean, they jettisoned the external tanks.

Colonel Ryan turned off the DC generator and the master electrical switch, but the control forces did not improve. He then turned both switches to ON and engaged the dampers for the first time during the flight. The aircraft now began to handle normally with only mild, infrequent oscillations.

The crew lowered the landing gear and accomplished a series of landing configuration controllability checks. They found that uncommanded control inputs began at approximately 172-174 knots regardless of gross weight. Colonel Ryan and Captain Wayne elected to attempt a landing while keeping the airspeed above this critical point. They decided that a touchdown speed of 180 knots provided the greatest margin of safety even though this was 25 knots above the optimum and would increase the likelihood of a barrier engagement.

While on a straight-in GCA approach, mild oscillations began at 205 knots and increased in intensity as they reduced the airspeed for final approach. Just prior to reaching the overrun, the roll and pitch moments increased markedly requiring a last second decision to go around or force the aircraft onto the runway. They touched down at the planned airspeed and with only a momentary delay before full drag chute deployment. The aircraft rolled to a safe stop in the barrier.

The cool, professional airmanship exhibited by Colonel Ryan and Captain Wayne in this critical emergency prevented the loss of an irreplaceable ADC aircraft. We point to them with pride.



Address your letters to The Editor, INTERCEPTOR, Hq ADC (SED), Ent AFB, CO 80912
To be published, your letters must be signed,
but names will be withheld upon request.

SINGLE ENGINE — DOUBLE RECORD

May I express the appreciation of the 112th Fighter Group to your excellent publication for the fine coverage afforded us in your March issue.

We are truly proud of our flying safety record. Its achievement required the talent dedication, and plain hard work of countless individuals. One of the rewards of this kind of effort is having the fruits of one's labors admired by his peers. Your fine article has provided our personnel that kind of reward.

All of us in the 112th Fighter Group have long been fans of the INTERCEPTOR. It is especially gratifying to have our safety record acknowledged in a publication we have long read and admired.

Colonel Edward J. Bollen
Commander, 112th Fighter Gp
PANG, Greater Pitt Aprt
Coraopolis, Pennsylvania

***Happy to oblige. You've set a fine example for others to follow. We're proud to be able to tell about it.**

"FIGHTER PILOTS DO IT BETTER"

I particularly enjoyed your picture/statement "Fighter Pilots Do It Better" in the March issue of INTERCEPTOR. I am an ex-ADC type (111 FIS, TANG), and have long felt that I have the fighter pilot attitude. I presently fly five different types of aircraft as a NASA Research Pilot.

I have occasion to be involved with a Boys Home in the local area. The boys in the home have had a hard rap from life in respect to their ages, and I feel that they would, perhaps more than others, appreciate the fighter pilot attitude.

With this thought in mind, I would like to find out if it is possible to obtain a print, or litho, of the statement/picture as it appeared in INTERCEPTOR. I have tried using the picture from the magazine, but the line down the center distracts from the effect of the picture. Framing the statement by itself is good, but I think the accompanying picture really "makes" the whole thing.

Edwin Q. Rainey
1315 NASA Road 1, Apt 151
Houston, Texas

***Fighter pilots are made, not born, and it looks like you're providing a good start for some Texas fledglings. Prints are on the way.**

KUDOS

Reference March '72 INTERCEPTOR request for February '63 issue. Said issue is enclosed. However, if you have already received one, please return copy to me.

I have enjoyed INTERCEPTOR since the publication began (January '59). It is my opinion that your magazine is the best safety publication in the entire flying profession. The first eleven years of my career were in the air defense business, to include fighter-interceptors, AC&W (manual and SAGE), plus a tour as "FOI" — SAGE battle staff. Since that time I've had a T-38 ATC IP tour, F-4D/E bit in SEA, and now back for a second ATC (T-37) tour.

Thanks for a Sierra Hotel contribution to flying safety.

Lt Col Russ C. Snyder, Jr.
Operations Officer
3650 PTS/DOT
Columbus AFB, Mississippi

***We're always happy to hear flattering comments from old friends.**

THEY'RE AVAILABLE

Several years ago, you published some programmed learning texts covering most phases of flight. Some of the old heads in the squadron remember these and feel they were the "best ever." Recently we have been blessed with lots of new blood right out of ATC. We feel that your texts would be a valuable aid to these young troops and would generate considerable hangar talk among all our jocks.

If you have a stock of these texts, we would appreciate a complete series.

Congrats on your interesting "Zoom & Boom" article. Already, it has started some lively bar talk.

Lt Col Willis A. Boyd
Commander, 26 TFS (PACAF)
APO San Francisco 96570

***We're booming a set of ADCPIs your way.**

EUROPEAN AVIATION LIBRARY

The aviation company I am presently in has recently activated a new aviation safety program. As Aviation Safety Officer, I would like to make available to the operational pilot in this company all the aviation and aviation related publications I can procure for their reading file.

Your magazine would greatly enhance and enlarge our present reading file and provide our pilots with a broader and lighter view of general aviation and present and future developments in the aviation field.

Could you please advise me on how to obtain your publication, INTERCEPTOR, on a regular basis?

CW3 Theodore A. Longobardi
22 Aviation Det
USA Adv Wpns Spt Comd
APO New York 09189

***For bigger and better reading files, you're on the list for 5 copies per month.**

*U.S. GOVERNMENT PRINTING OFFICE: 1972-784-034/11

John Gillespie Magee, Jr.'s "High Flight" vividly describes the thrill of flying" . . . on laughter-silvered wings;" ". . . sun-split clouds . . ." and "the high untrespassed sanctity of space . . . ." When he wrote that poem, the skies were virtually free of anything except the birds and a few intrepid airmen of the goggle and scarf era. But times have changed and the aviation boom has launched nearly everyone into the skies: skydivers, gliders, general aviation aircraft, jumbo jets, supersonic military aircraft, and even a daring young man who flies down the Vail mountainside with a parawing. I really didn't know how crowded it was up there until my FAA friends in the Peterson Field Tower showed me their radar. There were blips all over the scope. They asked me to tell you to please stay under radar control any time you fly and to keep a sharp lookout for those who don't. It's a lot safer that way because you never know when you're going to meet up with someone who still thinks the sky is "untrespassed."

—Carolyn

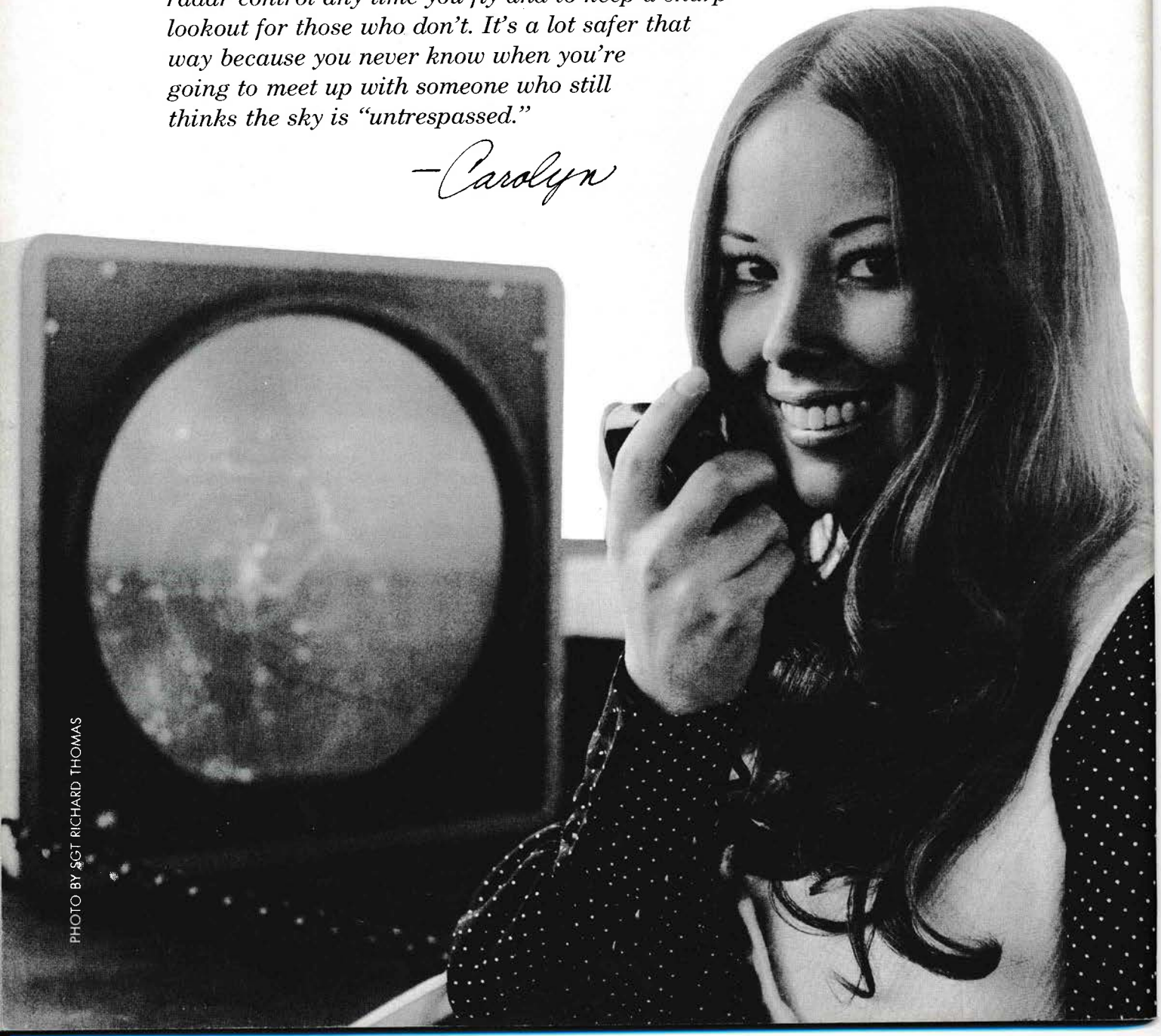


PHOTO BY SGT RICHARD THOMAS