

23

TAC ATTACK

DECEMBER 1970



SURVIVAL...Page 4

for efficient tactical air power

TAC ATTACK

DECEMBER 1970

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TACTICAL AIR COMMAND

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Jamie sez: You are not necessarily a dynamic personality simply because you blow your top.

current interest

THE PROBLEMS OF COLD WEATHER SURVIVAL	Pg 4
THE LONG REACH	Pg 16
I WANT A NEW PLANE	Pg 19
A TEAM EFFORT	Pg 22
1970 TAC ATTACK INDEX	Pg 26

departments

Angle of Attack	Pg 3
Pilot of Distinction	Pg 11
SPO's Corner	Pg 12
Crew Chief/Maintenance Man Award	Pg 15
TAC Tips	Pg 20
Chock Talk	Pg 24
Letters	Pg 30
TAC Tally	Pg 31

TACRP 127-1

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Angle of ATTACK



FAREWELL

1970 is rapidly drawing to a close and we in TAC can be proud of the improved safety records we have achieved. As your Chief of Safety, I congratulate each and every one of you for that little extra effort that was required to make this fine showing.

I'll hang up my helmet at the end of this month after thirty-three and one-half years of military experience. This will be my last chance to shoot at you troops in the field and you're probably expecting some real gems of wisdom. Well, I'm not going to bore you with old war stories or experiences that are history. Instead, I'll comment on the present and future problems facing you, as I see them.

Today we are better equipped and trained than we have ever been in the past. Our people are better educated and their capabilities are broader than ever before. Since most of our accidents are repeats of previous experiences, the role of the supervisor will emerge as a dominant factor. And Safety can play an important role by

supplying data and information to him.

Too many accidents are caused by personnel error. An aircrew or an individual who does not use a checklist will, sooner or later, overlook that one item that will cause an accident. Integrating Safety into our daily operation is a must if we are to be able to channelize all our energy to reach peak performance. Commanders and supervisors will find this a continual task.

With future increases in the cost of operations, you have a challenge to better all previous records. There is no requirement in our basic business of flying and protecting our people that can justify overlooking safety. With our limited budget we cannot afford to push anyone beyond their capabilities. In simple words, if our crews or equipment are not ready, slow down and get them ready!

1971 will probably be a very lean year for the military. Close monitoring and a cautious approach to our training will be required if we are to improve our safety records further. You have the capability, and I wish you a good, rewarding, and safe New Year.

Virgil K. Meroney
VIRGIL K. MERONEY, Colonel, USAF
Chief of Safety



the problems of

COLD WEATHER SURVIVAL

As we approach the coldest time of the year, it's appropriate that we discuss a subject that many pilots like to ignore in the hope that it will go away . . . survival in winter. It's easy to pick out the troops who believe it "only happens to the other guy," just check the garb of the jocks getting ready to fly.

Because of the nature of the beast we're going to talk about, it would be almost impossible to cover the full range of situations a pilot could get into. Your survival environment could range from mountainous terrain to plains, it could abound with game, fish, and plant life . . . or be as sterile and hostile as the surface of the moon.

Let's face it, no matter how carefully you plan, emergencies involving raw, basic survival are bound to occur. In such emergencies nothing is more valuable than experience, but we have no training to simulate this. Second only to personal experience in value are the lessons to be learned from the experiences of others. Since the subject of cold weather survival is so complex, this is the vehicle we'll use here.

Following is a compilation of excerpts of arctic

survival narratives compiled by Richard A. Howard, Ph.D. The records used to compile this information are from the crashes of 268 aircraft. Personnel involved in these episodes number 641, of which 480 either survived or their stories could be reconstructed from diaries or later investigations. The remaining 161 were either killed in the crash or are still missing.

No emergency descent was included in this study unless at least 24 hours had elapsed before the individual or crew was rescued. This does not mean that the men who spent less than 24 hours on the ground did not endure hardships, only that their experiences are not as significant as those of men "on their own" in remote areas for longer periods of time. Even within this short interval of time there were cases of frostbite requiring hospitalization. One man committed suicide rather than face the problems of survival.

In contrast to these are the many stories of heroism and endurance against great odds. Two men parachuted by error from a transport and one was injured on landing. The other man carried and dragged his injured companion 150 miles to safety. As they had no food or equipment

... necessary to forage along the way. The journey took
... days.

The crew of a bomber which landed along an Arctic beach never gave up hope. Only a diary revealed their story. The men ran out of food after 38 days of rationing limited supplies. The diary records their plight for a total of 53 days. Their bodies were located a month after the last entry.

One survivor was fortunate in finding trapper's supplies and cabins along his lonely route. He was out 84 days before he returned to his base but suffered no hardships and lost no weight during his emergency trek.

The longest experience in the stories examined is that of a crew isolated on the Greenland Icecap. They were found and supplied by air after only a few days, but 164 days passed before they could be removed from the icecap.

The effects of the extreme cold were both physical and mental. Some men came very close to mental breakdowns in combating the arctic winters. A bomber was forced to ditch in the ocean off the coast of Greenland. The ditching was successful and the men were dry when they entered the life raft. They paddled all night long and by morning were soaked and cold when they reached a pinnacle of rock. Two days of snow and sleet were followed by 48 hours of freezing weather with strong winds. Then came three additional days of gales and gusts and finally a long snowstorm which lasted intermittently until their rescue 3 days later. Only a short break in the weather saved their lives. The few minutes of sunshine allowed them to use a signal mirror to attract a passing ship. The rescue party found all three men unconscious and thought that only one was alive. This rescue appears to have been accomplished at the last possible moment.

HEALTH AND INJURIES

About 50 percent of the men involved in these survival episodes suffered injuries in the course of the descent, whether a crash landing or parachute landing. The injuries ranged from fractured skulls, broken legs, arms, and shoulder blades to sprains, bruises, cuts, and concussions. In two reports broken limbs were set by a member of the party. One of these was set so successfully by a non-medical man that resetting was not necessary when the party was rescued and taken to a base hospital. In all other cases the fractures were immobilized by splints. Burns from fires in flight or following the crash were reported in 17 stories. Cuts occurred most frequently on the face, they were caused by fractures of glass in the plane or by broken flying goggles.

Fifteen cases of shock were recorded. No specific

comments were made on the treatment of shock cases other than keeping the patient warm and in a sleeping bag. One reported that the shock cases in his crew required more water, which they could supply only as snow. The impairments of health or physical condition following the emergency landings were attributable, in the vast majority of cases, to the environment and the locality of the accident. These are reported as exposure, cold, frostbite, lack of food, and malnutrition.

The survivors often showed a lack of training in the use and care of clothing. Men wore wet clothes, gloves, socks, and shoes and failed to dry them when the situation allowed it. Men forgot their gloves when working outside. They used cold tools with wet hands and learned better "the hard way." They took off their gloves to wipe snow from the wings of the aircraft. Only after being frostbitten did they find life raft paddles ideal for the purpose. Others used their bare hand to scoop up snow to eat or to melt. One man commented he was so anxious to rush after the supplies dropped to him that he forgot to put on his foot covering. The result was wet feet and eventual amputation of two toes. Another man landed his fighter safely but walked around the plane and then sat in the cockpit all night with snow-filled shoes and wet feet. He had frostbitten feet by morning and eventually lost all his toes. Such comments as swollen, blistered hands, feet with such large blisters a man couldn't walk, loose skin on one finger, lost one fingernail and may lose another, were in the report of three men who lived in an insulated hut. They had a fire over which they said they dried their sleeping gear but never mentioned drying socks or gloves. The results of these actions were frostbite, frozen limbs, gangrene, and eventual amputation.

Treatment of frostbite was often wrong. Many cases were reported where the first aid given frozen or chilled feet and hands was rubbing with snow, rubbing with alcohol, rubbing with gasoline, or just simple massage. One survivor, who admitted being ignorant of Arctic first aid, treated a fellow crew member's frozen feet correctly at first by putting them under his armpits. Had he read the manual in the first-aid kit in his plane, he would not have made the mistake of rubbing the feet for 2 or 3 hours. The next day the victim's feet turned all colors of the rainbow and after his rescue all the toes had to be amputated.

In a very few cases the frostbite was unavoidable. The three men who spent 10 days on a windswept pinnacle in the Arctic Sea had only the clothes they wore. They were soaked from travel in a life raft and from the blowing spray. Their hands and feet were frozen and paralyzed. They had discarded their shoes, which had frozen to the hardness of cement in the first day on the rock, and wore only their flying boots. Their feet were so swollen they

...survival...



Two engines are no guarantee you will get there.

even filled the boots. It was impossible to make a fire. Under such conditions frostbite is inevitable.

Other men found preventing frostbite in fractured limbs a serious problem. The impaired circulation made keeping a broken hand or foot warm, very difficult. The narrative of one crew whose seven members all suffered frozen hands or feet notes that a frozen limb doesn't feel cold but simply aches. The pain kept them groaning for hours at a time.

In general, caring for injured men in sleeping bags was an exhausting, difficult, and trying task. Providing a level and dry spot for the patient was one problem, keeping him warm and clean another. One rescue party found an injured man "filthy from head to foot," as the survivors were unable to dispose of his excreta and the infected secretions from his injured nose.

Lack of knowledge of the principles of first aid was conspicuous. No treatment, inadequate treatment, or the wrong treatment of injuries occurred all too frequently, showing the men lacked the basic knowledge of first aid principles that all air crews should have.

Living in a snow shelter, as some men did, proved dangerous if the men were not constantly aware of the frostbite problem and other effects of cold. The warmth of a man's body penetrating through layers of sleeping bags melted the snow or ice beneath. This, in turn, soaked the sleeping gear so that definite steps had to be taken to dry it out. One survivor reported that his sleeping bag froze to the ice and had to be chopped free. Most men, however, cared for their sleeping gear and aired and dried it frequently. The survivors also found it necessary to insulate themselves from the snow and ice even when just sitting around. Fourteen cases of hemorrhoids were reported, most of them attributed to sitting on cold surfaces.

Chapped or sore lips, faces, and tongues followed eating or sucking snow or ice. Several survivors complained that snow only made one more thirsty and

resulted in parched and burning throats. Additional snow did little to relieve these sensations and only added to the chapping.

Effects of cold wind were frequently noted. Men said the strong gales made breathing difficult and seemed to make the lungs burn.

Glare bothered a few men; they improvised snow goggles or wore smoked flying goggles. Red or sore eyes and swollen or dry, cracked eyelids were attributed to the wind and to the glare. By contrast, a few men reported they didn't need or use snow glasses or goggles. Others stated they couldn't use the goggles for protection because the melting and freezing snow froze on them. A few men smeared oil or grease on their faces to prevent sunburn.

The men who spent most of their time in shelters had pertinent comments on health conditions. Many of them suffered from violent headaches which they blamed on the fumes from the stoves and fires. A common complaint was a headache on arising which disappeared when they went outside. Although many survivors reported worrying about the dangers of carbon monoxide poisoning, no cases more serious than these were mentioned. One group which used gasoline torches for light was bothered by black sputum and black nasal mucus from the fumes and soot of the leaded gasoline. One party reported sore and inflamed eyes from the smoke of an open spruce fire. Fires were a major hazard in shelters, especially when the men used open fuel or improvised stoves. Flash fires and accidental fires from spilled fuel resulted in burns, generally of the face, hair, or hands.

Three men reported suffering intermittently from an upset stomach, described as vomiting accompanied by violent aches and chills. No further explanation was given. One man was made ill by rations contaminated by camphor heat tablets. Only once was a survivor bothered by high altitude and thin air.

Perhaps the most common complaint was a progressive

weakness when rations were limited. Fatigue set in quickly, so that work periods had to be limited to a few hours or to less than an hour in severe cases. As men tired, they tended to stumble more frequently in traveling and to misjudge their movements and bump or bruise themselves in normal activities. Men reported being wet all the time from continued falls because they were too weak to walk normally. Ankles in particular suffered from cold and bruises. Bruises seemed to remain painful for longer periods of time than usual.

Peculiar attacks of dizziness were mentioned twice. In one case the men reported they had trouble standing upright and seemed unable to orient themselves in the snowy landscape. In the other story the survivor reported that when digging for a box on a snowy, hazy day he stopped digging and tried to stand up. He promptly fell down, unable to orient himself in a vertical plane. He felt his semicircular canals failed to give him any indication of up from down. He found he could keep erect only when looking at the wreck of the aircraft, using it as an artificial horizon. These men may have been weak, but men in good condition sometimes react the same way in a "white-out." When light reflected by the snow has an intensity equivalent to that received from the sun, everything appears hazy or milky. There is no horizon, no shadow. In a white-out a man on the ground has to probe his way.

Cases of dizziness and nausea from smoking were reported more frequently. One group of men had been on limited rations for 38 days. After 12 additional days with no food at all they decided to smoke. One pipe of tobacco made them sick. Another group with limited food but unlimited cigarettes were dizzy frequently from chain-smoking.

Once rescued, the men were examined and given proper medical care. In the reports available, more than half the men needed no medical attention other than rest. In other cases severe effects from exposure and lack of food were cited. The effects of frostbite and frozen limbs were the most serious.

REST

Living under emergency conditions in the Arctic can be exhausting, as the survivors' stories prove. All attempts to work in cold and in strong winds required expenditures of energy beyond the expectations of the fliers. Walking in deep snow or against the wind quickly exhausted them. Often they were too tired to build shelters on the trail and simply wrapped themselves in parachutes before falling asleep. Even breathing in the cold climate seemed to require more effort. The shortage of food and the altitude also contributed to their discomfort. Most survivors reported they were always fatigued, always tired.

Their reactions to this ever-present fatigue varied. Some men had trouble keeping awake and slept at every opportunity. Others found themselves too tired or too uncomfortable to sleep. One party of three men claimed they went 15 days with less than 2 hours' sleep per day. Some men found it impossible to sleep at the beginning of their ordeal, while others slept at first but began to have trouble going to sleep after 2 or 3 days even though they were tired. In one party excessive smoking contributed to insomnia.

Several groups tried to stay awake by taking the benzedrine tablets in the first-aid kit, fearing they might miss search planes or rescue parties if they fell asleep. In two instances benzedrine tablets were used as stimulants

... Emergencies involving raw, basic survival are bound to occur.



...survival...

during some particularly difficult task. The general conclusion of those who used benzedrine was that in the Arctic environment it was effective only for short periods and after a few days' use ceased to have any stimulating effect on the system.

Men constantly reported great difficulty in keeping their feet warm while resting. Thoughts of frozen feet and gangrene plagued them. To combat cold feet they rested or slept with both shoes and socks on, wearing their mukluks or shoe pacs or with their feet wrapped in extra layers of parachute cloth.

CLOTHING

The comment "inadequate clothing" occurs so frequently in the survival stories that proper clothing discipline was obviously lacking. The men wore whatever clothing they wanted for the flight; when an emergency occurred they often suffered from their poor choice

unless additional apparel was carried in the plane dropped to them later.

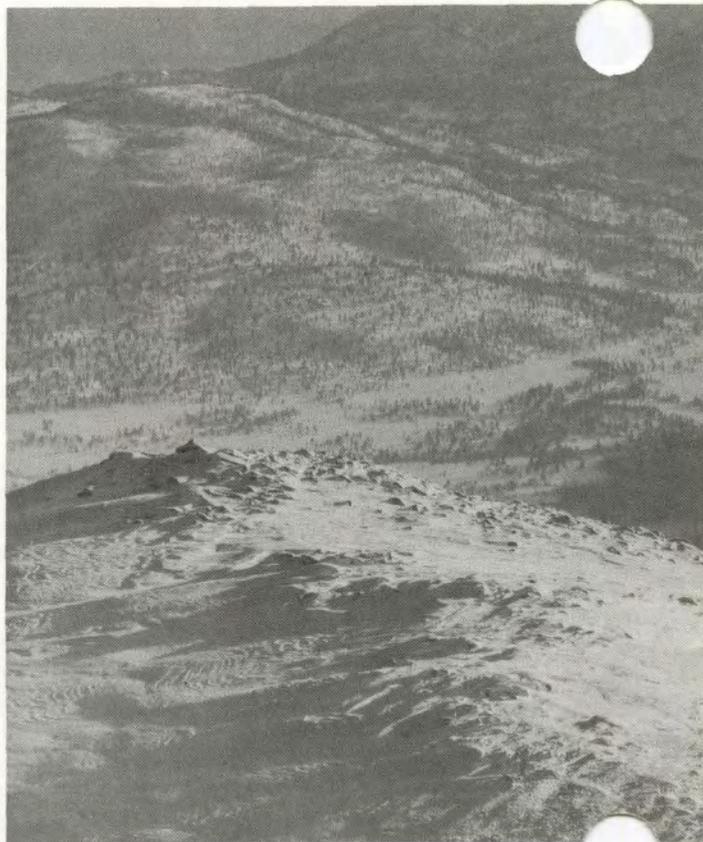
Wool clothing, summer underwear, coveralls, and flying jackets with gloves, helmet, low shoes, and flying boots of some type comprised the typical clothing of most survivors. Only a very few commented that they flew suitably dressed for the experiences which followed; they were carefully prepared either through previous emergency experience, Arctic indoctrination, or just considerable thought on the subject.

Most of the comments on clothing concerned footwear. Gloves were not mentioned except for the remark that they got wet. Hats were mentioned only once by a survivor, who reported he made one out of the fur collar of his flying jacket.

Clothing in several thicknesses was preferred so that layers could be removed while working or walking and put on during rest stops and in the cooler hours of the day. The one-piece flying suit for emergency Arctic living caused much caustic comment. It made access to pockets difficult, had to be removed for body functions, tended to be binding for normal activities, and did not supply enough protection. The few comments on exposure suits indicate these were generally used only for sleeping.

Proper footwear was the exception rather than the

TAC aircraft fly over terrain like this regularly.



Leather oxfords, combat boots, high-top leather shoes, and tennis shoes were all mentioned as inadequate or unsatisfactory. Shoes were soon replaced by flying boots, supplemented inside or out by layers of burlap, parachute cloth, or tarpaulin, and insulated with fiber, straw, moss, or excelsior. Most of those who mentioned mukluks approved of them as ideal footwear for Arctic emergencies. They praised their convenience, comfort, and insulating properties when properly used. One man thought rubber footwear possibly the most practical because snow wouldn't stick to it. Leather footwear tended to freeze and was described as like armor, concrete, or rocks.

Emergency repairs to clothing usually were made with pieces of parachute or tarpaulin sewn with unraveled shroud lines. All the men praised the parachute as emergency material and valued it highly. All groups carried one or more parachutes with them, and every individual saved whole or selected parts of parachutes for shelters, bedding, insulation, repairs, and clothing.

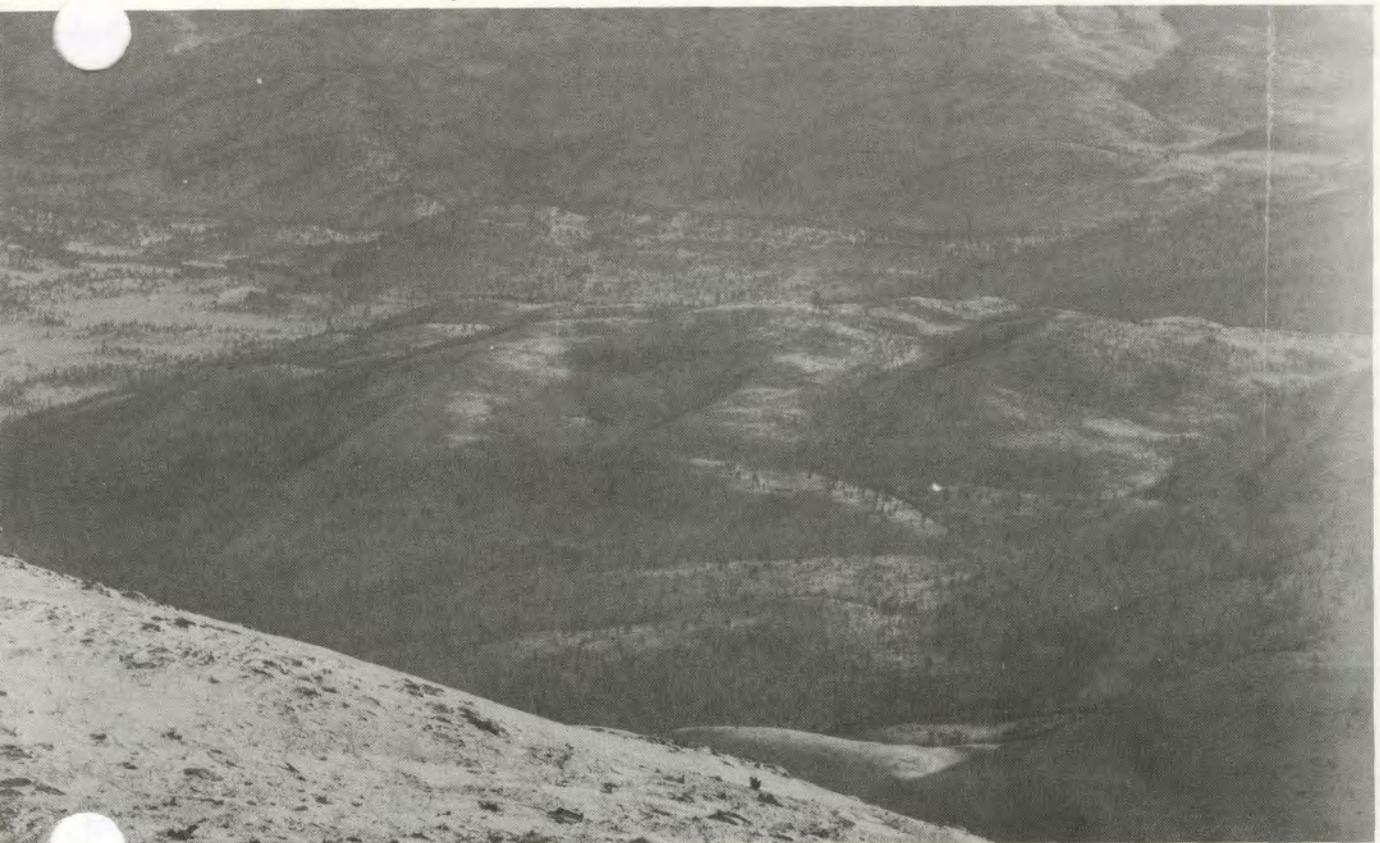
WATER

In spite of the abundance of ice, snow, and water almost everywhere, many of the narratives mention

problems and difficulties in procuring drinking water.

In the freezing temperatures of winter, obtaining a water supply became a more serious problem. After landing his plane on a frozen lake, one man chopped a hole through nearly 3 feet of ice to get drinking water, which froze in his canteen cup almost immediately when brought into the air.

Snow is not as satisfactory a source of drinking water as ice, yet many survivors used it. Two injured men were dependent for water on the snow they could reach through the plane window. Various men who ate snow reported that their hands, lips, tongues, and mucous membranes were soon chapped, cracked, and bleeding. Snow proved unsatisfactory in other ways. Many reported, "No matter how much snow we sucked we couldn't quench our thirst." At least 10 men complained that eating it caused a burning sensation in the throat. One man noted that he and several other members of his party who ate snow directly or drank it melted suffered from diarrhea. In others, it caused severe gas pains and belching. They discovered that snow is difficult to melt and that tremendous quantities must be heated to supply even a small amount of water. Many concluded that melting snow is not worth the effort, for drinking water can be obtained from ice with less energy and fuel.



...survival...

Both ice and snow had to be melted for drinking water in containers. The men found it best to save one container for melting ice alone, because of the difficulty in cleaning those used for cooking or other purposes. One observant lad noted that a solid block of ice melted as quickly as small cubes or shaved ice. Several mentioned that if the water was allowed to heat a little after the ice had melted completely it kept better and provided a more satisfactory drink than when only slightly above the freezing point. Drinking water was kept in thermos jugs or canteens.

Some men noted that a constant water supply could be easily maintained by adding ice and snow as needed to a container of water in their shelter.

CONCLUSIONS

It should be obvious from what you've read so far, that your physical condition and dress may well determine how you return to civilization . . . or if you will. Such things as injuries, the length of your ordeal, the environment you are deposited into, and other variables will certainly have a bearing on the outcome but you have no direct control over these things.

Our experience in TAC along these lines is about nil. We have one known survival tale in the past few years, and it turned out to be a bad example. The crew of a two-seat fighter from a southern base had to eject about seventy miles from home over mountainous terrain. One man was fatally injured, the other landed on a mountain around

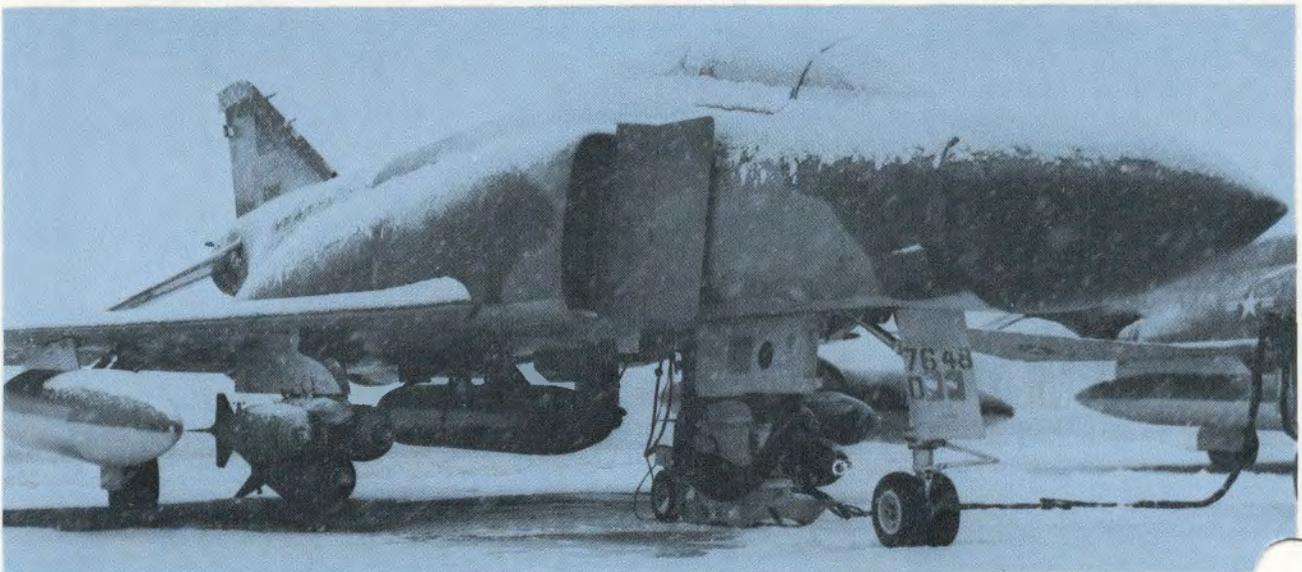
the six thousand foot level. The survivor was dressed for a chilly spring day in a summer flying suit, summer fly jacket, and G suit. The temperatures during his "survival training" ranged between twenty and thirty degrees with a wind averaging about twenty-five knots.

He ejected about four in the afternoon and had thirty minutes of daylight remaining. He used his radio to transmit a mayday call but got no reply. Then he decided to follow some telephone poles hoping to reach a ranch house. He abandoned his insulated life raft and began walking. About nine that night he wrapped up in a reflectorized survival blanket and his parachute, to spend the night. It was cold. He lit a candle occasionally to warm and dry his hands and feet, it snowed all night. After daybreak he saw a rescue helicopter and directed it to him by radio, he was picked up fifteen hours after ejection.

Our TAC pilot was lucky — or perhaps he had that ultimate faith in immediate rescue. He certainly proved his faith in the rescue troops by leaving his winter flying gear and long johns at home. But had that snowstorm continued, he could have spent the rest of the winter on that lonely peak. And for those of you who fly the big ones — an injured man can place a heavy burden on the rest of the crew, how stands that union before flight? Are you prepared to take care of your own? If you can't take care of yourself . . . the injured will have to stand alone. Not a nice thought, is it?

Before you leave home for that next flight, give some thought to where you're going and what you'll do, and what you will be flying over. It's important because, although experience is the best teacher, the cost of tuition may be prohibitive . . . it may take all you have. →

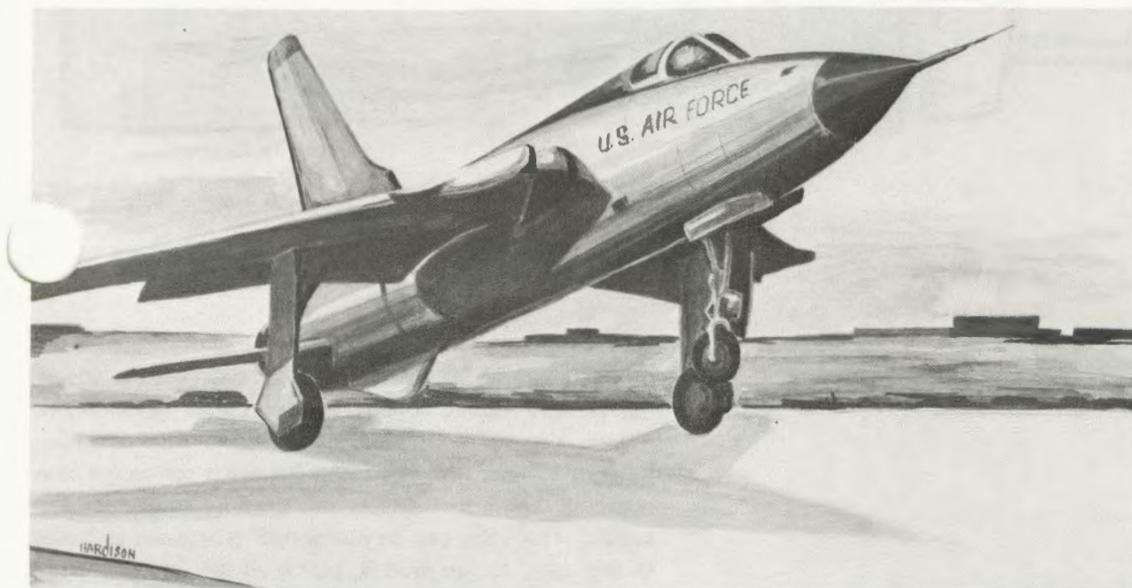
If you'd get chilly preflighting this bird you are wearing the wrong gear.



Pilot of Distinction

Pilot of Distinction

Major Standerfer



Major Ronald G. Standerfer of the 177 Tactical Fighter Group, 108 Tactical Fighter Wing, Atlantic City, New Jersey, has been selected as a Tactical Air Command Pilot of Distinction.

Major Standerfer was flying number two position in an F-105D on a formation GCA missed approach when his engine flamed out. Gear and flaps had just been retracted and the aircraft was 200 feet above the ground at 240 knots. He immediately zoomed to gain altitude and simultaneously attempted a restart using the emergency system. As decision altitude and airspeed for bailout approached, the engine compressor stalled violently several times and then began to accelerate. By matching title position with the actual RPM he was able to bring

the engine under control and accelerate to military power. Major Standerfer terminated the zoom maneuver at 600 feet because of low airspeed and heavy gross weight at flameout. Notifying his instructor pilot of his difficulty he began a turn to a downwind leg for an immediate landing. He landed the aircraft without further incident. Investigation revealed that internal failure of the main fuel control caused the engine flameout and made restart possible only by using the emergency system.

Major Standerfer's outstanding airmanship during this critical inflight emergency, with less than six hours in the F-105 aircraft, readily qualifies him as a Tactical Air Command Pilot of Distinction.

spo's corner



THUDS

This one's a little different! The pilot landed with utility failure (ATM off the line) and went off the side of the runway during rollout with complete wheel brake failure. Yes, he had pulled the emergency brake handle, but not far enough. The brake handle is connected to a hydraulic valve that selects the pressure source for the system. This valve can be positioned in-between as it was in this case. If you need it, pull it all the way out — it's only a two inch throw.

Many PACAF machines have now been returned to the States. They don't have the trailing edge flap interconnect shafts as our TAC birds do. Therefore, the full split flap potential is back among us and can cause you the same grief reported by PACAF recently. The final fix, TCTO 1F-105-1126, will install a new, reliable flap synchronizer and remove the interconnecting shafts. However, this installation won't get underway until January 71 at the earliest. Until they're all modified, be sure someone doesn't slip one of these beauties in on you . . . and keep boned-up on your split flap emergency procedures.

MAJ F.N. FRIZZELL
F-105

F-4 NOTES

A sincere "thank you" to the good people of the 33 TFW for their gracious hospitality and assistance during my recent refamiliarization training in the F-4. Flying the Number One bird again was a great thrill. Incidentally, I found the F-4 is much more stable and controllable than my Large Steel Desk . . . it doesn't fly at all, except for an occasional flat spin. The opportunity to fly the F-4 also brought me up to date on some of the problems of the weapon system. For one thing, it was the first time I had strapped on the Mickey Mouse leg restraint system.

Few people will argue that the dual garter leg restraint system is operationally unsuitable. The various deficiencies are well documented and efforts are being expedited to find a solution. Two projects are underway. ASD is developing a single garter system which is incorporated into the G suit. While this proposal solves many of the existing problems, it may result in an overall decrease in total leg restraint which could be a factor during high speed ejections. The ultimate solution might be the other proposal under work; magnetic leg restraints. This system eliminates all garters and lines and appears to be an outstanding solution. However, development and testing is yet to be completed.

Expeditious development will continue. However, retrofit of the final product is down the road and we have no choice but to live with dual garters as effectively and gracefully as possible. The Dash One outlines how the system will be worn. Deviations from these instructions or a lack of respect for the problems within the system can only be termed, "asking for it."

Winter weather generally brings on less desirable flying conditions. Some call it hairy. The situation can really promote gray hair if the air conditioning system fogs out the inside and outside references. Of course, everyone knows the trick is to avoid cockpit fogging by keeping the temperature uncomfortably hot and the defog well up. It's commonly referred to as the parboiled approach, but it's effective. In case this technique doesn't work — almost immediate relief from cockpit fogging can be gained by pulling the vent knob. The air conditioning system can later be restarted and dried out under less demanding flight conditions.

The ADI failure rate is up which makes me pretty nervous. Although we have help on the way (standby ADI retrofit starting in March 1971), this item bears special

attention. It should be clearly understood that the ADI instrument is a "fly until failure" item. Since there is no time change, we will have many failures in the future. While I disagree with this operational concept, the supply and repair system can't support a time change requirement at the present time. It certainly behooves everyone to be very critical of the attitude reference system and use inter-cockpit coordination to avoid flying a bad instrument into the ground.

MAJ D.E. WALLENTINE

F-4

GOOD GUYS DON'T ALWAYS WIN

Our story is about a young pilot one year out of pilot training. Due to Air Force requirements and computer programming he was earmarked for airlift duty upon graduation from flying school. Over the months, by being professional, he did well and moved up in the multi-engine pecking order to success. In fact, he was identified as the squadron's hottest whizz on the checklist and radio procedures. It was nothing for him to read the checklist, clear number four engine for start, and copy the ATC clearance all in sequence. Through his hard work, personal sacrifices, and squadron backing he upgraded to aircraft commander in minimum time. "Man, who said they don't reward the good guys!"

He's in his first month of assigned aircraft commander duties. That first ride was no sweat and now on this third or so mission with a former copilot buddy, this aircraft commander duty is becoming a piece of cake. At this point you might ask an important question, "Can our young aircraft commander continue the professional performance he has shown, or will he let it slip a little?"

The majority of the young aircraft commanders go on

SPO's CORNER

to bigger and greater things. However, as in everything in this world a few don't seem to get the word. Let me give you a couple of examples.

In the first case an AC was allowing his copilot to fly the aircraft during an IFR approach and landing. The approach flown was TACAN, and radar monitoring was not requested. The approach and let down were normal until the aircraft commander suddenly realized the aircraft was below minimums and called "go around." The crew observed a tree pass underneath the aircraft and felt a bump. On the ground it surprised no one that the aircraft had tree marks and damage.

The second case was the same story with different players. For you sports fans reading this, the Herky crew was racing with a rain shower. It was a great race from what I hear. Out of the west the wall of rain was dashing toward mid-field. Out of the north the Herky bird was pushing above normal landing speeds, to compensate for the gust factor and cross wind component, of course. I'm sure even Thor was proud of the fighting spirit shown that afternoon.

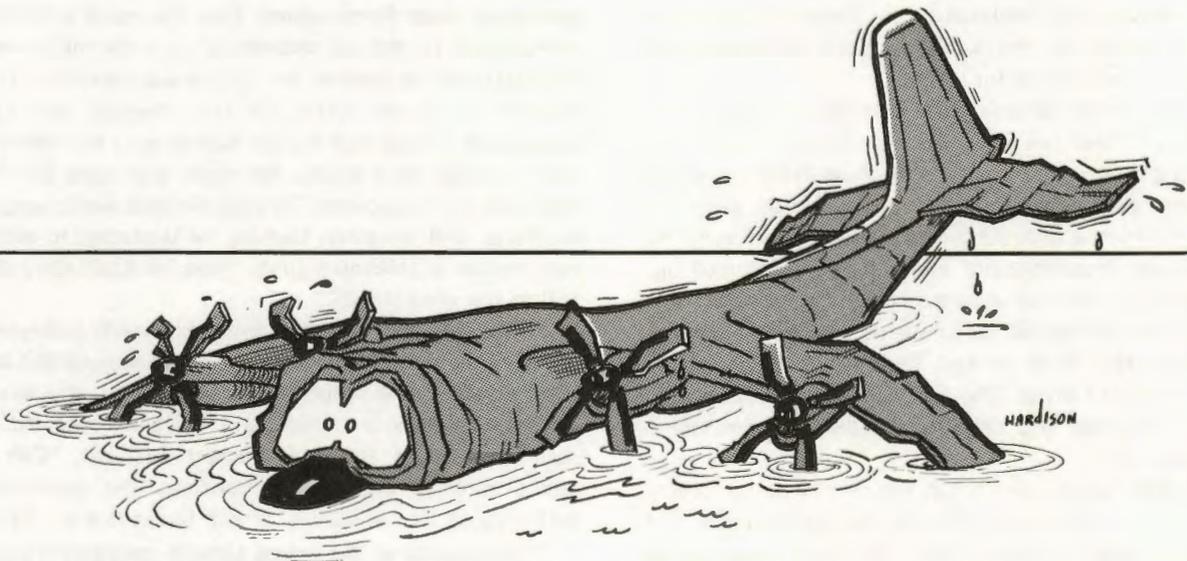
When the commotion on the runway stopped, there lay a four fan aircraft missing two fans. The rainstorm was last seen splashing across the country side as if nothing

had happened. The crew was standing around the broken airframe with water up to their ankles.

Our commanders, along with the operations and standardization sections, have taught us the need for predictable performance to ensure the completion of airlift missions. They have stressed the responsibility each aircraft commander has during the long shuttles halfway around the world away from direct home assistance and solutions to problems. It's a fact in airlift, you've failed if through unprofessional acts or aircraft damage the mission was uncompleted. There is plenty of information available on how to act as an aircraft commander. So let's use it before we get additional and more restrictive guidance.

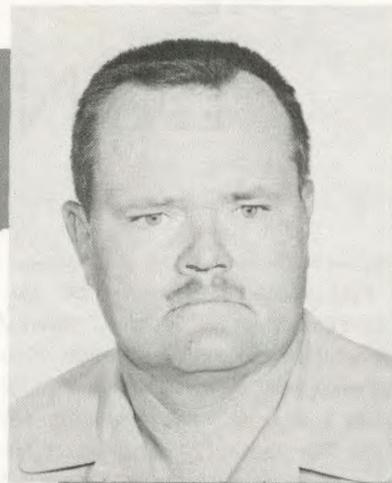
Don't play good guy . . . just keep it professional.

MAJ R.D. PEDERSEN
C-130



Tactical Air Command Crew Chief of the Month

Staff Sergeant Thomas W. Atkinson, USAF Tactical Fighter Weapons Center, Nellis Air Force Base, Nevada, has been selected to receive the TAC Crew Chief Safety Award. Sergeant Atkinson will receive a letter of appreciation from the Commander of Tactical Air Command and an engraved award.



SSgt Atkinson



Tactical Air Command Maintenance Man of the Month

Staff Sergeant Kenneth L. Whitaker, 47 Tactical Fighter Squadron, MacDill Air Force Base, Florida, has been selected to receive the TAC Maintenance Man Safety Award. Sergeant Whitaker will receive a letter of appreciation from the Commander of Tactical Air Command and an engraved award.



SSgt Whitaker

THE

LONG REACH

"...give the R/T

You reach out and pick up this VIII Fighter Commander tactics "Manual" dated 29 May 1944 with a respect bordering on reverence. You scan pages eagerly and recognize pictures of the fighter pilot contributors, names and faces ranking among our country's greatest World War II aces. The acronyms KIA and MIA appears all too often in their brief "biogs." You marvel at the obvious youthfulness and their friendly smiles, realizing that they have learned much about flying and compressed a lifetime of air battles into a time period of months, not years. They are trying to "reach," to teach, to impress those follow-on generations of fighter pilots who must follow them, and are as yet untrained in aerial combat maneuvering. They recount experiences, tactics, and pilot techniques proven in aerial battles beginning as mass formations in crowded skies and ending in single-ship or element versus element hassels. Not all of their tactics and techniques still apply, some are now impractical. However, they do present and show surprising agreement on some fighter pilot fundamentals. We think you will learn much in reading their personal accounts about flying "into the wild blue yonder," and respect the contribution they have made to a proud profession: the fighter pilot!

By Lt Col Horace G. Craig
56th Fighter Group
P-47



to the pilot who is actually engaged and needs it..."

In reply to your letter I submit the following informal brief of combat tactics which are in every respect very general and have been published in different forms many times previously. I can only discuss tactics as I encountered them, which are only my own views and are open to the criticism of others.

As an introductory statement, I trained several small units of new pilots after I completed my tour and noticed that their training had lacked discipline as soldiers as well as air discipline. I make such a statement on the grounds that new pilots should "listen" and ask questions to try to learn, instead of starting to dictate after a mission or two. When not training or flying actual combat, new pilots should be learning their equipment and constantly maintaining a higher standard of proficiency rather than the lackadaisical attitude, which can so easily jeopardize the efficiency of a combat organization.

Before answering your individual questions, I will make a brief summary of our formation and tactics, as they differ greatly in every unit.

Our takeoffs were in ships of two's, using two runways for quicker scrambles. Immediately the flights of four's closed in to a Vickers V formation, and the flights as well closed in to three Vickers V formations to form the squadrons which orbited to the desired altitude in this manner and on into enemy-occupied territory. This type formation is maneuverable and very good for bad weather flying, saving fuel, prevention of accidents, keeping compact formation, etc. As the group set course for enemy territory, the squadrons kept well abreast and about a mile apart slightly above the lead squadron. When the group reached enemy-occupied territory, the group leader gave the signal for battle formation, which spread the squadrons slightly out and the flights out 600 to 800 yards. Each man in the flight stacked out to the sides and not dead astern, so the flight leaders can keep accurate check on each ship. This battle formation is maintained at all times over enemy territory and until a safe distance from home bases with each man constantly on the alert.

Now to follow your letter and make a statement to each question as I would do it and to add any further comment I might think useful at the end of this letter.

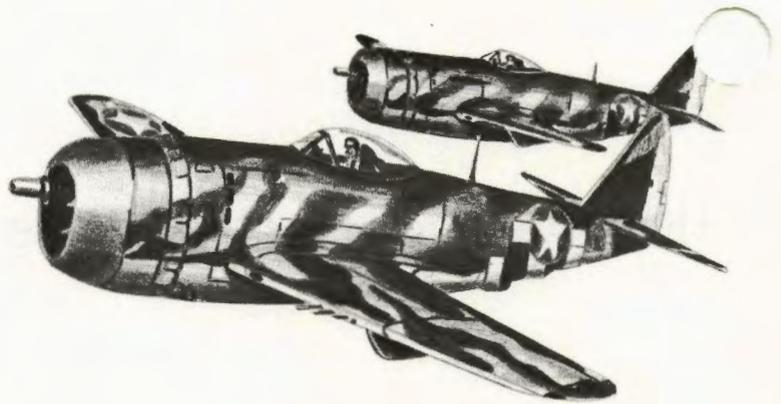
DEFENSIVE

When attacked by enemy aircraft the main objective is to break into the attacking aircraft and get on the offensive immediately. To stay on the defensive means defeat to part or all of the formation; so I would climb the formation trying for every advantage to gain a point where a successful attack could be launched. Once a turn is started in an engagement it is of the most importance and safety of the individual pilot to remember, NEVER REVERSE YOUR TURN. It has been my observation that a great majority of the victories of my unit were made good when the enemy reversed the turn allowing an attack to be made from dead astern without the slightest deflection. When attacked always be aggressive; and if decidedly outnumbered and the offensive cannot be gained, I would then, and then only, hit the deck for home.

In any engagements, offensive or defensive, take advantage of favorable conditions, clouds, sun, etc. Launch your attacks from up sun. When the enemy aircraft least expect it, if possible. Your position, and the element of surprise, initiated during the attack, mean everything. Never allow yourself or your formation to be placed in such a manner that you do not have at least one sure plan of withdrawal.

When engaging vastly superior numbers, do so with as many planes as possible; and remain on the offensive with plenty of aggressiveness. When you lack offensive aggressiveness, get out in as compact a formation as possible until you can gain an advantage point. It is my estimate that one friendly plane operating against the enemy can be of more value later when you have the advantage, rather than not admit defeat and lose several planes foolishly against superior equipment or odds of one

the LONG REACH



particular combat.

If caught on the deck get as many objects between you and the attacking enemy aircraft with as much speed as possible, always in the direction of your home base.

OFFENSIVE

When on the offensive use every element in your favor against the enemy as long as possible. To say the least, be aggressive at all times.

During an attack have your men stacked out to the sides so you can account for every plane. Wingmen are definitely for cover only of their leader's tail. Place your formation to block and attack every possible means of escape available to the enemy aircraft, making sure you are not being tricked. The common trick of the enemy — to place a decoy with a main force still in the sun — has worked on numerous occasions with men who bounced first and looked afterwards. If you have sufficient planes available, take care of the decoy. Otherwise, maneuver into position to attack the main body and let the decoy go.

It is useless to fire great deflection bursts. Maneuver and orbit until you are certain not to over-shoot the enemy aircraft and so you can get a dead astern shot at the proper range. The closer the better! Only engage the enemy when you have a definite picture of the present surroundings and aircraft that can participate in that particular battle. When you lose the advantage, break away before you lose your formation and always break into the sun straight up. There may be planes there you did not see and you can cover all the other areas fairly well. After the attack be sure to join, regardless of your rank or position, the largest number of friendly aircraft so that you still can withdraw in force and help others who are less fortunate. Never allow yourself or your formation to become scattered over too large an area.

The attack should be launched by the leaders of the

formations or flight leaders. For any man just to peel out of the formation and attack is fool-hardy! Always announce your intentions so the remainder of the formation can give cover, as you are briefed and trained to do.

It is a bad practice to engage enemy aircraft while still carrying belly tanks or to keep the tanks when an attack is about to be launched against you. In my opinion tanks should be released when exhausted. (Circumstances may make different action mandatory.)

It is the duty of the individual pilot to know his geographic features very well and other military maps in case there are adverse conditions and he is forced to return alone. The individual pilot should know his equipment so that he can get the best efficiency, endurance, speeds, etc. Never ditch a fighter-type plane. Bail out, especially over water. Over the friendly coast, if possible, try a belly landing.

Last of all, and a most important factor is the use of the R/T. Know exactly what you are going to say before you press the button, and know when and which button to press. If you are in command and give an order, do so with assurance so that you do not convey to others that you are not master of the situation. If it's wrong, go through with it. That is better than changing horses in the middle of the stream. Call in only aircraft that you can identify as ones that appear to be enemy within attacking range. Never cut others out on the R/T; neither of you have accomplished anything. Most important of all, give the R/T to the pilot who is actually engaged and needs it; you may save his life. Remember it could be you!

In conclusion, I advise each individual pilot to keep trying to maintain a higher standard of proficiency at all times. When you get too good to learn and listen to experience, you will soon meet with someone who is just a little better — and he is always present, no matter what the task. ➤

"I WANT A NEW PLANE"

Naval Aviation Camp,
Annapolis, Md.,
July 25, 1913

No. 454-AC-H-13.

Captain W.I. Chambers, U.S. Navy,
Navy Department,
Washington, D.C.

My Dear Captain Chambers;-

Lieutenant Smith and Ensign Chevalier made a flight in the flying boat, with one of the new CX motors, to Old Point Comfort, Va., on the 22nd. In starting back they disabled the machine and wired for spare parts. No details of the accident have been received, but they asked for a complete lower wing and flippers. These were sent them by express. A message was received to-day saying that the weather was too bad to start back.

My machine, as I told you and as Mr. Towers probably told you, is not in my opinion fit for use. I built it from parts of the Burgess F and Wright B, which are not exactly alike and nothing fitted. I had to cut off and patch up parts and bore additional holes in beams in order to make them fit. The engine bed, made by Burgess, was not exactly square with the front beam, so the engine had to be mounted a little out of true (with reference to the engine bed). I have made over two hundred flights in this machine and recently, in spite of unusual care of myself and men, something seems to vibrate loose or off a majority of the flights made. One of the propeller shafts is the same one used with the Gyro motor in the old machine. It is the only left hand shaft here. While the engine runs smoothly, it does not deliver nearly as much power as when it was newer, and even then, it did not have enough power to fly safely in any but smooth weather. It is impossible to climb over a few hundred feet with a passenger. The whole machine has just about served its usefulness and I would like very much to have a new machine of the single propeller type. Lieutenant Arnold, of the Army, after seeing the machine run and examining it, said that none of the army fliers would go up in it. Will you kindly let me know what the prospects are for my getting a new machine.

Respectfully,

Alfred B. Cunningham

TAC TIPS

...interest items, mishaps

CALL SIGNS

The requirement for control and rotation of aircraft call signs has been with us for a long time. Occasionally, words crop up that tend to cause confusion in our operations or test our mettle in sorting out tongue twisters. For example, last summer a unit operating out of a busy civilian airport was given UNITE as a call sign. Since United Air Lines also used the facilities, you can imagine the confusion that ensued.

If something like this occurs to your organization, you should know there is relief from AFKAI-I assigned call signs. A request for change to the TAC Communications and Electronics Call Sign Branch (DCOCF) will take care of your problem — pronto.

ADI

Takeoff, climb, and initial cruise were normal. Later when the F-4 was rolled to a 30 degree bank, the front attitude indicator froze in that position. Pitch and azimuth indications were normal. Standby was selected and the ADI recovered, rear seat indications were normal. Shortly another bank was entered, now the ADI was frozen straight and level. This time, switching from standby to normal corrected the problem — and there was no corresponding malfunction in the back seat. The mission was completed with the back seater relaying all his attitude indications to the front seater. When deviations were noted the reference selector was switched to the other position, in every case this freed the ADI from its frozen position. The aircraft was landed at another base and after extensive maintenance the discrepancy had apparently been fixed. During the flight home the ADI again froze and the crew went through the

same drill. Steady state turns for longer than 15 seconds resulted in a stuck ADI.

In less than five months this unit had experienced 16 ADI failures similar to this one. All attitude indicators involved had recently been overhauled, six newly overhauled attitude indicators failed bench check prior to installation! That's some record, isn't it? This unit considers ADI failure the highest accident possibility — with that record, who wouldn't?

DOUBLE TROUBLE

On the approach for landing the Herky's gear and flap extension was slower than normal. Utility system pressure looked okay. After landing, the crew checked the bird for signs of hydraulic leaks, but found none. On engine start, number two's hydraulic pump indicated low pressure on the first check and then stabilized within limits. Gear and flap retraction were timed after takeoff and found out of limits. Utility system pressure still looked good. About 20 minutes later, hydraulic pressure read 2800 psi. They checked the hydraulic suction boost pump and discovered it wasn't running. The controllable check valve on the return line from the suction boost pump was shut off because the crew suspected hydraulic fluid supply line contamination and failure of the corresponding suction boost pump.

Fifteen minutes later, number two's hydraulic pump low pressure warning light flashed on. Number four's pump switch was turned off to verify the failure. Following that, they shut down number two engine.

During descent a new problem popped up. Number one's throttle couldn't be retarded below 790 degrees turbine inlet temperature. So they decided to shut down number one engine after gear lowering on final. With One and Two props standing at attention, the pilot made

with morals, for the TAC aircrewman

50-percent flaps approach and landing. His utility system pressure, nose wheel steering, brakes, and antiskid system worked okay.

Hydraulic system specialists couldn't duplicate the crew's inflight indications of number two hydraulic pump failure. However, they found the utility suction boost pump manual shutoff valve handle installed 90-degrees left of its proper position. This could explain the slow gear and flap travel. It had been replaced just prior to their first takeoff.

The number one throttle hangup was caused by a loose hydraulic dry bay access panel. They couldn't identify maintenance personnel responsible for the improper installation of the panel. But they're hoping that two maintenance errors per aircraft are the max allowable on any one flight.

FAST ACTION

The Gonney Bird flight engineer reported strong hydraulic fluid fumes just after takeoff. He informed the pilot of the leak and he lowered the gear handle immediately. His gear lowered before hydraulic pressure reached zero and it stayed in the green through landing. Hydraulic specialists found a flare on the hydraulic line leading to the landing gear pressure gauge worn thin. It slipped out of a "B" nut and dumped all hydraulic fluid in a hurry. Fortunately, crew reaction was faster.

ADI-AGAIN

Throughout the last half of the flight the rear cockpit attitude indicator showed a 10 degree dive despite efforts to correct it. The front cockpit system worked fine. After ing the aircraft commander switched the reference

system selector to standby... both attitude indicators went to a 30 degree dive and 15 degree left bank indication.

... AND AGAIN

While in a holding pattern at 30 degrees of bank, the ADI suddenly erected itself to a level flight indication. The HSI developed a heading error of 30 degrees. Switching from primary to standby had no effect. Rear seat indications throughout were normal. Within a minute the ADI corrected itself and worked normally for the rest of the flight.

... AND ONE MORE TIME

At 8000 feet, 320 knots, a port turn was started. At 30 degrees of bank the ADI still said straight and level. Standby was selected, nothing changed. After several cycles between primary and standby the ADI began working in all modes. The rear cockpit indications were normal at all times, no off flags were noted.

DOWNWIND DID IT

The C-7 pilot unloaded his cargo pallets and requested a downwind departure to get airborne with minimum ground time. At the end of the runway he encountered two F-4s completing their landing roll. As the Phantoms headed for the dearming area they taxied past the Caribou, drag chutes trailing behind. One chute snagged the airlifter's left outboard flap and pulled a hinge loose. That delayed the C-7's expeditious departure. Operating against normal traffic flow is now on emergency-situation-only takeoff. Taking off downwind can spoil your day in many little unpredictable ways.

PMV Accident Prevention..



.....A TEAM EFFORT

by Mr. John D. McColman
Hq TAC, SEG

A recent Headquarters TAC Safety Survey of the 4500 Air Base Wing here at Langley brought out some interesting facts about our Private Motor Vehicle Safety Program. We found it was well implemented and those people immediately involved were "with the program." This included Commanders, monitors, team chiefs, members, Safety Councils and Traffic Safety Coordinating Groups. But the rest of us, those not directly involved in the program (including your friendly editor), had little more than a cursory knowledge of the program. Some don't know it exists. It's to this last group that this article is directed because we think the program is a swinger — because it works. And it will work a lot better with the full support of the entire command.

For the past several years TAC's PMV rates have been consistently higher than the Air Force and national rates. The ratio of fatalities to injuries, responsibility, single vehicle accidents, and alcohol involvement reflect about the same picture as the national average. It's in accidents, injuries, and fatalities that we're ahead. In 1969 TAC had a fatality rate of 49 per hundred thousand personnel while the national rate was 28. These figures, however, don't

reflect the whole story. National Safety Council reflects all ages. The young and old — male and female. TAC counts only the Air Force number, so we're not doing well. The average age of a TAC fatality is 26 with the youngest at 19 and the oldest 41 so far in 1970.

Why were Air Force members involved in so many accidents? What is there about them that makes them more susceptible than other Americans? It's not because they are far from home and driving great distances to and from home. Our statistics indicate that nearly two-thirds of the accidents occur within 15 miles of the base and three-fourths occur within 25 miles of the base. Perhaps it is the lack of restraints applied by the family at home, maybe it's a break down in discipline.

Personnel in grades E-1 through E-3, representing approximately 28 percent of TAC's strength, are involved in 34 percent of the accidents and 31 percent of the fatalities. Grade E-4 represents 25 percent of the strength, 35 percent of the accidents, and 29 percent of the fatalities. Grade E-5 represents 18 percent of the strength, accidents, and fatalities. In grades above E-5, involvement drops sharply (see chart). Approximately 65 percent of the reportable accidents occur within 15 miles of the base.

The PMV program was designed to encompass E-1's through E-4's (involved in 70 percent of the accidents) as team members with E-5's as team chiefs; E-5's repres

the next largest involvement (18 percent).

In the summer of 1967 the PMV program began in the form of TACR 127-3. The regulation has been revised twice and the current issue is dated 13 October 1970. The idea was to assign to PMV teams, personnel in grades E-1 through E-4 who possessed a valid state driver's license, with personnel in grades of E-5 or above as team chiefs. Team strength was restricted to 3 – 10 members. By appointing the E-5's as team chiefs, the personnel most involved in PMV accidents were included by the program. PMV teams are required to meet twice a month and to record the dates of the meetings, topics discussed, and members present. The regulation also directs that the PMV team chief should inspect the automobiles of his members at least once each six months. It was understood that the team chief would not necessarily be a professional at inspecting automobiles, but the idea was to have a meeting of the PMV team member, his automobile, and his team chief. Any mature and conscientious individual can observe an automobile and determine its general safety condition. If work or new tires are needed the PMV team member can be encouraged to get this accomplished.

The team chief should be the team member's supervisor if possible. The job need not be a laborious task. He is required to maintain a file on each member. He should create a team atmosphere by motivating the members to contribute to the team's safe PMV record. He should keep his team informed of local traffic laws, licensing, inspection and insurance requirements, and current driving hazards. He must be aware of any driving

violations committed by his team members. The PMV team chief is our KEY MAN.

Within the program are the PMV control units. There should be at least one control unit established in each squadron with a control unit chief in the grade of E-7 or above in charge. A PMV control unit should never have more than six members assigned and in many cases will have none. Personnel assigned to PMV control units will be drivers who have shown they need close control over their driving activities. There is no grade restriction for assignment to a PMV control unit. Personnel should not be assigned to a PMV control unit for more than 90 days.

The PMV program at each base is directed from the ground safety office through PMV team monitors in each organization who oversee activities within their unit. Material for use in the PMV team meetings is prepared by the Office of Safety at TAC and the base safety offices. There is no limit or restriction on what can be used as long as it promotes safe driving conduct. Some items that are readily available are TAC SALs, the USAF DRIVER magazine, the National Safety Council TRAFFIC SAFETY magazine, TAC ATTACK, and many other publications that relate to safe PMV operation.

One of the greatest frustrations that a safety man encounters is his inability to measure his successes. He can only count his losses. Therefore, he relies on rates and trends. Since the inception of the PMV program, TAC's rates and trends have decreased in the face of mounting fatalities and rates at the national level. The program is working – we need the help of every one to keep it rolling.

COMMAND STRENGTH

E-1-E-3 28%	E-4 25%	E-5 18%	E-6-E-9 17%	O-1-O-6 12%
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ACCIDENTS

E-1-E-3 34%	E-4 35%	E-5 18%	E-6-E-9 8%	O-1-O-6 5%
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FATALITIES

E-1-E-3 31%	E-4 29%	E-5 18%	E-6-E-9 16%	O-1-O-6 6%
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CHOCK TALK

...incidents and incidentals

Dual Rail Foot Trap

We haven't had one of these for a long time so here's a reminder. About a year ago three people were hurt seriously in mishaps concerning sliding pallets in C-130 aircraft. In each case a person other than the loadmaster was assisting during speed-offloading.

The first incident involved a stan-eval engineer and the copilot assisting the loadmaster. Four pallets were being off-loaded, one at a time. As the third pallet was rolling free, the fourth also released and trapped the engineer's right foot. He received lacerations and seven broken bones.

The second incident also involved four pallets, this time two Army troops were assisting. The first pallet rolled free and the pilot was instructed to move the aircraft forward. As the aircraft moved, the remaining three pallets began to roll and caught one of the Army helper's feet. They had a hard time removing the pallet from his trapped feet but he was finally freed and air-evaced. Amputation of one foot was certain.

The third incident was about like the other two but

this time it was the aircraft's navigator who felt the bite. Notice that in each case, no loadmaster was hurt. Each time it was a well-meaning person trying to help. If you don't understand what's going on — don't help. A complete knowledge of primary and secondary speed off-loading procedures is a minimum to qualify you for the task of assistant loadmaster. But if you have to get in among those pallets, keep clear of those rails unless you understand what's going on. Moving pallets is the name of the game . . . but not on people's feet.

Use All The Parts

Following a normal landing, the F-100 pilot felt his bird pull to the left and vibrate. He stopped it for inspection, they found the left main loose and canted five degrees on the axle. No trace of the bearing seal and spacer assembly could be found. This was the third landing since the last tire change.

incidents and incidentals

with a maintenance slant.

No Chute

This F-100 jock landed out of a GCA and pulled the drag chute handle. He waited for the gentle tug but none came. He got on the binders and slowed the bird with brakes only. He was met by the fire department and his maintenance troops who advised him to shut down for hot brakes. They turned blowers on the wheels and after cooling them off, pulled it in. Investigators found the drag chute teleflex cable quick disconnect had separated just forward of the forward teleflex control box. The nut had been saftied. This was the third flight since the aft section had been pulled — the man who signed off the red cross inspection after the bird was put back together is being retrained.

Start Cart

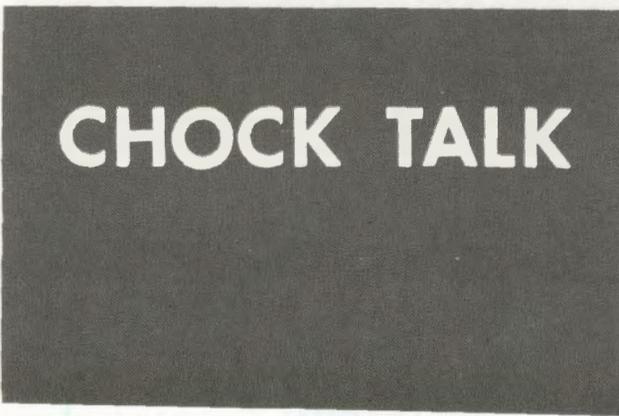
As the number one engine of the F-4 was accelerating through 30 percent, there was a muffled bang and the

crew chief reported a fire in the engine exhaust area. The fire department was called and the ground crew applied fire suppressant to the phenolic seal on door 78. An unserviceable cartridge had been used for the start — its shelf life had expired five months earlier.

FOD

The F-4's right engine compressor stalled when the aircraft commander came out of burner after takeoff. He heard a 'BANG' and saw the EGT rise to 800. The stall cleared when the throttle was retarded to idle, they landed ASAP. Inspection of the engine inlet, vari-ramp area, and the front of the aircraft turned up a missing screw from panel 6R. The pilots were sure it was in place during preflight. More checking revealed that the panel had been removed the day before, and this was the third flight since re-installation. This unit is placing heavy emphasis on insuring that all fasteners are secure . . . not merely installed.

with a maintenance slant....



CHOCK TALK

1970 TAC ATTACK INDEX

1970 TAC Attack Index

<u>TITLE</u>	<u>MONTH</u>	
A-7		
CT - ARMORER TURNS BOMBARDIER	MAR	26
TRANSIENT ALERT AND THE A-7D	MAY	4
TT - GOING TO A-7S?	OCT	20
A-37		
TT - YOU CAN GET IT ANYWHERE	MAY	21
CT - MISSING DZUS DOWNS PLANE	SEP	18
CT - SAFETY PLUG FOULS ENGINE	SEP	19
CT - SAFETY PIN	NOV	15
CT - ENGINE LINKAGE	NOV	15
C-123		
TT - BUM STEER	AUG	28
TT - PART-UP, PART-DOWN FLAPS	AUG	29
TT - BLADE BOMB	SEP	15
TT - DOOR DID IT AGAIN!	OCT	21
TT - GEAR GRIPES	OCT	21
TT - BLADE BOMB	NOV	19
C-130		
TT - GOOD INTENTIONS!	JAN	8
CT - UNFAIR TO GENERATORS	JAN	14
CT - HAMPERED HERKY	JAN	15
TT - I'VE GOT IT	APR	13
CT - NICE GUY	MAY	15
TT - PROP PISTON PROBLEM	MAY	20
TT - OUT OF SEASON!	JUN	21
TT - BRING YOUR OWN BOTTLES?	JUL	15
CT - WAYWARD WIND	AUG	19
TT - PLATFORM PROBLEM	AUG	28
TT - FOUL FOWL	SEP	14
TT - BOTTLE BABY?	SEP	
TT - ONE-SIDED REVERSE	OCT	
TT - A TEMPORARY CONDITION	NOV	
F-4		
TT - HONED HOOKWIRE HOLDS	JAN	8
TT - TO FOG OR . . .	JAN	8
TT - PITY THE POOR PACHYDERM	JAN	9
F-4 WATER EGRESS	JAN	19
BOLD FACE . . . SCHMOL FACE . . . WHO NEEDS IT!	JAN	24
TT - SNAGGING THE BRASS RING	FEB	14
TT - SPURIOUS RUDDER KICK . . . F-4	FEB	14
TT - F-4 GARTERS	FEB	15
F-4 FLIGHT CONTROL SYSTEM - FAULTS AND FIXES	FEB	21
CT - PINS AND WOMEN	FEB	26
CT - CAN'T PUMP AIR	FEB	26
CT - FIRE IN THE HOLE	FEB	27
CT - WIRED FOR SAFETY?	FEB	27
TT - DON'T TRUST 'EM, OLD OR NEW	MAR	19
TT - F-4 EJECTION HANDLE STAYS	MAR	19
STATUS REPORT	MAR	24
CT - FOD - A NEW ONE	MAR	26
CT - SPONTANEOUS INITIATORS	MAR	26
CT - SHORT SCREWS	MAR	27
TT - MORE ON THROTTLE RIGGING	APR	12
TT - WATCH THOSE PINS	APR	12
TT - FIRE IN THE HOLE . . . AGAIN!	APR	12
CT - READ THAT TORQUE METER	APR	18
CT - CHAFING CHAFF	APR	18
CT - UNSHOD PHANTOM	APR	18
CT - FAIR WEAR ???	APR	19
CT - BEWARE OF WHEELS	APR	19
CT - CASE OF THE PHANTOM COTTER	MAY	14
CT - FATIGUE TRAP	MAY	15
CT - STICKY SERVICE	MAY	14
TT - F-4 FLIGHT CONTROLS	MAY	21
THE STOPPING PROBLEM	JUN	4
CT - THROTTLE BOOBY TRAP	JUN	14

F-4 (Con't)

CHAFING	JUN	14
MAVERICK TAKES LOOSE REINS	JUN	14
CT - CREW CHIEF PROMOTES FOD	JUN	14
TT - "RICOCHETED" RADOME	JUN	20
TT - "TWAS THRILLING	JUN	21
F-4 OUT OF CONTROL	JUL	4
DON'T FORGET YOUR G SUIT	AUG	4
AIM-4D	AUG	14
CT - CAPS ON-CHECK	AUG	18
CT - BUTTON 'EM . . . TIGHT	AUG	18
CT - BIRDS, YES . . . BUT BEES!	AUG	19
F-4 EMERGENCY GEAR LOWERING	SEP	4
TT - WANTED . . . LIGHTNING LOCATOR	SEP	14
CT - BE SURE THEY KNOW	SEP	18
CT - ENGINE RIGGERS SET-UP ABORT	SEP	19
WE SEE 'EM LIKE YOU CALL 'EM	SEP	26
CT - LOOSE BREECH CAP	OCT	10
CT - SAY AAAHHHHH	OCT	11
CT - BOOM BOOM	OCT	11
CT - FROM OUT OF THE PAST	OCT	11
TT - GOING TO A-7's?	OCT	20
TT - NO CHECKEE - NO LAUNDRY	OCT	20
THEY SAID IT COULDN'T BE DONE	OCT	24
F-4 NOTES	NOV	21
TT - TELL SOMEBODY	NOV	19
CT - BLC	NOV	14
CT - WATCH THOSE DUCTS	NOV	15

F-84

TT - RICOCHET	MAR	18
TT - IF YOU DON'T SEE IT	APR	13
TT - "KNUCKLE SANDWICH"	APR	13
CT - TOGGLE TUGGING FOR 84's	APR	18

F-100

CT - TORQUE THEM PROPERLY	FEB	27
CT - WHO HAS THE RED FACE?	FEB	27
- CHECKLIST CHECKER LEAVES		
IMPRESSIVE MARK	MAR	27
- SUPER SABRE BRONCHITIS	APR	19
CT - JAMMED FLIGHT CONTROLS	MAY	14
TT - "FOGGED" TECHNIQUE	MAY	21
CT - MAVERICK PANEL	JUN	15
SUPER SABRE SAFETY	JUN	16
CT - ON THE CHIN . . .	JUL	26
PRESSING!	AUG	20
TT - RUNAWAY HUN	SEP	14
HONKER VS HUN	SEP	16
CT - T.W.F.T.	NOV	14

F-101

CT - AVOIDING A HOT TRAIL	AUG	18
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F-104

CT - WAHOO	JAN	14
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F-105

TT - WHAP-WHAP-WHAP	MAR	18
CT - TOUCH RAP	MAY	14
TT - AIRSPEED COUNTS ON THE GROUND TOO!	MAY	20
TT - HOT NICKEL	JUN	20
CT - TOPSY-TURVY BOLT . . .	JUL	27
CT - WHEN IS A TEAM A TEAM?	AUG	19
TT - WHOOPS!	SEP	14
THUD	OCT	4
CT - CLEAN IT UP	OCT	10

O-1

CT - OIL COLLECTION	JAN	14
TT - WAYWARD WIND	OCT	21
TT - AN "S" MAN	NOV	18
TT - TOO MANY "EXCEPT FORS"	NOV	18

O-2

TT - BAD BRAKES, OR BAD BRAKING	AUG	28
TT - NO FAIR	SEP	15
CT - AN O-2 TRAP	SEP	18
CT - FRIENDLY FLARES?	OCT	11

OV-10

TT - APU ANXIETY	FEB	14
CT - DANGEROUS DRAIN	JUL	26

T-33

BEWARE THE TRUSTY "T"	JAN	27
TT - HYPOXIA	MAR	18
TT - CABLES AND DOORS	MAR	19
CT - EAGER BEAVER	MAR	27
CT - T-33 HIGH ALTITUDE BOMBER?	JUL	26
CT - WHERE'S MY BAR?	OCT	10

T-39

TT - BY GOLLY, THEY'RE RIGHT	JUL	14
CT - SHORT FUSE	OCT	10
TT - HAZARDOUS CARGO	NOV	19

U-3

CT - TWO IN A CANOE	JAN	14
TT - MISSED THE BOAT	AUG	29

ANGLE OF ATTACK

FROM ZERO TO SEVENTY!	JAN	3
THE ROOTS OF ACCIDENT PREVENTION	FEB	3
PRIDE AND SUPERVISION	MAR	3
DOES HISTORY HAVE TO REPEAT?	APR	3
THE INDIVIDUAL IS GONE?	MAY	3
JUDGMENT AND EXPERIENCE	JUN	3
"TOGETHERNESS"	JUL	3
LOOKING AHEAD	AUG	3
BACK TO SCHOOL, OR . . . REPEAT PERFORMANCE	SEP	3
ONLY A SMALL STEP FOR SAFETY	OCT	3
GETTING OUT THE WORD	NOV	3
FAREWELL	DEC	3

ATC

TT - UNINVITED ARE UNWELCOME . . .	JUL	14
TO BE OR NOT TO BE . . .	SEP	24

AUTOMOBILE SAFETY

SIGNS OF THE TIME	JAN	30
STAYIN' ALIVE . . . IN PUBLIC	JUL	28

BARRIERS

TT - HONED HOOKWIRE HOLDS!	JAN	8
TT - CABLES AND DOORS	MAR	19
THE STOPPING PROBLEM	JUN	4
TT - HOT NICKEL	JUN	21
WHEN IS A TEAM A TEAM?	AUG	19
NAVY A-GEAR	NOV	8

BIRDSTRIKE

TT - BLOODY, BUT UNBOWED	JUN	20
TT - FOUL FOWL	SEP	14
HONKER VS HUN	SEP	16
BIRDSTRIKE	OCT	22

BRAKE SYSTEM

TT - BAD BRAKES, OR BAD BRAKING	AUG	28
TT - RUNAWAY HUN	SEP	14
TT - USE ALL YOU'VE GOT	NOV	12
CT - T.W.F.T.	NOV	14
F-4 NOTES	NOV	21

COMMUNICATIONS

TT – WOULD YOU BELIEVE?	JAN	9
TT – SPURIOUS RUDDER KICK . . . F-4	FEB	14
TT – NEW SQUAWKS	FEB	14
TT – WOULDN'T YOU KNOW IT!	JUL	14
TO BE OR NOT TO BE	SEP	24

ENGINES

THINK CLEAN	FEB	10
THEY SAID IT COULDN'T BE DONE	OCT	24
TELL SOMEBODY!!	NOV	19

EJECTION AND EGRESS

TT – WELCOME JERK	JAN	9
F-4 WATER EGRESS	JAN	19
TT – SNAGGING THE BRASS RING	FEB	14
TT – F-4 EJECTION HANDLE STAYS	MAR	19
EJECTION SEAT SHACKLE GUARD	MAR	28
WITH IT AND A DIME	APR	26
TT – DOOR DID IT AGAIN	OCT	21

FIRES

TT – TO FOG OR . . .	JAN	8
CT – FIRE IN THE HOLE	FEB	27
STATUS REPORT	MAR	24
TT – FIRE IN THE HOLE . . . AGAIN!	APR	12
CT – FAIR WEAR ???	APR	19

FLARES

CT – FRIENDLY FLARES?	OCT	11
TT – IM-PROP-ER LAUNCH	OCT	20

FLIGHT CONTROL

F-4 OUT OF CONTROL	JUL	4
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FLYING SAFETY

FROM ZERO TO SEVENTY!	JAN	3
DOES HISTORY HAVE TO REPEAT?	APR	3
A SECOND LOOK AT BUZZING	APR	14
LAP BELTS – AGAIN	JUN	22
TT – BY GOLLY, THEY'RE RIGHT	JUL	14
FAT, DUMB AND HAPPY	SEP	12
QUITE A DAY!	OCT	8

FOD

CT – ABOUT TOOLS AND TRUST	FEB	26
CT – FOD – A NEW ONE	MAR	26
CT – ARMORER TURNS BOMBARDIER	MAR	26
CT – CHECKLIST CHECKER LEAVES IMPRESSIVE MARK	MAR	27
TT – WATCH THOSE PINS	APR	12
CT – CREW CHIEF PROMOTES FOD	JUN	14
TT – OUT OF SEASON!	JUN	21
CT – ON THE CHIN . . .	JUL	26
CT – FLAT TIRE EXPLODES	AUG	18
CT – AVOIDING A HOT TRAIL	AUG	18
CT – WHERE'S MY BAR?	OCT	10
CT – CLEAN IT UP	OCT	10
CT – SAY AAAHHHHH	OCT	11
CT – SAFETY PIN???	NOV	15
FOD	NOV	20

FUEL AND FUEL SYSTEM

CT – OIL COLLECTION!!	JAN	14
CT – TWO IN A CANOE	JAN	14
THINK CLEAN	FEB	10
TT – TOO MANY "EXCEPT FORS"	NOV	18

GENERAL

DON'T BE ICKY!	FEB	17
FUNNY PHOTOS	APR	16
WHAT WILL BE . . . WILL BE?	MAY	22
CHECK YOUR EQUIPMENT	JUN	28
ONLY A SMALL STEP FOR SAFETY	OCT	3

GETTING OUT THE WORD	NOV	3
READ ALL ABOUT IT!	NOV	16
I WANT A NEW PLANE	DEC	

GROUND SAFETY

SIGNS OF THE TIMES	JAN	30
HOW TO BE AN IDIOT	JUL	16
BE SEEN	JUL	20
STAYIN' ALIVE . . . IN PUBLIC	JUL	28
CRUNCH	NOV	28
A TEAM EFFORT	DEC	22

GUNNERY

TT – RICOCHET	MAR	18
TT – IF YOU DON'T SEE IT . . .	APR	13
CT – SUPER SABRE BRONCHITIS	APR	19
TT – "RICOCHETED" RADOME	JUN	20
PRESSING!	AUG	21
QUITE A DAY	OCT	8
TREES	NOV	21

INVESTIGATING AND REPORTING

ACCIDENT INVESTIGATION TRAINING FOR EVERYONE	AUG	24
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LANDINGS

DOWNDRAFTS CAN BANKRUPT YOUR FLYING BUSINESS	MAR	4
TT – I'VE GOT IT!	APR	13
TT – AIRSPEED COUNTS ON THE GROUND TOO!	MAY	20
TT – PROP PISTON PROBLEM	MAY	20
F-4 EMERGENCY GEAR LOWERING	SEP	4
TT – NO FAIR	SEP	15
TT – ONE-SIDED REVERSE	OCT	21
TT – WAYWARD WIND	OCT	21
TT – A TEMPORARY CONDITION	NOV	19

THE LONG REACH

LONG REACH	SEP	
I DON'T CONSIDER THE DREAMING TIME WASTED	OCT	
FIGHTING IS DEVELOPING YOUR OWN BREAKS	NOV	
GIVE THE R/T TO THE PILOT WHO IS ACTUALLY ENGAGED AND NEEDS IT	DEC	16

LIFE SCIENCES

BACKSLIDER	JAN	16
THE COMMON COLD	FEB	8
TT – HYPOXIA	MAR	18

MAINTENANCE

TT – GOOD INTENTIONS!	JAN	8
CT – UNFAIR TO GENERATORS!	JAN	14
CT – WAHOO	JAN	14
CT – HAMPERED HERKY	JAN	15
CT – ABOUT TOOLS AND TRUST	FEB	26
CT – TORQUE THEM PROPERLY	FEB	27
CT – WIRED FOR SAFETY?	FEB	27
THUNDERBIRDS – A MAINTENANCE MAN CHALLENGE	MAR	10
TT – DON'T TRUST 'EM, OLD OR NEW	MAR	19
CT – SHORT SCREWS	MAR	27
CT – EAGER BEAVER	MAR	27
TINKER IS A THINKER	APR	8
TT – MORE ON THROTTLE RIGGING	APR	12
CT – TOGGLE TUGGING FOR 84's	APR	18
CT – READ THAT TORQUE METER	APR	18
CT – CHAFING CHAFF	APR	18
CT – UNSHOD PHANTOM	APR	18
TRANSIENT ALERT AND THE A-7D	MAY	4
CT – CASE OF THE PHANTOM COTTER	MAY	14
CT – TOUGH RAP	MAY	14
CT – JAMMED FLIGHT CONTROLS	MAY	14
CT – STICKY SERVICE	MAY	14
CT – FATIGUE TRAP	MAY	15
CT – NICE GUY	MAY	15
CT – THROTTLE BOOBY TRAP	JUN	14

MAINTENANCE (Con't)

- CHAFING	JUN	14
- MAVERICK TAKES LOOSE REINS	JUN	14
- MAVERICK PANEL	JUN	15
CT - DIRTY TRACK TRICK!	JUN	15
CT - TWISTED TECHNIQUE	JUN	15
SUPER SABRE SAFETY	JUN	16
TT - STUBBORN NOSE GEAR	JUL	15
CT - T-33 ... HIGH ALTITUDE BOMBER?	JUL	26
CT - DANGEROUS DRAIN ...	JUL	26
CT - TOPSY-TURVY BOLT ...	JUL	26
CT - CAPS ON-CHECK	AUG	18
CT - BUTTON 'EM ... TIGHT	AUG	18
CT - LOOSE GOOSE	AUG	19
CT - WAYWARD WIND	AUG	19
CT - BIRDS, YES ... BUT BEES!	AUG	19
TT - PLATFORM PROBLEM	AUG	28
TT - DOWN, BUT NOT OUT!	AUG	29
TT - PART-UP, PART-DOWN FLAPS	AUG	29
TT - MISSED THE BOAT	AUG	29
TT - WHOOPS!	SEP	14
TT - BLADE BOMB	SEP	15
TT - OIL SPOIL	SEP	15
CT - MISSING DZUS DOWNS PLANE	SEP	18
CT - SAFETY PLUG FOULS ENGINE	SEP	19
CT - ENGINE RIGGERS SET-UP ABORT	SEP	19
RUSHED RUN-UP	SEP	20
WE SEE 'EM LIKE "YOU" CALL 'EM	SEP	26
CT - LOOSE BREECH CAP	OCT	10
CT - SHORT FUSE	OCT	10
CT - BOOM BOOM	OCT	11
CT - FROM OUT OF THE PAST	OCT	11
CT - ENGINE LINKAGE	NOV	15

MIDAIR

LOOK OUT!! HEADS UP!!	MAR	16
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MISSILE SAFETY

5 LB HEAVYWEIGHT	JAN	22
- PINS AND WOMEN	FEB	26
ARK IV FALSE FLAG	FEB	28
MUNITIONS FLIGHT LIMITS	MAY	16
TT - 'Twas THRILLING	JUN	21
INADVERTENT MISSILE LAUNCH	JUN	24
CT - BDU-33 STRIKES AGAIN!	JUL	27
AIM-4D	AUG	14
CT - BE SURE THEY KNOW	SEP	18

OPERATIONS

ACM, LEARN FIRST, FIGHT LATER	JAN	4
BOLD FACE - SCHMOL FACE ... WHO NEEDS IT!	JAN	24
BEWARE THE TRUSTY "T"	JAN	27
F-4 FLIGHT CONTROL SYSTEM ... FAULTS AND FIXES	FEB	20
TT - ACROBATIC AIR EVAC	JUN	21
TT - TELL 'EM	JUN	21
DON'T FORGET YOUR G SUIT	AUG	4
PRESSING!	AUG	20

PERSONAL EQUIPMENT

TT - F-4 GARTERS	FEB	14
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POETRY PAGE

THUNDERBOLT	JAN	12
TOMAHAWK!	FEB	24
WITH GOD IN THEIR P-51s	MAR	14
AN ESCORT OF P-38s	APR	24
B-17	MAY	24
MY VISION OF FLIGHT	JUN	26
HAPPY VALLEY	JUL	18

PREFLIGHT

CT - WHO HAS THE RED FACE?	FEB	27
CT - SPONTANEOUS INITIATORS	MAR	26
TT - NO CHECKEE - NO LAUNDRY	OCT	20

PROFESSIONALISM

CLEAN IT UP	JAN	10
BOLD FACE ... SCHMOL FACE ... WHO NEEDS IT!	JAN	24
BEWARE THE TRUSTY "T"	JAN	27
THE ROOTS OF ACCIDENT PREVENTION	FEB	3
WHAT WILL BE ... WILL BE?	MAY	22
"TOGETHERNESS"	JUL	3

REFUELING

TT - PITY THE POOR PACHYDERM	JAN	9
CT - CAN'T PUMP AIR	FEB	26
TT - WHAP-WHAP-WHAP	MAR	18
TT - "KNUCKLE SANDWICH"	APR	13

RUNWAY GROOVING

GROOVY	MAR	20
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SECOND LOOK

BUZZING	APR	14
THE STOPPING PROBLEM	JUN	4
F-4 EMERGENCY GEAR LOWERING	SEP	4
ANATOMY OF A TRAP	NOV	4

SURVIVAL/RESCUE

BACKSLIDER	JAN	16
BACKSLIDER II	JUL	24
THE PROBLEMS OF COLD WEATHER SURVIVAL	DEC	4

TAKEOFF

TT - BRING YOUR OWN BOTTLES?	JUL	15
TT - BOTTLE BABY?	SEP	15
CT - BLC	NOV	14
TT - AN "S" MAN	NOV	18
TT - BLADE BOMB	NOV	19

TAXIING

TT - APU ANXIETY	FEB	14
CT - AN O-2 TRAP	SEP	18

TIRES

CT - BEWARE OF WHEELS	APR	19
CT - FLAT TIRE EXPLODES	AUG	18
F-4 NOTES	NOV	20

TRAINING

ACM, LEARN FIRST, FIGHT LATER	JAN	4
WHAT WILL BE ... WILL BE?	MAY	22

WATER SAFETY

YOU BET YOUR LIFE?	MAY	26
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WEATHER

ECLIPSE	FEB	4
DOWNDRAFTS CAN BANKRUPT YOUR FLYING BUSINESS	MAR	4
THAT TIME OF THE YEAR, AGAIN	APR	4
SEVERE WEATHER AVOIDANCE	MAY	8
TT - YOU CAN GET IT ANYWHERE	MAY	21
TT - "FOGGED TECHNIQUE"	MAY	21
T-STORMS ARE TERRORS!	JUN	8
WILD WHIRLING WIND	JUL	10
THOR ISN'T THE ONLY THORHEAD!	AUG	8
TT - WANTED ... LIGHTNING LOCATOR	SEP	14
OLD MAN WINTER	OCT	16
CHILL CHARTS	OCT	27
ANATOMY OF A TRAP	NOV	4

WHEEL FAILURE

CT - WHEEL DEAL ...	JUL	27
TT - BUM STEER	AUG	28
TT - GEAR GRIPES	OCT	21

LETTERS to the EDITOR

Letters to the Editor

"The 8th Tactical Fighter Wing will hold its annual reunion 26-27 February 1971, Sheraton Park Hotel, Washington, D.C. For further information contact Lt Col J. D. Covington, 4315 Majestic Lane, Fairfax, Virginia 22030, or telephone OX 50903/50905." Thank you for your cooperation.

THUD

We received the October 1970 issue of TAC ATTACK and were pleased to see how you handled Rusty LaVene's "Quite a Day." I'm certain he would like to see how today's Air Force treats old timers' stories. Could you please send us another copy of the October '70 issue so that we may forward it to him.

I have just been appointed the new Editor of the DAEDALUS FLYER and was very interested in your message and story on the THUD, also in your October '70 issue. We request permission to reprint the message and the story in our magazine with appropriate credit to TAC ATTACK. It would be most helpful if you could also send some pictures of the F-105 suitable for reproduction in our magazine. We'd like to mix in some modern history with the hangar flying of long ago.

E. B. RASMESSEN, Colonel, USAF (Ret)
Editor, DAEDALUS FLYER

We're honored by your request, permission is granted. The October TAC ATTACK and F-105 photos are on the way. Ed.

HE MADE ME DO IT

We fighter types look forward to your fine TAC ATTACK each month. Being Navy fighter pilots and Radar Intercept Officers first and bombardiers second, we couldn't help but notice when we saw the classic level overshoot in the making on your August 1970 cover. Accordingly, with some glee and just a dash of malice we enclose the following captions:

1. "Level over shoot - what's that?"
2. "9 G's!!!"
3. "Ease STBD, fly the dot."
4. "CW power on, arm '---'. Whaddaya mean --- what switches?!"
5. "When we overshoot, we'll receive a purple heart instead of a silver star!"
6. No joy.
7. "No, no Woody, it's 'Tally Ho,' not 'There goes the little SOB'."
8. "Skip it Hanoi GCI, set me up another please."
9. "Break port and we'll go hide in that cloud for a while."
10. "Maybe if we say 'Fox away' on UHF we'll scare him off."
11. "If we ignore him, maybe he'll go away."
12. "Whadda ya mean, 'All ahead flank.' Where did you get your RIO training?"
13. "Hurry up and finish that radar bit check."
14. "Fire when ready Gridley."

D. G. McCormick, Commander, USN
Commanding Officer, VF-101, NAS Oceana, Va.

You caught us. We asked Stan Hardison what happened and all he would say was . . . "The devil made me do it." Ed.

TAC TALLY

AIRCRAFT ACCIDENT RATES

* Estimated

UNITS

MAJOR ACCIDENT RATE COMPARISON

	TAC		ANG		AFRes	
	1969	1970	1969	1970	1969	1970
JAN	6.8	4.8	28.9	5.9	0	0
FEB	6.2	3.9	12.8	2.6	0	0
MAR	6.8	4.6	12.6	1.7	0	0
APR	7.4	4.9	15.1	2.4	0	0
MAY	7.5	6.2	12.9	3.6	0	0
JUN	7.2	5.5	12.6	3.6	0	0
JUL	7.4	5.1	11.3	6.1	0	0
AUG	7.3	5.0	11.5	6.9	0	0
SEP	6.9	4.7	10.5	6.6	0	0
OCT	7.1	4.5	9.9	6.8*	0	0
NOV	6.6		9.4		0	
DEC	6.8		9.5		0	

	THRU OCT			THRU OCT	
	1969	1970		1969	1970
9 AF	2.7	1.8	12 AF	9.9	7.1
4 TFW	4.5	0	23 TFW	17.5	4.7
1 TFW	2.4	6.2	27 TFW	3.8	8.3
33 TFW	14.0	0	49 TFW	6.0	11.6
31 TFW	3.9	4.9	479 TFW	9.9	11.0
354 TFW	0	0	474 TFW	15.8	0
4403 TFW	—	0			
363 TRW	6.9	3.3	67 TRW	4.3	9.1
			75 TRW	4.5	3.9
316 TAW	0	0	64 TAW	0	0
317 TAW	0	0	313 TAW	0	0
464 TAW	0	0	516 TAW	4.3	0
			71 TASG	—	0
68 TASG	—	0	58 TFTW	14.1	14.7
			4442 CCTW	0	7.1
			4453 CCTW	7.6	3.8
TAC SPECIAL UNITS					
1 SOW	4.1	5.9	2 ADG	0	0
4409 SUP SQ	0	0	4500 ABW	19.9	0
4410 CCTG	9.7	0	57 FWW	4.6	0

TAC SUMMARY

	OCT 1970	THRU OCT	
		1969	1970
TOTAL ACCIDENTS	2	60	35
MAJOR	2	52	30
MINOR	0	8	5
AIRCREW FATALITIES	0	40	26
AIRCRAFT DESTROYED	2	42	24
TOTAL EJECTIONS	3	33	25
SUCCESSFUL EJECTIONS	3	23	19
PERCENT SUCCESSFUL	100	70	76

FLEAGLE



ATTENTION
FELLOW JOCKS
THE COLD HAND OF WINTER
IS HERE... THIS MEANS
(A.) SNOW AND ICE ON
RUNWAYS.
(B.) SNOW AND ICE ON
AIRCRAFT.
(C.) COLD PREFLIGHTS.
(D.) LOW CEILINGS.

HARDISON



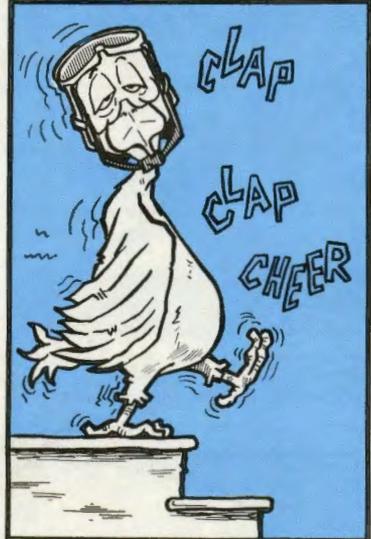
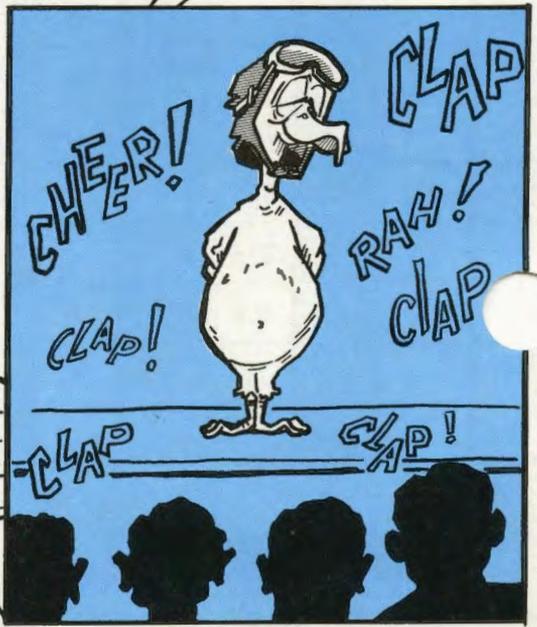
© Stan Hardison 1970

SOLUTION

1. BE AWARE OF WEATHER CONDITIONS AT ALL TIMES.
2. DO A COMPLETE PREFLIGHT.
3. GET YOUR CREW REST.

"AN ALERT JOCK IS A SAFE JOCK"

THE END



BUMP!
FALL
BUMP
BUMP
SPLAT!



HE HAD THEM ON THE EDGE OF THEIR SEATS.

PITY.