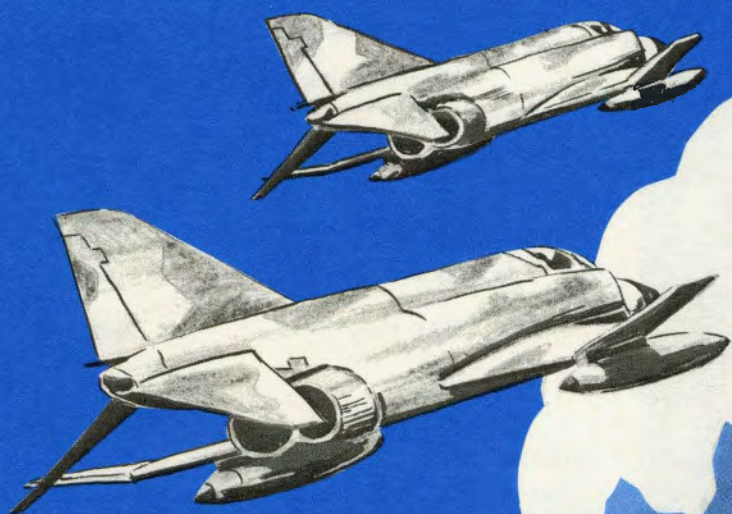


TAC ATTACK

23 MAY 1971



AND THEN THERE WAS ONE...Page 4

for efficient tactical air power

TAC ATTACK

MAY 1971
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Tactical Air Command

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Jamie sez:

Sometimes a mere pinch of watchful patience is worth
much more than a bushel of brains.

current interest

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TACRP 127-1

Articles, accident briefs, and associated material in this magazine are non-directive in nature. All suggestions and recommendations are intended to remain within the scope of existing directives. Information used to brief accidents and incidents does not identify the persons, places, or units involved and may not be construed as incriminating under Article 31 of the Uniform Code of Military Justice. Names, dates, and places used in conjunction with accident stories are fictitious. Air Force units are encouraged to republish the material contained herein; however, contents are not for public release. Written permission must be obtained from HQ TAC before material may be republished by other than Department of Defense organizations.

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Angle of ATTACK

TOO MANY DEAD!

In the February issue, I started my comments on this page by stating, "We are currently enjoying a favorable trend in the reduction of accident rates in all functional areas."

This statement still holds true for all statistical rates in flying safety and weapons safety, and for most all rates in ground safety. However, the rate in one very important category — fatalities, primarily private motor vehicle accident fatalities — has come unglued at the seams. The dike has cracked. If we don't sandbag the leaks, and quick, TAC is going to establish the poorest record in many years in this category.

It's not the rising rate or the poor record so much as it is what these represent — deaths — needless, wasteful deaths. So far this year, more than thirty TAC men have lost their lives due to PMV accidents. Why?

It's not the unsafe vehicle, it's the unsafe operator — careless, foolish, and even stupid acts by too many drivers. The same cause factors — excess speed, use of intoxicants, fatigue, and inattention — are reported again and again.

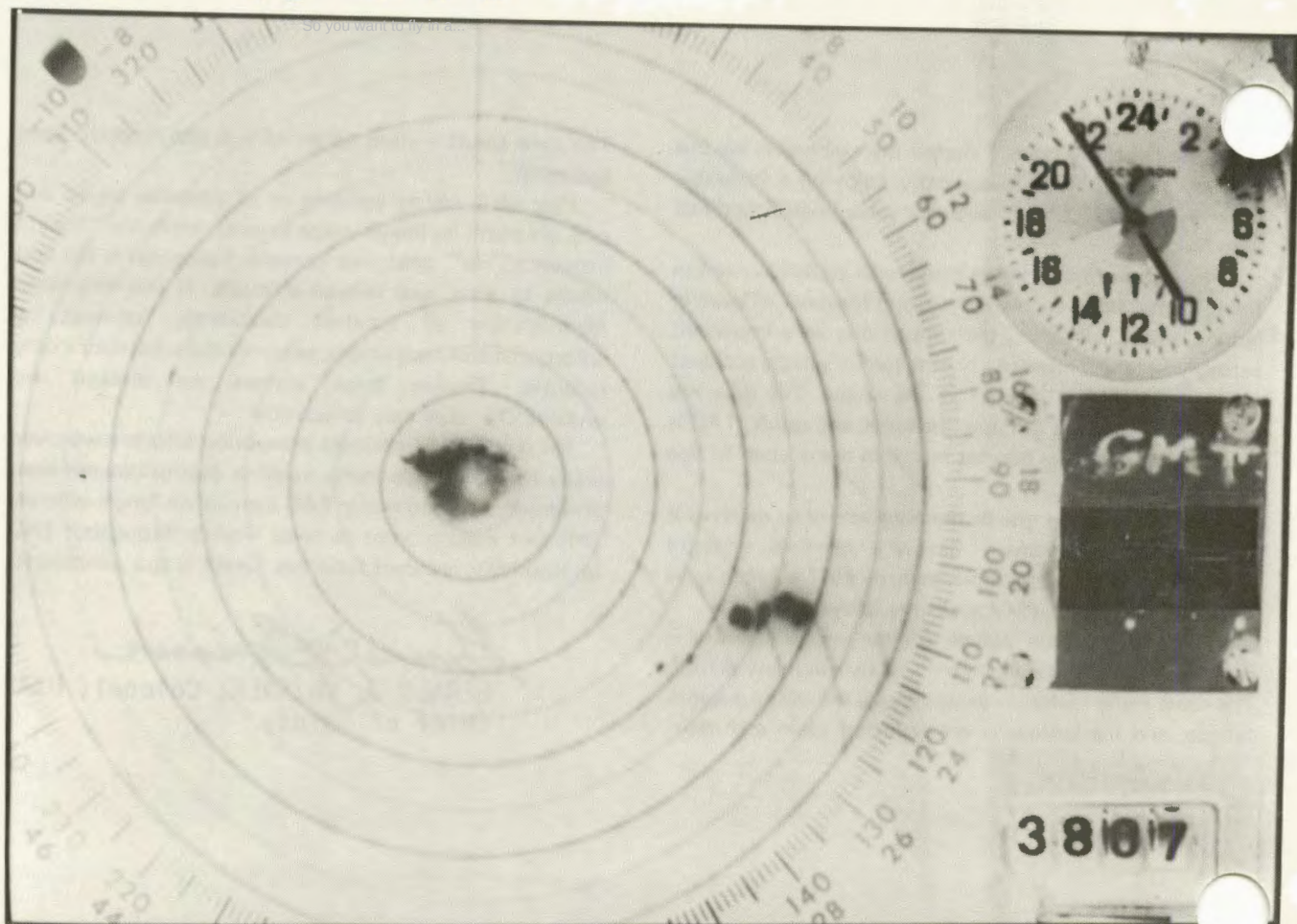
The same result — dead on arrival — is also reported again and again.

Fear of a vehicle accident or of probable injury and possible death no longer seems to exist, while the "It can't happen to me" syndrome prevails. Education is the best means to alter such mental attitudes. If this fails, then identification of accident candidates, followed by enforcement of restrictions, becomes the supervisor's only recourse. Though these actions are disliked and undesirable, they may be essential.

No doubt PMV accident prevention efforts have saved many lives. Still, too many needless deaths have not been prevented, and too many TAC men are no longer with us. This fact must prompt renewed vitality throughout TAC to stop PMV accident fatalities. Death is too permanent!

GERALD J. BEISNER, Colonel, USAF
Chief of Safety

So you want to fly in a ...



THUNDERSTORM ?

A little over a year ago, two F-4s leaped off for a trip across the small pond on a ferry flight. They didn't make it. One aircraft returned, wounded, and the other is sitting on the ocean bottom, rusting. We want to tell the story of the crew that ejected so that you'll have an idea of what's in store for you if you should decide to follow the example set by this flight.

They got off with three airplanes, two to cross the pond and an airborne spare. The spare turned back at the coast and the other two pressed on. On an easterly heading out to sea, they could see a line of thunderstorm activity about 100 miles ahead, running perpendicular to their flight path. They pressed on at FL 290 till they were almost to the weather. The flight lead then requested FL 370 from center, after a slight delay it was approved and they began their climb. They were in the clouds in three minutes, climbing. Less than a minute after that they began getting moderate to heavy turbulence and the lightning was so intense that it was almost a continuous wall of white light. The wingman was on the right wing and noted a few electrical discharges off lead's pitot tube and drag chute cone. Just after this he began to fall back a little and selected burner on his right engine. This hacked it and he watched as the lead suffered another electrical discharge accompanied by an orange flash from his exhaust. Two began to drop back again so he attempted to light both burners — but nothing happened.

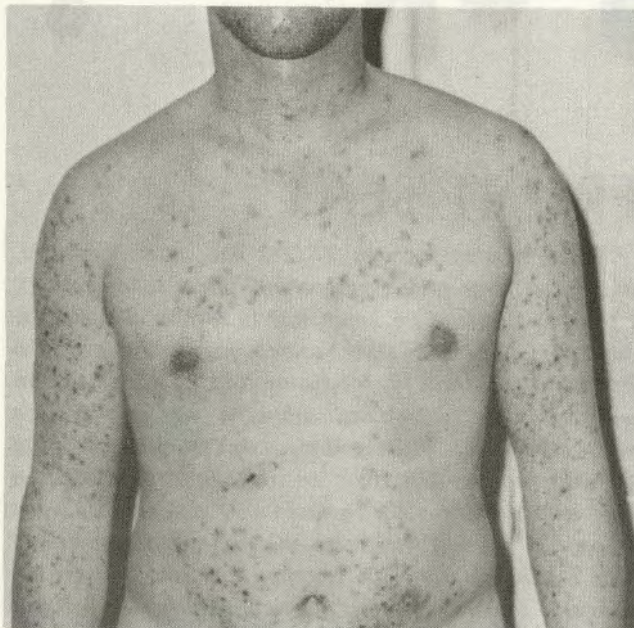
He decided to initiate lost wingman procedures and turned his head into the cockpit. Right then a flash of lightning struck the aircraft, or very near it. When Two's eyes reached the attitude indicator, it was frozen. The standby didn't work either. After trying that, the pilot made the following observations; they were pitching about quite violently, the angle of attack read zero, the throttles were at military, the DC bus warning light was on and they lost "hot mike." The back-seater called out 200 feet using intercom override and they decided to bail on the aircraft. We'll let them take it from here . . .

FRONT SEAT

When passing through 18,000 feet, out of control, without attitude reference, and in a severe thunderstorm, I decided it would be impossible to recover the aircraft. At this time I used the radio override circuit of the intercom to inform my navigator that we were going to get out (the "hot mike" intercom was out due to electrical failure). I removed my hands from the stick and throttle and brought them to my lap, anticipating the rear-seater to eject first. I paused only momentarily when I realized the F-4 has a sequenced ejection system and that I should initiate the ejection. I started to raise my hands to reach for armrest ejection handles, but before I reached them I realized that this was a carry-over from a previous aircraft and continued my motion for the lower ejection handle. (In previous ejection seat training, I had decided that I would use the lower handle due to its closer proximity to the stick and throttles and its accessibility. However, had I used the face curtain I could probably have protected myself more — had I known that it was hailing as severely as it was.) I grasped the handle with my right hand and as much of my left hand as I could, overlapping my right hand with the thumb and first fingers of my left hand. I pulled up on the handle and sat erect in the seat, although I do not remember getting my head against the headrest or pressing against it with my head. I think I may have brought my feet off the rudder pedals and placed them on the floor, but I can't be sure. I closed my eyes, anticipating ejection, then remembered the gib would go first. I heard the pop of the canopy, heard a large rush of air and through my closed eyelids I "saw" a large orange flash which I took for my gib's rocket seat firing. Momentarily I sat awaiting my ejection and then I was ejected, hands still grasping the handle. I estimate that I went out at 14-15,000 feet judging from the rate of descent and the time between last seeing the altimeter and actual ejection. I felt an initial severe lashing

so you want to fly in a thunderstorm ?

that I believe caused my left arm to flail, but all other extremities remained in position. I had no difficulty bringing my arm back into my lap as the seat slowed and I felt battered all over, which I perceived as hail as soon as



my system was able to comprehend all the stimuli it was experiencing. I felt myself in the seat and stabilized (although I still had no reference to orient myself). I do not recall having tumbled during ejection. As the seat started to slow I was being pelted by hail — my mask and helmet had been retained, but the mask had been shoved up so that the lower portion was across my lower lip. My lips felt very swollen and I felt hail impacting my face and starting to build up on the lower portion of the mask and extending over my lip. I reached up with my right hand to pull the mask away from my face, knocking the ice off my mask, and took a couple quick breaths. I replaced my mask on my face and felt no further difficulty. I remembered stories about men being caught in thunderstorm updrafts for 45 minutes and felt very satisfied to descend as far as possible in the seat. I also remarked to myself that I felt no back injury (which surprised me after all the stories I heard about the Martin-Baker seat) and remember looking down and seeing my legs in a normal position with the dual garters attached — having worked just as briefed.

Suddenly I was jerked from the seat and felt the parachute opening shock, it was moderate — I believe I

was more shocked by the snatch from my "security" of the seat when I wasn't expecting it, than I was jolted by the opening shock. I was pleasantly surprised to feel that my harness leg straps had not caught on anything in the groin area. I noticed that the hail pellets were just bouncing off me now and I looked up to check my canopy. I was quite concerned at first glance, as I thought about half of my canopy panels were torn out. However, on closer inspection I saw that one side of the canopy was all white, giving me the illusion of missing panels under the lighting conditions. All my lines were straight, and I felt no oscillation.

I felt quite secure and began to relax and collect my thoughts. I was thankful that I had made it this far in good shape and began to think of things to come. I remember glancing at my watch, noting that it was 0605 hours (still running), and noticed many "pock-marks" on my wrists and up my sleeves. I then looked down and noted that my seat kit was only fastened to my harness on the left side. I reached down and lifted the seat kit onto my left thigh. I attempted to attach the kit across my lap to the right side of the harness, but was not successful and abandoned further attempts, thinking that if I did get it attached I would probably injure myself upon water entry. I attempted to pass it behind me and fasten it in the normal manner, but this was physically impossible so I rechecked the security of the connection and let it dangle. At about this time I caught sight of my gib in his parachute about 300 yards away and felt relieved that he had made it. I did not feel that the wind and turbulence was causing me to oscillate at all, however, I was turning and spinning randomly and quickly lost sight of him. I wondered if I was actually descending or if I was caught in up drafts, but I decided that I couldn't do anything about it anyway, so I dismissed it.

I then began to think of preparing for water entry. As taught in survival school, I started from the top and worked down. I removed my oxygen mask and CRU-60/P connector and threw it away. I retightened my chinstrap and then pulled up my survival kit and pulled the handle to deploy it, it deployed normally.

About this time I saw my gib again and attempted to call to him. Once again I was spun around and lost sight of him. I began to think of water entry again and remembered that I had not deployed my LPU's. I deployed them and they inflated normally. I thought of closing the bayonets on the CO₂ cylinders to prevent puncture of my LPU's or life raft, but they would not close — so I left them full open. I do not remember when the hail stopped, but at some point it changed to driving rain. I spotted my gib a couple more times and attempted a 4-line modification, hoping to move closer to him so I could join up in the water. I pulled the two red tabs

the risers and they came loose quite easily. However, due to the turbulence and spinning, I was unable to maneuver my parachute. Of the four times I saw my gib during my descent, he appeared higher than me once, lower than me another time, and about level the other two times.

I spent some time worrying about the life raft dangling from me by only one line so I wrapped the line around my leg a couple of times just in case. As I thought about this, I decided that if the catch released I'd lose everything anyway. I also feared putting additional strain on the catch and was apprehensive of entanglement/injury upon water entry so I unwrapped the line and let it dangle. I kept trying to review all I had been taught in water survival school and soon saw whitecaps on the water about 100 feet below me.

Prior to this I had secured my LPU's with the velcro tape. I noticed that I was drifting across the water at a good clip with the wind to my back. I crossed my arms on my LPU's in front of me and brought my legs up about 45 degrees preparing for impact since there wasn't time left to attempt to turn the canopy for a rearward entry. I hit quite smartly, swallowed a good mouthful of water, and lost my helmet (although I did not realize it at this time). I came up lying on my stomach in the water, with the canopy collapsing in front of me. I reached up and released my riser releases one at a time — left one first, began to backpaddle in the water to assure I would be entangled in the risers. My raft was only a few feet away and I was able to reach out and pull it over. I was able to climb into it with only slight difficulty caused by the heavy sea.

I sat in the raft and started to button up my rain shield around my legs to protect me from the rain. About this time I checked my arms for the hail sores and also noted that my watch read 0630 — still dark and storming heavily. I let the rain water rinse my wounds for a minute and then began to look for my survival kit. I pulled in the bottom of the seat kit and found it empty!! I thought that I must be mistaken about the location of the survival kit, so I searched further. I located the fiberglass "horseshoe" personal canopy container just prior to finding my empty seat kit and finding it empty I cut it loose to let it sink — thinking I'd have no use for it. As soon as I released it, I tried to get it back thinking that I could catch rain water in it to supplement the water I'd find in the survival kit, but it sank only inches from my grasp. I reached all around the outside bottom of the life raft attempting to find another line, but all I found was the sea anchor (already deployed) trailing behind me.

It was then that all of my survival training was a detriment — because I realized just how bleak my situation was if my gib wasn't OK and able to operate his kit. My first thought was fresh water and I thought of

using the bottom of my seat kit. I placed it on top of my legs and moved the straps aside and let the heavy rain fall inside. When a bit had accumulated I rinsed it around the bottom and dumped it out, then waited for drinking water. I drank about one mouthful when it accumulated, it tasted slightly salty, but much less than what I swallowed on water entry. I rinsed it out again and collected some more water which still tasted salty, but I surmised that it was from some of the spray being kicked off the waves.

Then the storm dissipated and the sun started to peek through the clouds on the horizon. I looked around to see if I could locate my gib but the seas had increased to 6 — 8 foot waves and I was unable to see him. I looked at my watch and it was 0700. I spent the next hour looking for my gib, analyzing my situation, and checking my pockets for possible signalling items. All I could find was my navigation computer — which I figured was virtually worthless. I also decided that I would remain there all day, but if I didn't see anything by nightfall I'd pull up my sea anchor and attempt to use my rain shield as a sail and possibly reach Bermuda within a few days (not a great prospect, but the best idea I could think of under the circumstances). I also spent my time getting my rain shield up over me to protect from the sun and using my seat kit bottom to bail out my raft. I noticed that my rain shield was detaching from the raft on the left side, but I couldn't do anything about it except be careful so it wouldn't separate further. The sea occasionally broke over the raft, bringing colder water in, I kept bailing it out as best I could. I also kept reminding myself that, even though I didn't feel nauseous at that time, I couldn't afford to get sick and lose "precious body fluid."

At about 0800 I heard engines and saw a C-130 circle very near my position. I unbuttoned my rain shield (which was black on the outside and red on the inside) to expose the red color and began to wave my arms wildly. The C-130 circled my position twice, but didn't rock its wings or gun its engines to acknowledge sighting me. On its third pass, it headed straight for me and dropped two objects, one of which landed near me. It was a floating flare, then I knew that my gib had vectored him to our location. The other flare landed ¼ to ½ mile to the south of my position. The aircraft circled twice more, then flew off on a NW heading.

I began to speculate on the method of rescue and suddenly was overcome by nausea. I vomited over the side and washed it from the side of the raft, but somehow never considered the possibility of attracting sharks. I was sick three times more before being rescued — toward the end, just the dry heaves which quickly passed. Shortly the C-130 returned and continued circling our position.

At about 0900 I looked over my left shoulder and saw

so you want to fly in a thunderstorm ?

a large ship approaching. It passed my position going toward my gib and made what appeared to me as two passes to pick him up. On their second pass I saw a line being thrown overside and assumed that they had him as they continued forward to me. He came up on me in ideal position and they threw me a line. I passed it through my hands until I reached a large knot at the end of the rope. I passed this through the chest strap on my parachute harness and tied a couple of knots in it. They passed me along to where they had a floating rope ladder thrown over the side. I informed them that I felt capable of getting aboard without assistance. I got about one-third of the way up when I felt very fatigued, impeded by my life raft hanging below me which had become completely entangled in the line secured to my chest strap. I informed the crew that I couldn't make it any further and held onto the ladder for dear life. The crew then hauled upon the line, assisting me up the ladder, life raft first.

BACK SEAT

I told the A/C that we were passing through 19,000 feet very rapidly and it was then that he gave me the order to eject. I reached forward toward the radio override button to acknowledge and also agree, when he ejected me before I had time to assume the proper position.

Immediately upon leaving the aircraft I felt hailstones beating me in the face so I covered my face with my hands. I started rubbing my face and scalp because it felt as though some of my face was being frostbitten. I presume the reason I lost my helmet was that I was out of position and my mask and chin strap were not tight. Also, I didn't have my visor down. The hailstones cut my face,

ears, scalp, neck, and my left hand; they also cut my arms right through my flight suit. I presume that my left glove and watch were torn from my hand as I left the cockpit.

I do not recall any tumbling of the ejection seat and the G force of ejection did not seem uncomfortable to any degree. I do not recall having difficulty bringing my hands up to protect my face even though the seat was still traveling at a speed fast enough for the hail to sting and cut.

It could not have been more than a few seconds before seat separation took place; and I must say that it was less shock than harness training. Once I looked down and saw my parachute "horseshoe" bucket; I said, "Oh my God, my chute didn't deploy." But then I looked up and I saw what I thought was a partial canopy, I had twisted risers. I gave them a slight twist and they straightened out. During the first couple of seconds after chute deployment, it was still hailing quite a bit. Then the hail turned to rain and I started to wash the blood from my face, scalp, and hands.

I knew that the thunderstorm was quite severe and I had been quite concerned as to whether I was descending, or just going up and down in the storm. I noticed pressure building in my ears and had to clear them three times on the way down, I assumed then that I was descending.

I did not wait but a few seconds to inflate my LPUs, and to deploy my survival kit. Now I began to analyze my situation; I knew that we were going down in heavy shipping lanes and that they were shark infested water. So I made a maximum effort to rinse all of the blood from me that was possible, so I wouldn't attract sharks when I contacted the water.

I also remembered the importance of water at sea and drank my fill from the water that was streaming down my parachute riser. After I got more than my fill of water I began to fill up my anti-G suit with rainwater and continued to do so until I saw whitecaps from the sea below. Then I prepared for water entry. It was very comfortable and I don't believe I even dunked my head under the water. I pulled my raft toward me and climbed in with no difficulty at all. I had not joined my LPUs at the front nor did I deflate them before I climbed into my raft. Then I pulled in my seat bucket and removed my survival kit. I sure was glad it had a radio in it and began using it right away. I must have talked, listened, and sent beeper tones for ten minutes before I decided to wait until a time when more people would be looking for us. I put the radio away and started looking for some salve to put on the cuts of my face and hands. I couldn't find anything that seemed suitable so I just kept my face protected from the elements with the mosquito hat and the raft spray shield.

I examined my sea anchor and saw that the lines that assembled it were disconnected, however, I felt that



survival kit bucket and my raft stabilizers would keep me afloat somewhere in the Atlantic Ocean. I tried a few more times on the radio but could not get any results. Then I got out my signal mirror and let it dangle around my left hand as the sun was attempting to break through the clouds at intervals. The seas were quite heavy and I was not able to keep my raft from continually taking on water.

It must have been somewhere around 0600 when we bailed out, and it must have been around two hours later when I heard an aircraft. I got out my radio and started talking away. I gave my call sign and Duckbutt Charlie Alpha answered me and asked if I saw him. I looked around and saw him about 3 miles south, then vectored him over me. He asked for a flare and I offered a mirror flash instead, he saw me right away. He asked me about my A/C and I told him that I had seen or heard no sign of him. After passing over me and throwing out a smoke marker he told me that my A/C was OK and was waving back.

The Duckbutt then asked my condition, I told him of a slight back cramp and the cuts on my face and arms from hail. Then he told me that there was a ship on the way that should be there shortly.

Once, before seeing the airplane, I got quite seasick and tossed part of my heavy breakfast. Also, I had dry heaves 3 more times. I immediately rinsed all of this from my raft because I felt that if it was going to attract sharks, my raft would be clean enough so the sharks wouldn't know where it came from. It was about now that I saw the first of four Portuguese men-of-war. The first one was quite small (about a three inch air sac), but he was drifting to within about ten inches of my raft on the windward side and I was afraid that the sea might wash him into my raft. I saw two more the same size and they also drifted close to my raft.

Then I looked around and saw this big Texaco oil tanker very close, they were going to throw me some ropes. I radioed King (The Duckbutt) and asked instructions and permission to disconnect from my life raft. King said not to do anything but to let the tanker crew do everything. Well, I grabbed the rope they threw me and they lowered this guy down right on top of my head. I grabbed him, held onto the rope, and was dragged from my raft which was still attached to me. All of this drag was too much for my sore shoulder and after a few minutes I had to let go. King asked me what had happened, I told him that my raft dragged me back into the water.

The ship passed on by and then went over and picked up my A/C. The ship then made another pass but was too far to get close enough to throw me a line. I noticed a

buoy from the ship with a line attached and I thought the ship was playing out a very long line. I paddled over to the buoy and discovered the line was not attached to the ship.

I radioed King and he said to standby, that there was a helicopter on its way that would be there shortly. Then I saw a very large Portuguese man-of-war and it was drifting closer and closer to my raft. I called King and it didn't seem to upset him as much as it did me. Then I saw the helicopter coming closer but upon listening in on radio transmissions, I found out that he would have to dump lots of fuel before he could pick me up. So I just sat there in my raft and waited for someone to do something.

Then King asked me if I needed a PJ to help me and I said I didn't think so. I thought the helicopter was going to pick me up and I was trying to determine if this was so when I noticed the ship approaching again. I asked King and the 'copter who was going to pick me up and no one would say clearly.

Well the ship was in a good position now, so I radioed King that I was going to try the ship this time "MY WAY," and they said go ahead. So I attached my survival kit to my chest strap, put my radio in my lower G-suit pocket, and asked for a rope from the ship. They threw me one and I found a loop in it which I passed my parachute chest strap through. Then I prepared to disconnect from my raft, and did so as soon as the rope began getting tight. The crew drew me along side the ship and I rolled over into a cargo net they had lowered for me.

The moral of this story is pretty obvious. The flight was together for about two minutes before the wingman was zapped. The leader was spit out of the storm on a westerly heading, at FL 240, with one engine flamed out. When asked about his impressions of what transpired following the departure of his wingman, he had this to say, "The remainder of the time in the storm was one of survival." He was attempting to maintain level flight using his attitude indicator while watching the airspeed vary from 250 to 350 knots!

We concentrated on the crew's story after ejection instead of the thunderstorm because who hasn't been in one? It's the ejection and survival experience that we wish to avoid. This thought may just be the one that will make you circumnavigate that mighty cloud the next time you feel that, "It doesn't look too mean..." Or when this insidious philosophy creeps in:

I can understand why he went in there with him, being a junior Captain. If he had broken off and not gone through and they couldn't rejoin, they would have had to abort the mission, go back and start again. You run into this problem all the time, but that's another story...

TAC TIPS

...interest items, mishaps

F-4 Flight Controls

During climb out in close formation the Number Two aircraft began to yaw. The pilot informed Lead and moved out. Lead dropped back to look him over and saw the rudder fluttering 5 inches either way. Number Two then disengaged the yaw channel — the bird yawned violently to the right. Yaw aug was immediately re-engaged and the aircraft started the original thing again. Then yaw aug was dropped off again. The pilot was anticipating a hard right yaw and countered it with left rudder. The rudder centered and a straight-in approach to an approach end arrestment was made.

The cause was listed as undetermined since they couldn't tear down the rudder power control cylinder. It failed two checks and was replaced.

F-4 Cockpit FOD

During descent the pilot found that he could not retard the right throttle to idle. It was hung up about two inches forward of the left throttle and gave him a minimum of 83 percent. RPM could be increased with no difficulty. The aircraft was landed and the right engine shut down during roll out.

They found an anti-skid warning light cover jammed in the throttle quadrant in such a manner that the right throttle could not be retarded fully. It had apparently been loose in this area for some time.

F-100 Fire In Flight

Thirty minutes after takeoff, while on a low level nav mission, the fire warning light illuminated. The throttle setting had been 90 percent, speed about .53 mach. The pilot started a climbing turn toward home and reduced the throttle. The light would go out when power was reduced to 83 percent or below. A wingman checked the bird over and saw no signs of fire.

Ten minutes later the total fuel quantity indicator began rotating counterclockwise continuously and the fuel boost pump off light came on. These indications were followed by illumination of the aft overheat light. A modified PLP was flown and as the bird was rolled out on final, the trim failed. The gear and flaps were already down and a successful landing was completed. Investigators found a hole burned through the diffuser case. The pilot's rapid evaluation of his difficulty and his sensible throttle technique probably saved the bird.

F-4 Flying FOD

After rolling about 500 feet on a formation takeoff, the wingman noticed a small brown object flash past the nose and into the area of the left intake. Shortly after rotating for takeoff, the left engine began to compressor stall. EGT rose to 900 degrees but no fire lights illuminated. When safely airborne, the engine was shut down, the centerline tank was jettisoned, and fuel

with morals, for the TAC aircrewman

dumped. Witnesses saw excessive flame from the left engine till it was shut down.

Bits of braided wire similar to streamer attaching cable were found in the engine. Damage to the compressor blades also indicated a metal object resembling a one-half inch diameter "T" safety pin was ingested. They suspect one of these with a wire cable attached was thrown by lead during the takeoff roll.

If At First

You Don't Succeed....

After completion of the last chance check in the arming area this F-4 took the active as leader of a two-ship. Brakes were released, the wingman was to roll in eight seconds. At 120 knots the leader found he couldn't get full aft stick travel and decided to abort. He delayed his chute till Number Two passed and then decided that he was slow enough to abort without using it.

In the de-arm area at the far end another flight control check was performed. The crew determined that the GIB's survival radio had restricted aft travel of the stick. At this time the aircraft commander decided to taxi back and continue the mission. Five thousand feet down the parallel taxiway the right main tire plugs melted. The aircraft was stopped . . . fifteen minutes later the left main began to smoke, then went flat, neither tire blew. After the wheels cooled both tires were changed and the aircraft was towed back.

here's an urgent message in this tale and maybe the

whole story isn't in the message we received. As a matter of fact, there are about three messages. One of them is very obvious — there are times when, if at first you don't succeed, maybe you ought to call it a day . . .

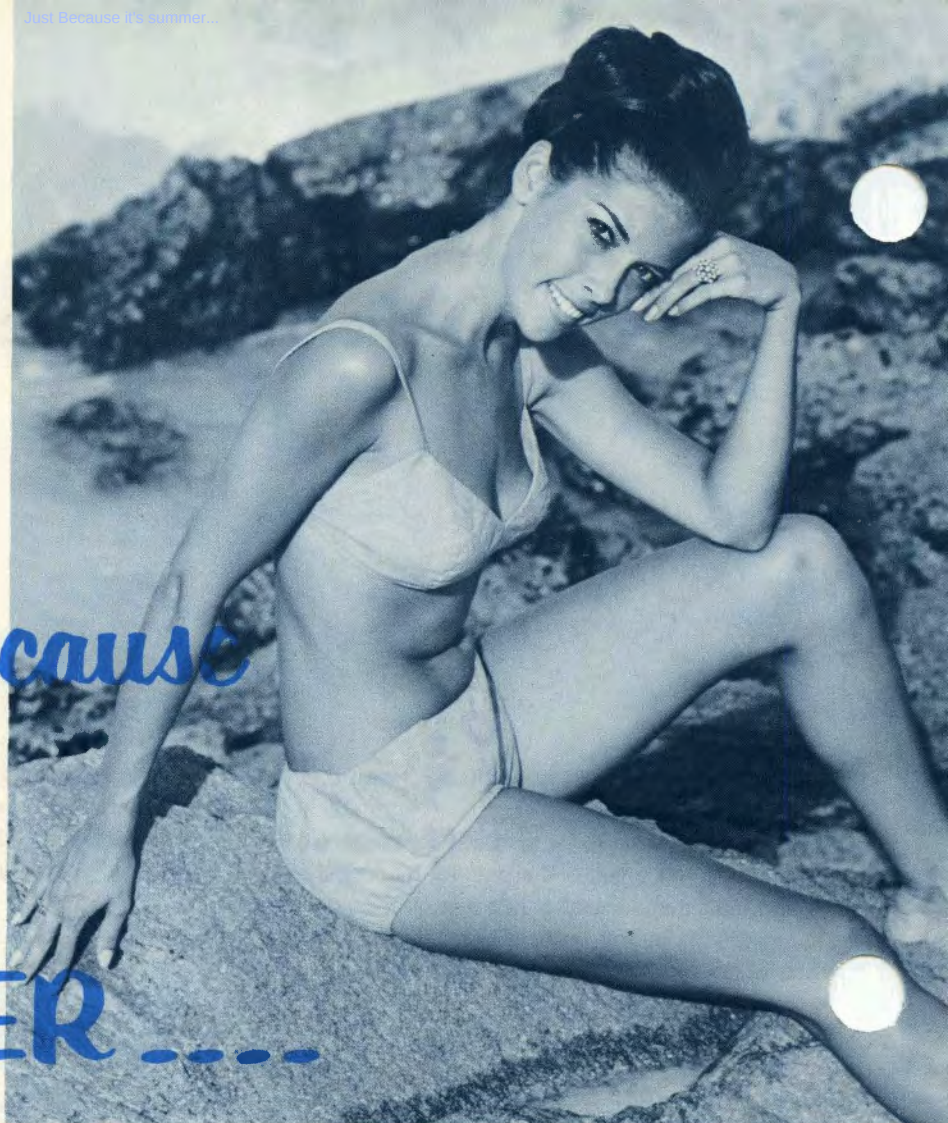
Tight Parking

An F-100 pilot taxied in and noticed a C-47 parked behind him as he turned into his parking spot. Prior to running the RPM up to scavenge his oil system, he closed the canopy and checked the Gooney Bird in his mirror. They were parked tail-to-tail and he was offset a bit, pointing about to the Goon's left engine. Satisfied that he wouldn't bother the recip, the pilot ran up to 72 percent for thirty seconds. The crew chief cycled his eyelids and came forward to give him the shut-down signal.

As he deplaned, the F-100 pilot noticed other crew chiefs walking toward the C-47. It was then he noticed part of the Goon's left elevator hanging askew. The left elevator had been torn from the three mounting hinges and was hanging from the trim-tab cable.

The base was hosting a large number of aircraft participating in an exercise and parking was at a premium. The C-47 had been parked in its spot with full knowledge that it would be tail-to-tail with the F-100s. The distance to the Goon was 135 feet. By tech order figures, the exhaust velocity at full military should have produced 11 miles per hour over the C-47 tail, this coupled with the wind would have totaled 25 miles per hour — apparently it was too much.

Just Because It's SUMMER.....



Each year when the cold winds blow, we publish the chart on the facing page. It's for the benefit of aircrew members — to make them think twice about leaving that poop suit behind, to get them to use caution when flying near large bodies of cooler water.

Then, along comes spring and summer. Thoughts of the cold seasons flee before our plans to begin sailing, camping, swimming, and other assorted sports. Our minds conjure up the breaking surf and sandy beaches of the oceans and our lakes. Our children are out of school and the annual visits to relatives and friends begin in earnest. It's time for fun.

But it's not all fun. A short time ago TAC suffered two fatalities in a manner we don't associate with summer. Three airmen from a northern base planned a week-end outing. They went off duty together on Friday morning and by 1000 hours had checked out what they needed from Recreational Services. This gear included a twelve foot aluminum boat with a six horse motor, and life vests. They stopped at their barracks for the rest of the gear and

by 1230 were on their way.

Their destination was an island a half-mile out in a lake about 150 miles from the base. After unloading, one of the airmen took a load of gear to the island and returned for his two companions and the rest of their equipment. About half-way to the island on this trip, the boat swamped. The three airmen, in life vests, remained with the boat for the first thirty minutes attempting to push it ashore. They were unsuccessful, so finally one of them struck out on his own to swim for help.

Later, a passerby found him floating, semi-conscious, about ten feet from shore and pulled him out. When rescuers reached the two airmen who remained with the boat, they found them floating in their life vests, with their heads out of the water. They had both died of exposure. The water was thirty-five degrees, they had been immersed for about an hour and a-half.

Now let's flash back to that morning when the boat was checked out. These men were briefed that the boat's capacity was five hundred pounds — three small

will run about four hundred and fifty pounds — without
 or!! Investigators figured that the boat was loaded to
 pounds. The three occupants were obviously not
 concerned with the temperature of the water outside the
 boat. They may have been on this lake before — and gone
 swimming. The hidden hazard is time — time for the water
 to steal your body heat. Had they all struck out for shore
 when they first swamped, it may all have been just a bad
 memory. We'll never know, but we should learn a lesson
 from the experiences of these men.

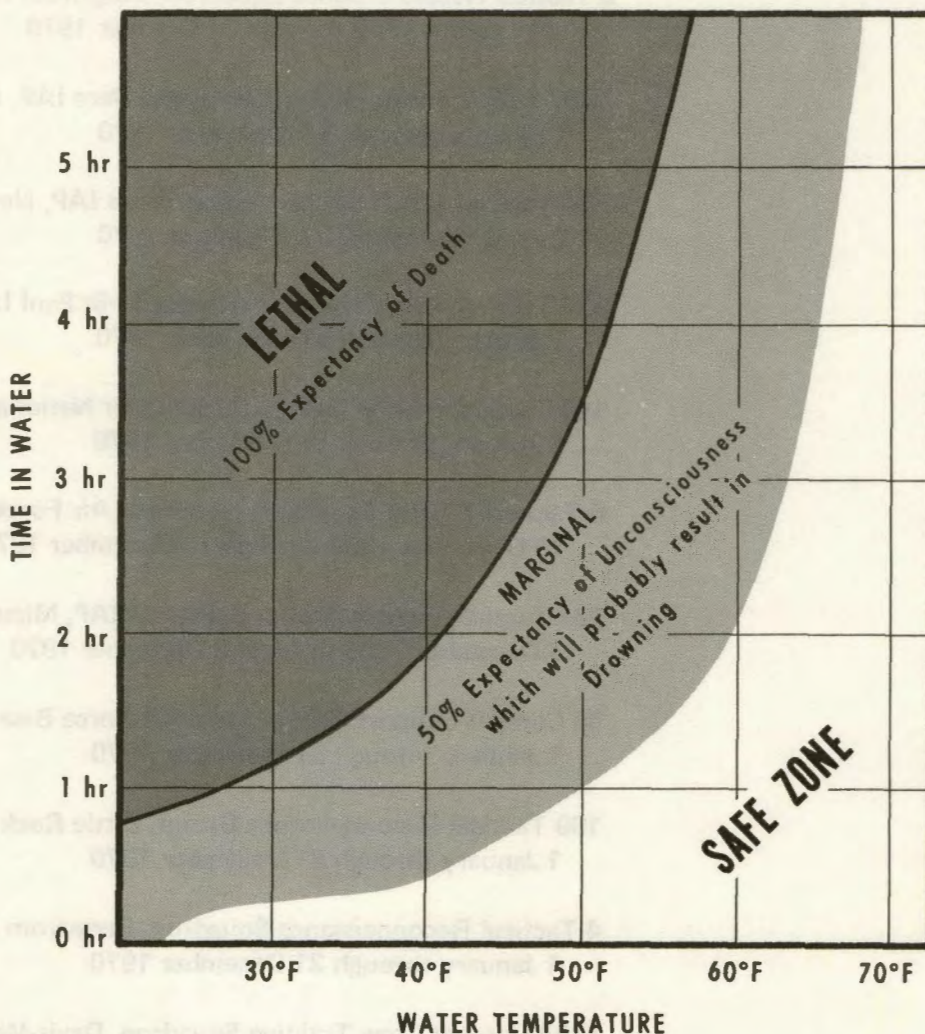
We've reprinted our "Life Expectancy in Water" chart
 for your use this summer. The chart is for use by you
 AND the members of your family. Those of you in the
 south should keep one handy when you press on to the
 North Country during that summer vacation — many lakes
 do not get above fifty degrees at any time during the year.

And don't give the "Lethal" area all of your attention.
 The lighter shaded "Marginal" area can kill you just as

dead. At 50 degrees for instance, you may die in three and
 a-half hours IF you don't drown in one hour because
 you're unconscious. The times of survival are
 approximate, there are many variables that decide how
 long you will last. Are you in good physical
 condition... are you fat or thin... have you been
 ill... what is your age... can you swim... will you
 panic...?

Summer is the time for family fun. So this year, watch
 for these hidden hazards. The forces of nature work
 inexorably — they are unyielding, inflexible, and
 relentless. It is these traits that built our fabulous vacation
 areas, and it is these traits that also take our lives.
 Recognize and accept the limitations placed upon you by
 Mother Nature. If you can do this, you'll have a ball this
 year... if you can't, it will be a sad summer... What's
 your choice? ➔

TIME OF LIFE EXPECTANCY IN WATER



Courtesy U.S. Naval Safety Center

Tactical Air Command

UNIT ACHIEVEMENT AWARD

Our congratulations to the following units for

524 Tactical Fighter Squadron, Cannon Air Force Base, New Mexico
1 September 1969 through 31 August 1970

9 Tactical Reconnaissance Squadron, Bergstrom Air Force Base, Texas
1 November 1969 through 31 October 1970

928 Tactical Airlift Group, Chicago-O'Hare IAP, Illinois
1 January through 31 December 1970

914 Tactical Airlift Group, Niagara Falls IAP, New York
1 January through 31 December 1970

934 Tactical Airlift Group, Minneapolis-St Paul IAP, Minnesota
1 January through 31 December 1970

140 Tactical Fighter Group, Buckley Air National Guard Base, Colorado
1 January through 31 December 1970

8 Tactical Fighter Squadron, Holloman Air Force Base, New Mexico
18 December 1969 through 17 December 1970

131 Tactical Fighter Group, Lambert MAP, Missouri
3 December 1969 through 2 December 1970

58 Combat Support Group, Luke Air Force Base, Arizona
1 January through 31 December 1970

189 Tactical Reconnaissance Group, Little Rock Air Force Base, Arkansas
1 January through 31 December 1970

4 Tactical Reconnaissance Squadron, Bergstrom Air Force Base, Texas
1 January through 31 December 1970

4454 Combat Crew Training Squadron, Davis-Monthan Air Force Base, Arizona
10 December 1969 through 9 December 1970



completing 12 months of accident free flying:

**4472 Support Squadron, Davis-Monthan Air Force Base, Arizona
1 January through 31 December 1970**

**313 Tactical Airlift Wing, Forbes Air Force Base, Kansas
1 January through 31 December 1970**

**38 Tactical Airlift Squadron, Forbes Air Force Base, Kansas
1 January through 31 December 1970**

**313 Combat Support Group, Forbes Air Force Base, Kansas
1 January through 31 December 1970**

**47 Tactical Airlift Squadron, Forbes Air Force Base, Kansas
1 January through 31 December 1970**

**191 Tactical Reconnaissance Group, Selfridge Air Force Base, Michigan
1 January through 31 December 1970**

**67 Combat Support Group, Mountain Home Air Force Base, Idaho
1 January through 31 December 1970**

**23 Combat Support Group, McConnell Air Force Base, Kansas
1 January through 31 December 1970**

**190 Tactical Reconnaissance Group, Forbes Air Force Base, Kansas
1 January through 31 December 1970**

**9 Tactical Fighter Squadron, Holloman Air Force Base, New Mexico
13 January 1970 through 12 January 1971**

**22 Tactical Reconnaissance Squadron, Mountain Home Air Force Base, Idaho
14 January 1970 through 13 January 1971**

**Detachment 2, 1 Special Operations Wing, Pope Air Force Base, North Carolina
17 January 1970 through 16 January 1971**

TRAGEDY

By
MSgt James H. Hearon, Jr.
Hq Special Operations Force
Eglin AFB, Fla.

Sergeant Timothy Casey of the State Highway Patrol received the call at 12:23 a.m. Even as the words of the radio dispatcher were still resounding in his ears, deep wrinkles appeared on his brow. Casey knew what was in store for him for the next couple of hours. The re-routing of traffic, setting up the flares, keeping spectators away, the nerve shattering screams, the muffled sobs; he'd been through it all many times before, and wished that it would all end. He would never get used to the sight of the dead, especially children's broken, lifeless bodies, twisted, bloody and dead.

Casey pressed down on the accelerator, turned on his pulsating red light, and headed toward the Castello Road crash site; all the while thinking, thinking, thinking. Why do these unknown creators of disaster affect him this way? He wanted to close his eyes and make it all disappear, but he knew it wouldn't. Why do they drive as they do and appoint him as spectator to their blood and gore? When will it end?

The urgent voice of the dispatcher sounded again, alerting two more vehicles to the accident scene. "It must be a bad one," thought Casey. "Wish I had switched duty with Bradley — then the three of us could have gone to see that new John Wayne movie."

Sgt Casey was a veteran of 15 years with the troop, since he was 25, right after he finished his Army enlistment. His wife, Nancy, was two years younger than

he, and his son, Roger, was just over 17.

It was now 12:28 a.m. and Casey had reached the highway. Seven more miles and he'd be there.

His thoughts were directed toward his wife and son. How thankful he was to still have his family after the accident two years ago. Nancy was a firm believer in seat belts and Roger acquired the habit from both his parents. The night that drunken driver ran the red light and struck their car, the belts saved their lives.

Three more miles to go now and Casey noticed how the traffic was starting to get heavier and slower. Even this far back they could sense the impending scene that lay three miles ahead.

Nancy's beautiful face would always bear the scar from their accident. She had several cuts from the broken glass, but one large piece of glass left its mark. She vowed never to drive again — and never has.

Roger has been driving for almost a year. Casey taught his son the principles of defensive driving and cautioned him constantly on the many dangers of driving. He was determined not to let his son become a highway statistic if he could help it.

Casey's cruiser was almost at the accident site. He saw Trooper Mansfield routing the traffic around the crash area. Red flares were burning in seven different places as a warning to approaching vehicles and casting a red eerie glow throughout the scene.

Casey parked his cruiser and as he was getting out a trooper came running up to him. Casey said, "How bad is it, Johnson?" "One dead, two injured, and three are o.k., Sarge," he replied.

Accompanied by Johnson, Casey walked toward

at CASTELLO

at Castello

waiting ambulance and suddenly he froze in his tracks. His eyes were glued on the car positioned off the highway, resting on its side — a white Chevrolet — the same kind that Casey owned. He couldn't think straight — "Where did Roger say he was going tonight? — Maybe he let a friend borrow the car." Casey's mind was running wild — "But," he thought, "There were hundreds of cars similar to his — don't jump to conclusions." He turned and saw two men in white placing a sheet-covered body into the ambulance. Casey could feel the cold sweat breaking out over his body as he asked, "Who's under the sheet?" The attendant replied, "Don't know his name, Sarge, but it's a teenage kid who got thrown out of the car and was killed."

Sgt Casey tried to erase the whole bad scene from his mind — he didn't dare pick up the sheet. He wanted to stop the investigation immediately — how could he escape this whole morbid mess before he discovered something that might cause a major catastrophe in his life?

His legs felt like they were lead pipes, but he managed to walk toward the overturned vehicle. He didn't notice the red sports car, which resembled a mass of twisted steel, further on down the road.

Then he felt the full impact — a Joe Frazier solid right to the midsection — a crushing sledge hammer blow to the chest. He saw them on the grass near the Chevy — Tom McMasters and Jack Goodwin — both good friends of Roger's. He knew now his worst fears had been realized.

The boys were sitting on the ground, head in hands, when suddenly Tom looked up and saw Sgt Casey standing there. "Sgt Casey," said Tom, "Oh Sgt Casey, if it wasn't for Roger we'd have been in that ambulance

too."

Casey clenched his teeth, "What are they talking about?" He thought, "How can they just sit there and take this whole thing so calmly? Were they telling him that Roger was some kind of hero and gave his life to save theirs? What was it all about?"

A face was in front of him and its mouth was moving, but Casey was not comprehending the words. His mind was still in a whirl but he slowly recognized the face of John Brady, his best friend's son, and also Roger's friend.

The words began to make sense — other things began to make sense. His thoughts recalled the day he bought his new car and Stewart Brady liked it so much he bought one exactly the same. This is the car involved in the collision! The boy talking was the one who was driving the car and he was not hurt — thank God for that.

Casey was piecing together the words John had spoken — a tire from a fast moving tractor trailer crossed the median and smashed into the red sports car that swerved to the right, causing John's car to leave the highway and overturn.

"Thanks to Roger always talking seat belts, we all had ours fastened and no one in the car was scratched," said John. "Poor guys in the other car didn't have much of a chance when that big tire crashed through their windshield."

Casey went off duty at 3:00 a.m. — entered his house and walked directly to Roger's bedside. He looked down at his young son, sleeping soundly, and thought to himself, "You are not aware of it son, but through your good example you may have saved three lives tonight."

Casey felt proud — mighty proud. ➔



"The enemy has a dirty habit of sliding in behind someone who is firing."

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 appear 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!

1st Lt Jesse W. Gonnam
352nd Fighter Squadron
353rd Fighter Group
P-47

Timing is a most essential part of defensive tactics against enemy aircraft which are in a bouncing position above the flight. At high altitudes I believe the P-47 can both outturn and outclimb either the ME 109 or the FW 190. If one knows his own and his aircraft's abilities he can wait for the correct time to break up and into them. This is strictly a matter of individual opinion, if the enemy aircraft are over 1000 yards away, one can wait and break in plenty of time to drop behind. In a high speed dive they cannot turn with the P-47. Enemy aircraft have some bad characteristics at high speeds and at high altitudes which should be used to the best advantage. Above 25,000 feet the P-47 can outturn them either right or left and at the same time gain enough altitude to put the pilot in a position to bounce.

Only when caught with one's head up and with an enemy aircraft astern, would I roll and try to outdive the enemy. And I would be rough on the controls and

every bad flying method available to prevent strikes on myself. A good sloppy aileron roll is a good evasive maneuver.

With the additional power of the water injection system one can outrun the enemy aircraft on the deck. Low clouds are very good cover and can be used. I also believe that at no time should one ever fly coordinated while there is an enemy astern, this is really asking for it.

On several occasions the squadron has been bounced from above by superior numbers. By use of timing and the flying advantage of the P-47 we came out on the offensive end with victories for us and no losses. The methods described proved most effective. At no time would I sacrifice altitude or speed as they are most essential to out-perform the enemy. The enemy is always in the sun and a turn into the sun will often disrupt his plans. A head-on shot is a very poor position but a good bluff will sometimes put the enemy on the defensive. Remember, I said sometimes!

In defensive tactics a wingman is one's best asset, for two pilots can trap and get the enemy by the old break and slide in behind method. A wingman who does his job well often gets kills through good headwork. Nothing so reassures a pilot as to have his buddy or wingman stay with him and help him out.

The ability of an element to operate in pairs or a flight of elements is the key to all offensive attacks, in my humble estimation. A good wingman is worth his weight in gold and an element should fly together enough so that R/T conversation is unnecessary to plan or execute an attack.

If possible, bounces should be made from above and from out of the sun. Timing is again an essential factor in the attack. The enemy frequently half-rolls to evade with sufficient top cover and, under the present policy of destroying enemy aircraft, I would surely follow him down. On frequent occasions the enemy has rolled around in an Immelman to end up in a position to attack. This is one reason why I would follow him down. As a P-47 can outlive the enemy, one can often complete a kill before placing himself too low to reform with the formation. Be wary of getting pulled down where the enemy can strike from behind. Always remember that the enemy is a cunning, dangerous fighter and that he uses every advantage given him. In turns at high altitude, one can out turn the enemy enough to get deflection.

Only when low on gas or outnumbered more than four to one would I refrain from attack. Providing you had altitude and gas you would really have to be outnumbered to refrain from an opportunity to destroy the enemy.

I have often been guilty of overshooting. Of course, there is no simpler way to prevent this than to chop the throttle. If this doesn't work a quick barrel roll will slow

one down and put you in a position to fire again. Skidding is a good method. Once one has started an attack and has a clear rear with good support above, I'd chase the enemy into the ground if that were possible. Some of these boys take a lot of shooting and there is no surer way of knowing the enemy aircraft is destroyed than to see the plane hit the ground. It is also a very satisfying sight after one has been fired on a few times.

If possible, I would avoid deflection shots. The average pilot has a hard time hitting with a lot of deflection. Of course, there are often lucky hits that destroy the enemy but there is nothing so effective as a good astern shot. Head-on shots are hard and should be avoided if anything else is possible.

I always break off combat in a tight, climbing turn and have a good look behind as the enemy has a dirty habit of sliding in behind someone who is firing. That is where a wingman comes in but often he too can be attacked. In this case you can clear his tail if you have broken combat properly and are alert. A pair of pilots who have flown together can easily box a single in, and then I say shoot him down regardless of who does the shooting. I certainly do not disapprove of wingmen firing at the enemy and, if the case arises, when they are in position and I am not, then I fly wing to the wingmen, giving them protection. Some wingmen are damn fine shots. Cooperation and an unselfish attitude can score more than any other known method.

The bounce can often be made by the flight leader who is so designated by virtue of his experience and ability. There are times when the leader cannot bounce and the element can and, I say here and now, that the flight leader should let the element lead the attack if he cannot see the enemy. The element of surprise is most essential and no time should be wasted with long R/T calls to locate the enemy. Good eyes are one's most valuable possession. Recognition of the enemy is a must and these two combined make it much easier to destroy him.

These tactics must be carefully worked out by the individuals flying together and understood thoroughly as there can be no breach of air discipline in a dog fight. Only a good understanding and constant practice can insure that a good flight will operate to its fullest perfection.

A fighter pilot is an individual and his thoughts and actions must be complete and instantaneous. Often, there can be no changing of decisions, and on the other hand, they must often be changed many times. Therefore, those gifted persons must be singled out to lead and as leaders they must strive for perfection. The P-47 is a wonderful airplane and a very good gun platform but the pilot makes the difference between a destroyed plane or just a scared enemy pilot.

TACTICAL AIR COMMAND

Crew Chief of the Month

Staff Sergeant Edward R. Walka, 4453 Operational Maintenance Squadron, Davis-Monthan Air Force Base, Arizona, has been selected to receive the TAC Crew Chief Safety Award. Sergeant Walka will receive a letter of appreciation from the Commander of Tactical Air Command and an engraved award.



SSgt Walka



TACTICAL AIR COMMAND

Maintenance Man of the Month

Staff Sergeant Robert G. Gault, 49 Tactical Fighter Wing, Holloman Air Force Base, New Mexico, has been selected to receive the TAC Maintenance Man Safety Award. Sergeant Gault will receive a letter of appreciation from the Commander of Tactical Air Command and an engraved award.



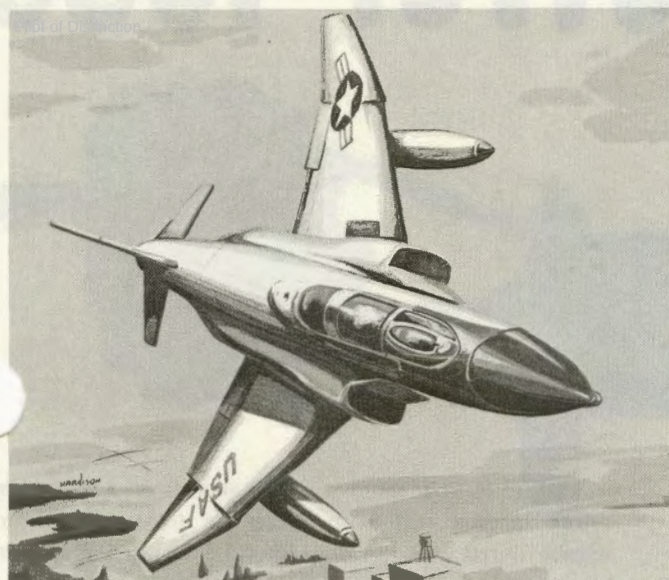
SSgt Gault

TACTICAL AIR COMMAND

Pilot of Distinction



Maj Williams



Major Lee E. Williams of the 33d Tactical Fighter Wing, Eglin Air Force Base, Florida, has been selected as a Tactical Air Command Pilot of Distinction.

Major Williams was flying in the front seat of an F-4E on Range 62 at Eglin. During the turn to downwind after the third strafe pass, he heard and felt a series of small explosions, followed immediately by dense smoke in the cockpit, numerous lights flashing on the telelight panel and uncommanded inputs to the flight control system. The rear seat pilot was ordered to eject because of intense heat and very heavy smoke. The ejection was successful.

Major Williams made one short radio transmission, declaring an emergency, and turned both generators off. A wingman joined up and checked the airplane for visual damage. Smoke and occasional flame were observed in the rear cockpit. The airspeed indicator went to zero, and Major Williams signaled his desire to land on the wing.

Enroute to Eglin AFB, the airplane continued to

receive strange inputs in the flight control system. Although this situation was discomforting, the airplane was controllable. Major Williams lowered the tail hook, indicating an approach end arrestment was necessary. The gear and flaps were lowered using the emergency systems and were checked safe by the wingman. A successful approach end arrestment was made, using BAK-12 arresting gear.

By saving this aircraft, Major Williams made it possible to discover the cause of the fire. A fleetwide fix is being devised which will probably enable the United States Air Force to save many F-4 aircraft.

Major Williams' professional knowledge of aircraft systems, combined with careful analysis of a serious emergency, enabled him to save a valuable combat aircraft and readily qualifies him as a Tactical Air Command Pilot of Distinction.

flameout vs power loss



Picture in your mind a C-130 aircraft on a maximum effort landing roll with propellers transitioning into reverse thrust on a hot day. Interphone silence is broken by the report, "Number Two just flamed out." The pilot moves the throttle to ground idle and the engine accelerates to on speed. Was it a "flameout" or a "power loss?" Are "flameout" and "power loss" synonymous? The answer to the last question is "No," only the initial indications are similar. For C-130 operators and maintainers there is a decided difference between the two, and both conditions require immediate corrective action.

From a mechanical point of view let's discuss the two. What constitutes a flameout? A flameout can only be caused by cutting off fuel to the engine burner cans and is usually caused by a mechanical malfunction in the fuel system, foreign matter in the fuel system, or a deliberate positioning of engine controls to stop fuel flow. Engine instruments and indicators may or may not reflect an impending flameout condition. Fortunately, flameouts are a rare occurrence and when they occur, the propeller negative torque system goes into operation and the Emergency Engine Shutdown Procedure is the proper corrective action.

Now, let's take a look at a "power loss." Power loss

condition where power demands by the propeller exceed the power available from the engine and result in an RPM drop. Under most conditions, power loss can be predicted and action by the flight or maintenance crew can lessen the probability of its occurrence. Some power losses are caused by improper operator or maintenance procedures rather than equipment malfunctions. For instance, a power loss could occur during landing ground roll as a result of the propeller reverse pitch blade angle demanding power in excess of engine capability. To further explain this situation, let's recap for a moment: high ambient temperatures cause reduced engine performance; also, high ground roll speeds require greater engine power to drive the propeller into full reverse pitch. Now, add some other problems; a plugged or restricted ram air sensor in the engine inlet will cause a lean fuel schedule, mis-rigging of the engine propeller controls will adversely affect engine power output and a deteriorated engine (eroded or dirty compressor, for example) can reduce engine performance, causing a constant power deficiency.

To give a more detailed explanation, the ram air sensor in the engine air inlet housing is used by the fuel control to automatically compensate for the aircraft forward velocity. This ram air sensing pressure is felt in a bellows chamber of the fuel control. Since the ram air sensor uses free air, it is subject to clogging by dust and dirt. Clogging of this orifice results in a loss of ram air sensing. The fuel control then, cannot provide a richer fuel schedule when required or automatically compensate for the aircraft forward velocity, causing a loss in power availability. Anything that can lean the fuel schedule during the critical landing approach should be corrected. A clean and unobstructed air pressure sensing line to the fuel control is a must for proper engine operation. Symptoms of a plugged ram air sensor are an increase in negative torque sensing indications during the landing approach, or an exceptionally low TIT if the TD system is switched to NULL while at altitude.

CAUTION

Do not assume that NTS action is solely the result of a stopped up fuel control inlet sensing line because NTS action can result from a number of causes and it plays a very important part in the corrective control of the T-56 engine.

Dirt adhering to the compressor blades will cause an engine's performance to deteriorate. If you visualize each compressor blade as a wing fouled with snow and ice, you readily see that the wing's capability to produce lift is

impaired. So is the compressor's ability to pump air when the blades are dirty. The result is lower mass air flow and lower horsepower. For this reason, compressor cleaning equipment is available and instructions are contained in the applicable tech orders. This same low power can be a result of bleeding the engine excessively or leaks in the bleed air ducting. These possibilities should be investigated before a decision is made to clean the compressor. Whenever the compressor is cleaned, the abrasive action of the cleaning compound also erodes away some of the base metal of the blades and vanes. A badly eroded compressor also results in low power, so indiscriminate cleaning of the compressor should be avoided.

These variables, singularly or in combination, may create a condition where power demands from the propeller exceed power available from the engine, hence, "power loss." Should the power loss cause engine RPM to decrease below 94 percent, the acceleration bleed valves open and the engine will not transmit any usable power to the propeller. Since power losses usually result from exceeding engine capability the following three precautions are recommended:

1. Operate the aircraft within the established limits as stated in the flight manual.
2. Know the approximate performance level of each of the four engines on the aircraft. Although this knowledge will not prevent a power loss, it will provide the flight crew with prior knowledge of which engine(s) may lose power if excessive demands are made, and what the best corrective action might be.
3. Since exceeding available engine power causes a power loss, careful manipulation of the throttle (such as a momentary hesitation at ground idle) can prevent power loss at the cost of a slight increase in landing ground roll. When armed with the knowledge that one or more engines are incapable of producing rated power, you have the upper hand and can match your throttle technique to the occasion.

In conclusion, a power loss is not necessarily a flameout. Although, the early indications are the same, a power loss can also be caused by demanding more power from the engine than it can produce. Since this situation is predictable, it means that generally, power losses should not come as an operational surprise. The effects of a power loss can be countered by application of proper, pre-planned procedures. And a slightly increased landing ground roll distance is a small price to pay for the assurance of stopping while still on the runway. ➔

CHOCK TALK

...incidents and incidentals

F-4 Hot Section Problems

Turbine blade failure and the associated problem of A/B fuel reference line failure is still a "hot" item in the F-4C and D. The possibility of a turbine blade failure inducing a fuel line failure with a resulting engine bay fire remains very real. Solution of this problem has been given the highest possible priority and contractors have been told that money is no factor.

The big push centers around 3 projects. The first is additional clamping on the A/B fuel reference line to prevent failure and the possibility of an engine bay fire in the event of turbine blade failure. Prototype clamping will be completed during the week of 24 May 1971, and a no-kit TCTO should be out within 10 days. It won't help the blade failure problem but hopefully we won't burn up.

The second project is to retrofit new HI-FLEX blades or blunted HI-FLEX blades in place of the LO-FLEX blades. The contractor has maxed production by going to two 12-hour shifts per day. We are putting the blades in as fast as we get them.

The third project is procurement of the new Rene' 80 turbine blade. Efforts to expedite delivery resulted in an October 71 versus December 71 start of delivery. Expediting efforts will continue but total retrofit of this new blade is well down the pike.

In the meantime, the maintenance "bright light" inspection is very important. It can pick up impending failures and avoid the airborne emergency. Jocks can help, too, by avoiding unnecessary throttle bursts or over-temps which decrease blade life. Turbine blade failures are evidenced by surges, an abrupt change or fluctuation of engine instruments, or a change in engine noise or vibration. If practical, the affected engine should be brought back to idle for recovery and then shut down during the landing roll-out.

Isn't it nice to have two engines?

Fire-in-the-hole?

During recovery from a dive bomb pass the F-4 aircraft commander noticed the left engine fire warning light illuminate. He retarded the throttle to idle, the light went out. The fire circuit checked and no other indications of fire were evident. During recovery the light would illuminate for a few seconds, then stay out for five minutes. The bird was landed using single engine procedures — the left engine was shut down on the roll-out.

They found the rear flange of the left engine BLC duct assembly cracked. The hot air blowing out into the engine compartment was activating the fire warning circuit. This duct is being replaced by a TCTO — that should solve the problem.

Preflight--Who, Me?

A C-131 crew in another command was in the pattern and had just completed a touch-and-go landing when they discovered the left main indicator showed a barber pole indication when the gear was retracted. The landing gear was lowered and a full stop was accomplished.

They found a copy of TO 1C-131A-2 lodged between the two tire rims on the left main gear. Personnel error was obvious — three ways...

The man who used the Dash Two didn't take it with him.

The man who accomplished (signed off) the Dash Six exterior inspection didn't see it.

The man who did the Dash One exterior inspection didn't see it.

There must be a new way to check tires for cuts, that don't know about.

with a maintenance slant.

Chomp Chomp Chomp

A T-38 pilot stopped in the chocks and began his shut-down checklist. An additional crew chief approached from the left and removed the pins from the refueling pre-check compartment. He separated them and while still kneeling under the bird, tossed the pitot cover toward the nose of the aircraft. He then tossed the nose gear pin to the crew chief at the nose. The pin took a detour while passing the left engine intake and was ingested. What's next?

Burned Battery

As the C-123 was rolling out, the throttles were retarded and all the generators went off the line. Then the loadmaster reported dense smoke in the cargo compartment. The pilot advanced the throttles to 1200 RPM to restore generator power and declared an emergency to the tower. They stopped, set the brakes, shut-down, and began to abandon the aircraft.

As the pilot was on his way through the cargo compartment he observed the battery compartment smoking. The panel was removed and they disconnected the battery. The battery was too hot to touch so they maintained a fire watch on it till arrival of the fire department. A fireman using asbestos gloves removed the battery from the aircraft.

They found maintenance factor on this one — all four of the generators were set too high. The high voltage overheated the ni-cad and dissipated the electrolyte to the point where a cell-to-cell short developed, destroying the battery and causing all their problems. Why didn't they catch it? Their voltmeter was reading low, indicating it was well in the electricity department!

F-4 Throttle Linkage

Two nuclear and three 45-degree dive events had been completed, low angle was in progress. On the third low angle pass the throttles were retarded to idle to stabilize at the programmed airspeed. At weapons release the master caution illuminated as the right generator dropped off the line. Then the aircraft commander noted the right engine RPM dropping through 40 percent and the EGT stabilized at 100 degrees. A restart was attempted after cycling the throttle off and back to idle, it was unsuccessful. During recovery, windmill RPM rose from 21 to 24 percent. Another airstart was tried and it worked.

They found the right throttle out of rig. The aircraft had flown thirty times since being received from IRAN. A one-time throttle rigging check was made on all aircraft in the wing.

For Want of a Pin

As the F-100 pilot rolled in for a high angle bomb pass, he discovered that the engine would not respond to throttle reduction. He delivered his ordnance and returned home with the RPM hung at 92 percent. Emergency fuel selection did not help the problem. He made a precautionary landing using the fuel system shut-off switch to shut the engine down.

Investigators found that the main fuel control actuating rod mounting bolt had worked free during flight. This was the first flight following an FCF for a fuel control change. The cotter pin had not been installed in the actuating rod mounting bolt. During flight, vibration allowed the nut to turn off the bolt and subsequently, the bolt fell out allowing the throttle linkage to separate. What if it had hung at 80 percent???

WHY "TEST" THE ANTI-SKID?

By Major Stephen R. Dvorchak
Commander, Det 1, 401 TFW

This short missive came about for two reasons; an F-4 forlornly stuck in the mud off the side of the active, and a chance remark by the pilot. After some casual in-house surveying of opinion done in ops, at the bar, or wherever it was handy, some points come to mind that might be worth pondering.

The circumstances that precipitated all this were not really unusual. They were: a 15 to 20 knot crosswind component, a wet-to-damp runway, and a decision (I probably would have done the same thing) by the pilot to make a no-chuter on the 8000 odd feet of runway he was going to use. In short, a combination of factors that make you plan and work at the approach, but don't cause you to worry. And so it went, a book approach and a perfect arrival right on the spot. Then after about a thousand feet, POW! This was followed by a burst of spray and a light drift to the right from a blown right tire. The right drift reversed and developed into a wild swing to the left, at one point the bird was pointed ninety degrees to the runway heading. Then the aircraft's track gradually began correcting as it headed off into the goo with the nose gear still tracking outside of the left main. So we dug and dug, called the wheels upstairs to let them know, jacked and jacked, changed tires, grunted and groaned, got it out and

wrote up the incident (thank heavens!) report. And I started to forget it, except for the chance remark by the pilot, "I checked the anti-skid . . ." I asked myself, "Why did he want to do that?"

I immediately had an answer, "To make sure it was working in case he needed it." This troop probably would need anti-skid since the charts show a landing roll of about 7500 feet for his circumstances. But what about all the other guys who "test" the anti-skid (a whole bunch in the opinion poll) as a matter of course. Most who do it get on the binders after the chute is out when speed is fairly high, probably because it's easier to cycle the system. Why do it then? If the light blinks when you put the gear down, the only other way you're going to find the system has failed is to blow a tire (or two). If I'm going to do that, I want to be going as slow as I can. Things aren't so critical in terms of system energy sideslip angles and a whole bunch of engineering terms I'm not familiar with. The thing that has everything going to worms is velocity, and a lot of those things deal with V squared. I'd rather blow a tire at taxi speed (I have) than at 90 knots (I've done that, too), let alone 140 knots or anything any faster (which I haven't). It has something to do with air control.

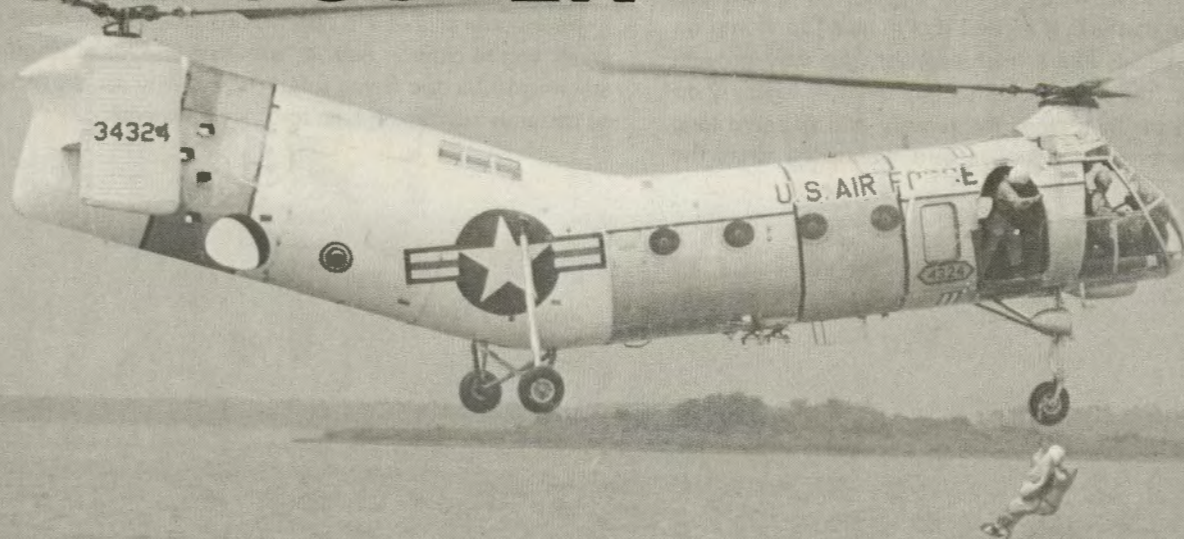
So think some more. There really isn't any requirement to check the system on normal flights (FCFs another matter). If I need it, I'm going to stomp on the brake pedals like a mad elephant, but why provide chuckles for the gang? I'd rather buy the beer regularly on my own hook than close the runway and sit those long extra minutes in a sideways bird wondering what the

tower, crash crew, remainder of the flight, and the man upstairs are thinking. If you've really got to have that extra assurance that all systems are GO, why not do it when you're slow — and let someone else make lengthy statements for the flying safety types. Why set things up to certainly risk an airplane to check a system?

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HELICOPTER



Rescue Limitations

Courtesy of U.S. Naval Safety Center,
WEEKLY SUMMARY

This article is directed to individuals with little knowledge of helicopter limitations. The helicopter is a very versatile machine but it too has its shortcomings. It is necessary, therefore, that all of you potential helicopter rescues be aware of its limitations. Don't be lulled into a false sense of security. The helicopter cannot always get you out of a tight spot.

Daylight, at-sea rescues can normally be effected with little difficulty. However, when you consider high sea states, high winds, survivor fatigue/shock/incapacitation, surface fires or parachute complications, the picture can change rapidly. When an already fatigued (probably in shock) individual has to fight high seas/winds, the need for good flotation equipment becomes absolutely necessary. The helicopter rotor downwash and noise could be frightening and certainly don't contribute constructively to the rescue attempt. The helicopter may have a qualified rescue crewman aboard in a wet suit to enter the water and help the survivor; then again it may not. Surface fires certainly need no explanation and attempting to pick up a survivor in a chute is taboo due to the drag of the chute and the hazard of the parachute to the helo itself (being sucked into the rotors).

Night, at-sea rescues can have all of the above elements plus disorientation of the survivor, and to a lesser extent

the crew, due to darkness. From the helicopter pilot standpoint the night, at-sea rescue is much more difficult than daytime rescue operations. The transit to the SAR area may be under low level actual instrument flight conditions (depending on the amount of light and the weather). The search phase will require at least one pilot flying by instruments with the attention of the other pilot split between assisting the controlling pilot and visual search for the survivor. Night detection of survivors generally requires that the rescuee have a source of light upon his person.

Location of the survivor does not assure rescue at night under certain adverse conditions. Hovering under instrument conditions requires a functioning automatic approach device and a crew that is proficient in its operation. The weather and available light will dictate whether a manual visual hover can be maintained. During an automatic approach the helicopter's altitude and/or airspeed are automatically controlled using a radar altimeter and doppler sensors, respectively.

The helicopter's speed and range are restricted when compared to high-speed fixed-wing aircraft and the survivor may be too far away, or at best the distance may require a prolonged flight for the helicopter to reach the scene.

Day, land rescues are normally accomplished with relative ease. However, limitations are often imposed by the environment. Weather, wind or icing conditions



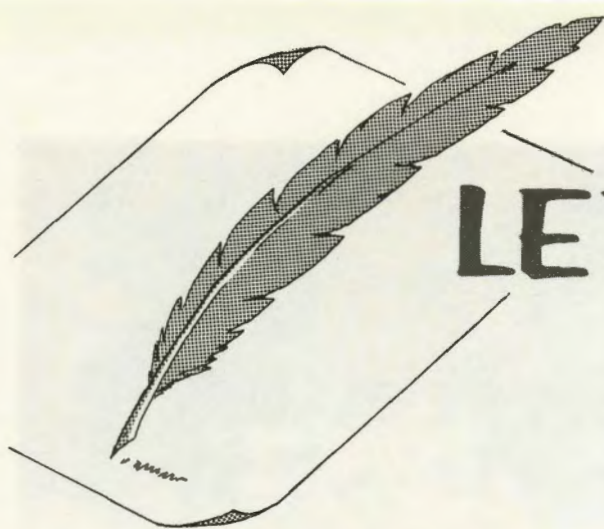
severely limit or preclude a rescue attempt.

Density altitude, high temperature and gross weight are other factors affecting helicopters in hovering for pickup. Most helicopters currently in use can hover at sea level in extreme temperatures but combinations of high temperature and high humidity or terrain elevation may preclude hovering. At extreme altitudes (example: high Sierra Nevadas) the helicopter will have difficulty hovering any time and may be unable to do so at all. In view of the helicopter capabilities and limitations noted, it is always best to be in the lowest and flattest spot available, so that the helo can approach, land and take off into the wind. This also aids the pilot in being able to see the rescuee, especially under marginal visibility conditions. It may enable the helicopter to hover from the creation of ground effect or make a landing in spite of the higher altitude due to terrain elevation.

Night, overland rescue attempts will have many or all of the restrictions discussed above plus the problem of terrain avoidance and is therefore a most hazardous operation.

The helicopter is a versatile machine. Its weak points under extreme conditions have been pointed out. You, as a survivor, may only have to step into a helicopter and take a short ride home. Then again, the situation may be quite different. As a survivor, you should have a basic knowledge of your rescue vehicle and its capabilities and limitations. It may save your life. ➤





LETTERS

to the Editor

THE SINK HOLE

Reference "The Sink Hole," Jan 71. There's a better way. See "GPIP" in USAFE's safety magazine about 1966.

ELMER R. OLSON
DCO-OBO
Reese AFB, Texas

You're assuming an electronic (GCA, ILS) or mechanical (VASI) glide slope. The "Sink Hole" also lies in wait for the jock in a VFR pattern using eye-ball only. Many only equate the sink hole with the duck-under maneuver we perform at some point short of the overrun — this is erroneous. To put the sink hole in its proper perspective it must be detached from things that tend to confuse the issue.

The sink hole maneuver is caused by an imbalance between thrust and drag — period. If your drag exceeds the thrust available, you must descend or bleed off airspeed. If the thrust discrepancy is too great — you are in the sink hole. Whether you get out or not is simply a matter of how badly you've allowed yourself to be had before initiating corrective action.

The GPIP article you refer to is in the May 1965 issue of AIRSCOOP. Another interesting treatment of this subject can be found in the August 1966 issue of AEROSPACE SAFETY titled, "The Greatest Thing Since The Wheel." It deals with something called MPAR, Modified Precision Approach. It was a Strategic Air Command modification of the PAR glidepath which moved the glide path interception point (for B-58 aircraft only) up to a thousand feet outward from the runway threshold. This operation was only done at Bunker Hill and Little Rock.

Today, the only reference we can find to modified GPIPs is in the Air Training Command operation. For example, at Webb the VASI GPIP is 450 short of the runway threshold and used for T-38 operations only.

Evidently, moving the GPIP didn't impress the right

people because we're now changing our GPIP criteria of 750 feet, adopted in 1947 . . . to 775 feet. Ed.

Subject: Violation of Safety Principles

1. I wish to point out a serious deficiency in the TAC Safety Program. This particular deficiency has created a void in the Safety Education Program, a previously strong, well-formulated and significant program that brought much needed attention to problems and remedies in the various and sundry functional areas of Safety. The deficiency to which I refer is the absence of "Fleagle" in the January 1971 edition of TAC ATTACK.

2. The monthly safety magazine has always been a strong purveyor of pertinent safety material. Fleagle performed outstanding service in attracting attention to problem areas in the safety program and his absence in the last edition was a serious violation of safety education principles.

3. Recommend that a safety supplement to January 1971 TAC ATTACK be published and Fleagle be the subject of the supplement.

ROBERT W. CARMICHAEL, JR., Captain,
USAF
Explosives Safety Officer
Office of Safety

You caught us. Unfortunately, we ran into a little bind and had to let Fleagle use his accrued leave time (17½ days) just before the January magazine went to press. Incidentally, he visited his family who were wintering Pea Island on North Carolina's Outer Banks.

TAC TALLY

AIRCRAFT ACCIDENT RATES

* Estimated

UNITS

MAJOR ACCIDENT RATE COMPARISON

	TAC		ANG		AFRes	
	1971	1970	1971	1970	1971	1970
JAN	1.6	4.8	16.1	5.9	0	0
FEB	1.6	3.9	11.6	2.6	0	0
MAR	3.1	4.6	7.0	1.7	0	0
APR	2.7	4.9	5.3*	2.4	0	0
MAY		6.2		3.6		0
JUN		5.5		3.6		0
JUL		5.1		6.1		0
AUG		5.0		6.9		0
P		4.7		6.6		0
OCT		4.5		6.8		0
NOV		4.6		6.7		0
DEC		4.6		6.6		0

	THRU APR			THRU APR	
	1971	1970		1971	1970
9 AF	2.3	3.2	12 AF	1.5	6.9
4 TFW	0	6.7	23 TFW	0	0
1 TFW	0	0	27 TFW	0	0
33 TFW	0	0	49 TFW	0	15.8
31 TFW	12.7	11.5	479 TFW	0	13.5
354 TFW	0	0	474 TFW	0	0
4403 TFW	18.2	—			
363 TRW	0	8.0	67 TRW	0	11.0
			75 TRW	0	0
316 TAW	0	0	64 TAW	0	0
317 TAW	0	0	313 TAW	0	0
464 TAW	0	0	516 TAW	0	0
68 TASG	0	0	58 TFTW	5.6	16.8
			4442 CCTW	0	0
			4453 CCTW	9.7	0
			71 TASG	0	0
TAC SPECIAL UNITS					
1 SOW	9.3	7.3	2 ADG	0	0
4409 SUP SQ	0	0	4500 ABW	0	0
4410 SOTG	0	0	57 FWW	0	0
USAF TAWC	0	—			

TAC SUMMARY

	APR 1971	THRU APR	
		1971	1970
TOTAL ACCIDENTS	2	12	14
MAJOR	1	7	13
MINOR	1	5	1
AIRCREW FATALITIES	0	5	11
AIRCRAFT DESTROYED	0	4	12
TOTAL EJECTIONS	0	6	9
SUCCESSFUL EJECTIONS	—	6	5
PERCENT SUCCESSFUL	—	100	56

