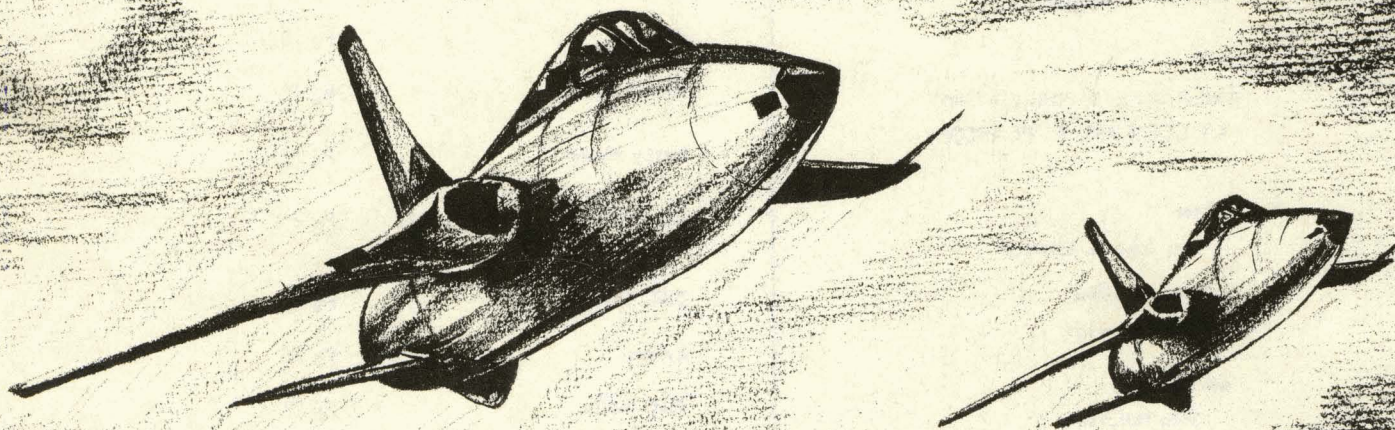


TAC ATTACK

APRIL 1968



progressive
guardsmen page 4

HARRISON

for efficient tactical air power

TAC ATTACK

APRIL 1968

VOL. 8 NO. 4

TACTICAL AIR COMMAND

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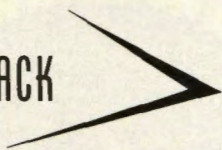
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TACRP 127-1

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.

Contributions of articles, photos, and items of interest from personnel in the field are encouraged, as are comments and criticism. We reserve the right to edit all manuscripts for clarity and readability. Direct communication is authorized with: The Editor, TAC ATTACK, HQ TAC (OSP), Langley AFB, Va. 23365.

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The Safety Staff

Sometimes the functions of a headquarters' safety staff appear misunderstood. Not all of our time is spent in staffing routine reports and correspondence. For the past couple of years we have been elbow-deep in a variety of problems ranging from improved flying helmets, to escape systems and flight control actuators. The progress in many areas has been most encouraging. The F-84 seat retardation chute is now a reality and its seat-man-chute entanglement hazard is history. The F-105 ejection seat is presently being modified with a retardation chute and a gun-deployed parachute. A lot of staff effort went into this one. These modifications will provide a greatly improved ejection capability for F-105 pilots. By September, F-5 pilots should be seeing significant improvements in their ejection system. The F-4 egress problems appear pretty well resolved with the addition of the reduced charge ejection cartridge, a faster opening parachute, and seat sequencing.

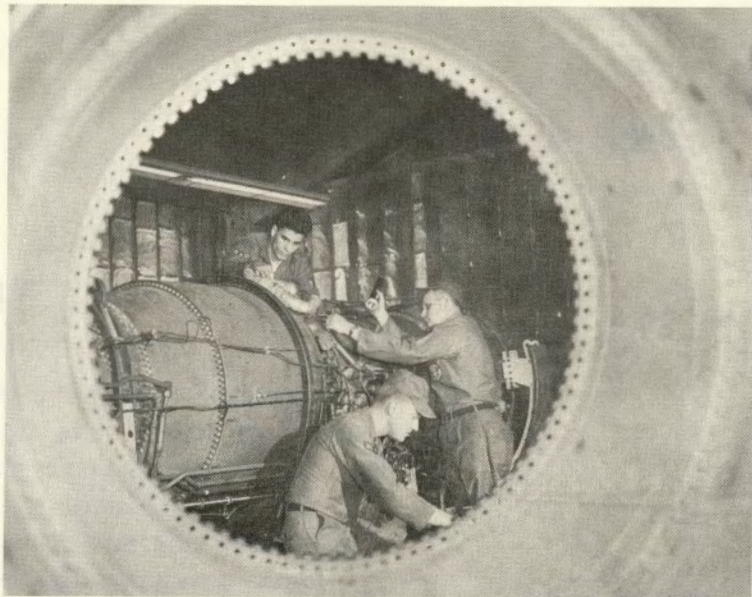
At the present time, and in conjunction with other TAC staff agencies, we are putting our full effort behind several improvements which should make the crewmembers' job safer and easier. They include such things as a better stall warning system and improved throttle quadrant for the F-4, improved ejection system for the F-100, and improvements in the extraction system for some of our prop-driven aircraft. Most of these programs are well down the road. We monitor their progress closely and each month brief the Commander on the status of each item.

So you can rest assured that your problems in the field are receiving considerable high level attention and effort. The aim of the TAC Safety Staff is to help make your job more effective ... and safer.

H. B. SMITH, Colonel, USAF
Chief of Safety

Problem Solving Guardsmen

by Don Reynolds



TAC's Air National Guard Forces trim accident rate by cutting 'pilot error'

It's no secret!

To keep more than 800 aircraft flying with combat ready crews calls for a lot of high powered effort. And to continually improve the flying safety record of this good sized fleet, manned largely by part-time flyers, requires a program guided by men who look on "no-accident flying" as more than a fringe benefit. The three year record of TAC's Air National Guard forces is a sure-fire exhibit of the progress made by these reserve airmen.

Three years ago the Air Guard was faced with a 13.2 accident rate. In 1966 it was reduced to 10.7, and in 1967 the rate was again reduced to 9.9. Considering that many aircrews were transitioning into more modern aircraft during 1967, the decreasing rate is even more notable.

Air National Guard units assigned to TAC flew 222,714 hours in 1967. Their 45 squadrons, equipped with 16 different kinds of aircraft, were manned by men who perform about 75 duty days a year. With one exception, the missions of these units are similar to TAC's.

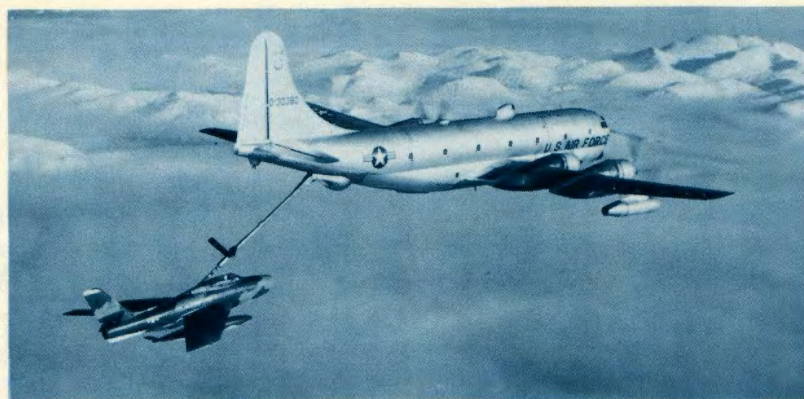
There are 23 tactical fighter groups in the Air Guard flying the F-84F, F-86H, F-100C/F, and F-105B. The 12 tactical reconnaissance groups fly the RB-57A/C, RF-84F, and RF-101H. Four special air

warfare commando groups fly the C-119C, HU-16, and U-10. Refueling groups fly KC-97Ls, and a tactical electronic warfare group flies the C/EC-121. The rest of the Guard's inventory is made up of a few administrative and support aircraft.

Five air-refueling groups are flying KC-97L aircraft. They are the only tanker groups in TAC, reserve or regular. More about them later.

The Air Guard has a fair share of highly qualified command pilots. But the average Guard flyer, who in most cases has previously flown several years with a regular force, has an average of from 2,500 to 3,000 hours of total time, and from 250 to 650 hours in his unit's bird. (The tanker units are an exception with averages of 4,000 total and 800 hours in the KC-97L.) This average experience level seems to remain constant from year to year, while the longevity of their bird continues to climb. These are the basic elements that worked both for and against Guard commanders in their efforts to reduce accident losses.

Accidents caused by materiel failure increased by more than 15 percent during the three year period. There is little doubt that this rate would be considerably higher if it were not for specific maintenance programs designed to counter deterioration of the



Air National Guardsmen fly throughout America's northern hemisphere. Opposite Page: RF-101 technicians of 123 TRG work over a jet engine at Louisville, Ky. Above: Pilots referring to Dash One are Maj Charles McSwain (left) and 2Lt Michael Dahlem, 184 TRG, Fort Smith, Ark. Over Canada, enroute to Alaska, a 136 ARG tanker from Dallas, Tex., refuels an F-84F of the 102 TFW, Logan, Mass.



TAC's ANG aircraft flew over 100,000 sorties in 1967 supporting regular forces and Guard training programs. Left: Boom operator MSgt Frank Hutchinson, 136 ARG, directs nozzle to F-100 of 184 TFG, McConnell AFB. The 136th safely off-loaded almost five million pounds of fuel in 1967, both stateside and during two Creek Party deployments to Germany. Right: Guardsmen of 156 TFG, San Juan, P.R., transitioned into F-104s in 1967.



Maintenance support is a primary contributor to the Guard's improving accident rate. This includes men of the 150 TFG at Kirtland AFB. Below left: Radio technicians servicing F-100 gear are (from left) SSgt Amado Chavez, A1C Gary Jones and SSgt Robert Akerley, NCOIC. Right: Inspecting 20mm cannon are SMSgt Howard Doerr, quality control, and TSgt Charles Jones, weapons maintenance supervisor.



problem solving guardsmen

older aircraft. It is an exceptional program to say the least.

But, another reason for the decreased accident rate is equally exceptional. With the rate being pushed higher by old aircraft problems, there was only one major area left for improvement. That was 'pilot error.'

Like many difficult problems, naming the cause factor was simple - making the solution work was another matter. But the fact that it did work is proven by an almost 40 percent reduction in pilot error accidents during the three year period.

This raises interesting questions. Had Dash One practices been previously ignored? Was the training syllabus being shorted?

The record does not support an outright affirmative to either question. In fact, the record clearly shows that Guard pilots fly about the same number of hours annually as regulars in similar units. It also shows that they accomplish the same number of tactical training and mission-oriented sorties. Annual ORIs, based on the same criteria used to evaluate regular forces, confirmed satisfactory training programs.

Guard commanders took a good long look at some of their unique circumstances. They found several that led to 'pilot error'.

Many Guard units fly from municipal airdromes. Peculiar hazards are inherent to flying operations under these circumstances. Most municipal administrators are obliged to maintain only those airport facilities which are cost/effectively supported by commercial operations. FAA restricts the use of, or does not require the use of, certain facilities which the Air Force considers a must. Few municipal airdromes have arresting gear and adequate runway overruns. Very few have Visual Approach Slope Indicator (VASI) equipment, or Ground Control Approach (GCA) facilities. Because most fighter aircraft lack ILS or VOR equipment, the Guard units cannot use precision approach techniques common to Air Force regulars.

Some Guard units fly from 8,000 foot runways and many of these airdromes lack taxiway lights. FOD control problems are compounded by civilian operations. These hazards are further complicated by civilian plane traffic; some have little or no communications equipment and an equal lack of flight pattern discipline.

Specific local procedures were developed and coordinated with Dash One practices. And the local guidelines were enforced by unit safety office surveillance. It proved to be one of the programs leading to an improved accident rate, even while the Guard was recording a long list of additional mission accomplishments.

In 1967, the fighter, recce, and commando groups participated in a record number of regular forces exercises, which ranged from Puerto Rico and the Canal Zone to Alaska, and from Hawaii to Turkey.

As an example, an exercise to Turkey was accomplished by a tactical fighter group, flying F-100Cs. The mission, from the United States to Turkey and return, was accomplished without accident or incident while logging over 580 hours.

The Air Guard has experienced only one aircraft accident during overseas deployments since assigned to TAC as gaining command. And this resulted from material failure.

In July, many of the units also participated in the first all Guard exercise, Guard Strike I, which kept the Guard's two Tactical Control Groups busy for the month long operation.

An operation which is contributing directly to the Air Force's global mission is Creek Party. The Guard's KC-97L tankers have been providing a refueling capability, on a continuous basis, to USAFE tactical aircraft since 1 May 1967.

One of the five tanker squadrons has been deployed continuously on a rotational 30-day tour to Central Europe. At the year's end, the five units had off-loaded more than a million and a half gallons of fuel during 5,731 hookups.

As of this writing, eleven Air Guard tactical groups are serving on active duty. They were recalled during the last week of January 1968. Activated were eight fighter groups equipped with F-100s, and three RF-101 equipped reconnaissance groups.

The capability of these units to respond quickly according to their mission requirements is testimony of firm leadership.

The improving accident rate is also confirmation that TAC's Guardsmen can take a problem 'by the horns', in a manner secret to no one, which commands the respect of all.



TACTICAL AIR COMMAND

PILOTS OF DISTINCTION

Captain Robert A. Hardy, Jr. and Captain Bernard E. Flanagan of the 522 Tactical Fighter Squadron, Cannon Air Force Base, New Mexico, have been selected as Tactical Air Command Pilots of Distinction.

Captain Hardy, a student pilot, had completed an ACT mission in an F-100 aircraft and was rejoining his flight. He retarded his throttle, but there was no reduction in engine RPM. The throttle could be moved between idle and military power settings, but the RPM was stuck at 91%.

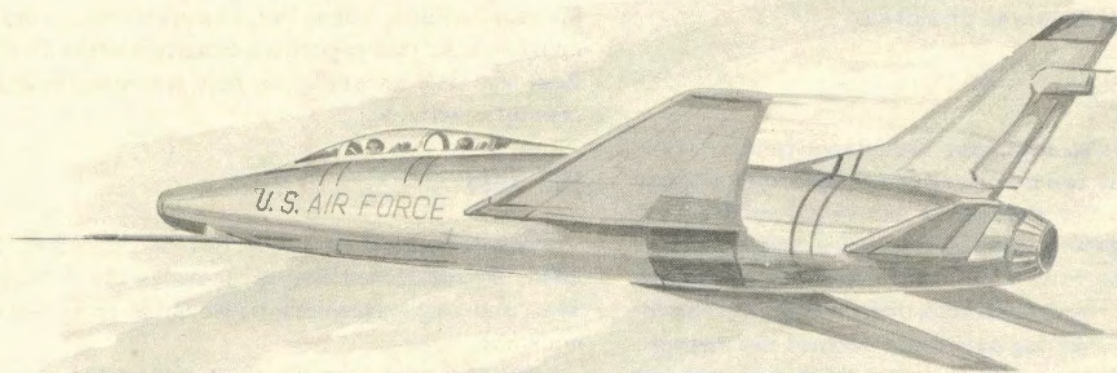
Captain Flanagan, the Instructor Pilot, advised Captain Hardy of landing procedures to be accomplished as they headed for Cannon AFB. A PLP was established with gear and flaps down. Speed brakes were used to reduce airspeed. Captain Hardy turned the engine master switch 'OFF' on final approach and landed without further incident. Investigation revealed loose "B" nuts on the throttle teleflex housing which prevented a reduction in engine RPM.

The coordinated efforts of both pilots, in rapidly evaluating the problem and taking prompt corrective action during this inflight emergency, readily qualify Captain Hardy and Captain Flanagan as Tactical Air Command Pilots of Distinction.

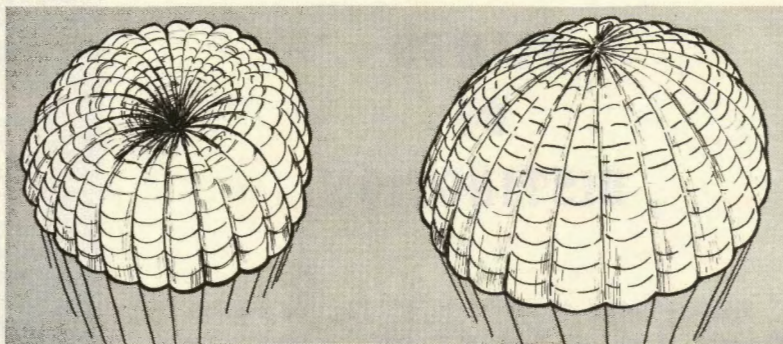


Captain Hardy

Captain Flanagan



something new for the PHANTOM



SKETCHES ARE ARTISTS CONCEPTIONS AS NO PHOTOS OR DRAWINGS WERE AVAILABLE.

F-4 pilots are just beginning to reap the benefit of a mammoth effort to improve cockpit comfort and escape capability. Aside from being somewhat uncomfortable the Phantom's H-5 ejection seat gained a reputation for fracturing vertebrae of crewmembers forced to eject. Almost 50 percent of the TAC ejections resulted in spinal injuries. As a result, many staff agencies got together with the seat and aircraft manufacturers and developed a two-step solution to the problem.

Step Number One evolved as Engineering Change Proposal (ECP) 8083. This was planned as the long range solution to decrease injuries and improve the escape envelope. This fix, now known as Tech Order 1F-4-663, includes the new H-7 seat plus ejection sequencing between the front and rear cockpits.

But the lead time for the H-7 seat system appeared unacceptable. Something was needed immediately to reduce the back injury problem. As an interim measure ECP 8084 was proposed.

ECP 8084

This included replacing the catapult primary cartridge and the two auxiliary cartridges with a lower yield charge. The reduced thrust would subdue the G onset and hopefully, stop back injuries. But this softer "push" up the rails would lessen the escape envelope which was more undesirable than the injury problem. So, a faster opening parachute seemed the answer.

The standard 24 foot F-4 parachute was used but an ingenious anti-squid line was added. This anti-

squid line is the same length as the canopy suspension lines, however, it is attached to the center or apex of the canopy.

During the normal deployment phase, a parachute's canopy inflates in the center area first, then takes on the features of a squid as it slowly inflates (See diagram). Once the center section is filled with air the rest of the chute skirt inflates and the canopy pops full open.

During parachute deployment with the anti-squid line, the center of the chute canopy is pulled down even with the chute skirt. This causes the skirt area and apex of the canopy to inflate simultaneously.

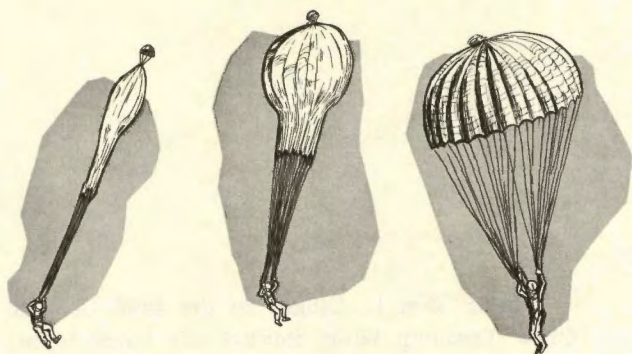
This faster inflation process provided a much shorter opening time and proved just the combination to let the H-5 seat keep its ejection capability with the reduced charge cartridges.

Other features of ECP 8084 included a new lumbar pad, a Martin Baker 2:1 lap belt, and a new survival kit seat cushion. These items have all been tested and approved. At last report modification of the TAC F-4 fleet was well underway. In fact, we've had four successful ejections.

ECP 8083

The permanent fix to the F-4 seat problem, ECP 8083, as mentioned before, includes the H-7 rocket seat, and seat sequencing between the front and rear cockpits.

The H-7 seat uses the same reduced charge cartridges as the H-5 seat. However, the new parachute,



called Sky Sail, has a 29.5 foot ring slotted canopy with anti-squid lines that, like the 24 foot chute, run from the canopy apex to the shroud connector links. This fast-opening canopy and the reduced charge rocket pack give the seat a near zero-zero ejection capability and greatly reduce the chances of back injury.

THE CHUTE

The Sky Sail chute is a new concept which gives the ejecting crewmember a 20 percent slower rate of descent. The ring slotted canopy is very stable and tends to reduce the chance of parachute oscillations during descent. It's stability and slower descent should also lessen the number of parachute landing fall injuries.

The Sky Sail ring slotted canopy, while it does provide a much more stable canopy, has one major limitation. The slots allow the entrapped air inside the canopy to escape symmetrically. This causes the usual methods of steering and maneuvering by pulling down on selected risers to be much less effective. Therefore, the crewmember may find it more difficult to steer toward a desired landing area.

SEAT SEQUENCING

The H-7 seat ejection system will usually be initiated by the aircraft commander in the front cockpit. He pulls the face curtain or the D-ring, either of which will fire the seat-mounted primary initiator. This causes a series of chain reactions - aft canopy jettisons, rear seat fires, front canopy jettisons, then the front seat fires. All this is accomplished in about 1.4 seconds.

If the aircraft commander should be incapacitated the aft seat pilot can initiate the procedure. To accomplish this he rotates the Sequence Select Valve, located in the aft cockpit, to the OPEN position ...

about 50 pounds of pull-force required. He then pulls the aft seat face curtain or D-ring which starts the sequence ... aft canopy, aft seat, forward canopy and forward seat. Should circumstances change and the aircraft commander requests the ejection sequence returned to the front cockpit, the aft crewmember can rotate the selector handle 90 degrees left, back to the CLOSED position. If the Sequence Select Valve is left in the normal CLOSED position the aft pilot can fire only his (aft) seat. The thing to remember, though, with the sequence system, the aft seat will always eject first.

Installation of this new system is getting underway within TAC. New production aircraft should soon begin arriving equipped with the H-7 seat system. Since some special precautions are necessary here are some valuable tips from McDonnell's Flight Safety Department:

1. Both crewmembers should raise their ejection seats full up just before engine shut down to allow safety pin insertion in the rocket pack.

2. Beware of a fouled rocket firing lanyard. It is possible to get the leg restraint lines entangled in the rocket firing lanyard. This condition can cause accidental firing of the rocket pack. Refer to T.O. 1F-4C-1 or 1F-4(R)C-1 for correct routing.

3. You may have to run your seat up or down to free the "Leg Restraint Adjustment Rings." They can become wedged between the adjust mechanism box and the rocket pack.

4. Retention of the canopy until ready for ejection is important because the interlock block between the canopy and seat prevents overriding of the "Seat Sequencing System." When the canopy is removed with the canopy emergency jettison handle, the seat-canopy interlock block is pulled from the torque tube lever. The crewman, pulling on the face curtain or D-ring, can then override the sequence system and fire his seat manually. If manual (non-sequenced) ejection should become necessary, the aft crewman should eject first.

5. In the past we have had one sear safety pin, which made the ejection seat safe. Now we have two sear safety pins which must be in place otherwise the seat can be fired accidentally.

These changes represent a lot of staff and engineering effort to provide F-4 crews with a superior escape system. The modified H-5 or the new H-7 seats should greatly improve crew comfort and the ejection envelope. Best of all the hazard of back injury during ejection from the F-4 should shortly be history.

**Outstanding
Flight Safety Officer**



Major Don L. Dinger of the 4442 Combat Crew Training Wing, Sewart Air Force Base, Tennessee, has been selected as the Tactical Air Command Outstanding Flight Safety Officer for the six-month period ending 31 December 1967. Major Dinger maintained a dynamic safety program, keeping safety foremost in every phase of flying. Major Dinger will receive a letter of appreciation from the Commander of Tactical Air Command and an engraved plaque.

SAFETY AWARDS

**Outstanding
Missile Safety Officer**



Second Lieutenant Vincent S. Pigford of the 4510 Combat Crew Training Wing, Luke Air Force Base, Arizona, has been selected as the Tactical Air Command Outstanding Missile Safety Officer for 1967. Lieutenant Pigford's conscientious efforts and aggressive safety program contributed greatly to the unit's safe and successful missile operations. Lieutenant Pigford will receive a letter of appreciation from the Commander of Tactical Air Command for his outstanding safety efforts. He will also receive a suitably engraved watch as an accompanying award.

**Outstanding
Nuclear Safety Officer**



Captain William H. Matthews of the 4500 Air Base Wing, Langley Air Force Base, Virginia, has been selected as the Tactical Air Command Outstanding Nuclear Safety Officer for 1967. His contributions have been instrumental in obtaining the outstanding nuclear safety record enjoyed within the 4500 Air Base Wing and assigned tenant units. Captain Matthews will receive a letter of appreciation from the Commander of Tactical Air Command for his outstanding safety efforts. He will also receive a suitably engraved watch as an accompanying award.

**Outstanding
Contributor to Missile Safety**



Senior Master Sergeant Cecil L. Spears of the 4453 Combat Crew Training Wing, Davis-Monthan Air Force Base, Arizona, has been selected as the Outstanding Contributor to Missile Safety. Sergeant Spears' detailed analysis of safety deficiencies and recommendations for corrective action have often been included in safety publications and adopted for use throughout the command. Sergeant Spears will receive a letter of appreciation from the Commander of Tactical Air Command for his outstanding safety efforts. He will also receive a suitably engraved watch as an accompanying award.

4th Qtr Drive Safe Award:

Category I - 516 Troop Carrier Wing, Dyess AFB, Texas
Category II - USAF Tactical Air Warfare Center, Eglin AFB, Florida

1967 TAC Ground Safety Award:

Category I - 832 Air Division, Cannon AFB, New Mexico
Category II - 4525 Fighter Weapons Wing, Nellis AFB, Nevada

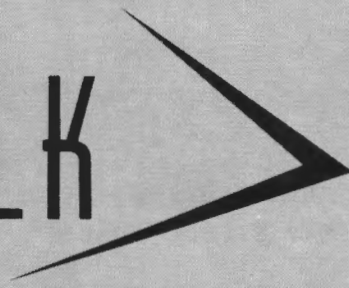
1967 TAC Traffic Safety Award:

Category I - 75 Tactical Recon Wing, Bergstrom AFB, Texas
Category II - 354 Tactical Fighter Wing, Myrtle Beach AFB, SC

1967 TAC Explosives Safety Award:

USAF Tactical Fighter Weapons Center, Nellis AFB, Nevada

CHOCK TALK



...incidents and incidentals with a maintenance slant.

F-4 baggage pod

Due to a unique combination of operational commitments an F-4 pilot from another command arrived at his home base with two external fuel tanks, a SUU 21 with six practice bombs, and two locally modified BLU-1/B baggage pods. The flight was scheduled for some bombing practice on the range before landing.

On his fourth pass, while dive bombing, the pilot felt the aircraft begin bucking, vibrating, and rolling to the right. He managed to regain control and subsequently landed without further problems. His wingman reported that part of the right baggage pod had fallen off and the remainder had wrapped around the leading edge flap. Ground investigation revealed that the nose and tail section of the pod had torn off in flight.

The reason for the failure was improper modification of the BLU-1/B baggage pod. Seems that all the pod's internal supports had been removed. In place of the main supporting beam, a sheet of .090 aluminum had been installed on the inside (top) and a .125 sheet placed outside on top. To make matters worse, excessively large holes were drilled in the outside sheet of aluminum. This left only the inside .090 layer supporting the pod by the 1 3/16 inch washers used on the suspension lugs. Inflight stresses and vibration finally caused an overstressing of the small portion of metal which was providing the support. This, plus the G forces, caused the pod to fail.

Needless to say, all the baggage carrying pods were removed from service. Those that passed the strength test were restricted to 400 knots IAS and 3 Gs.

Checked your baggage pods lately?

F-4 engine access door

An incident in another command has pinpointed a potential F-4 problem area. The aircraft was at altitude in the supersonic corridor at 1.2 mach. As the speed boards were extended the crew heard a mild

thump. After landing the crew chief discovered an engine access panel, door 82R, missing. The door had come loose and damaged the right main gear door and the right speed brake. All told it took 80 manhours and a new gear door to get the bird flying again.

The cause?...Maintenance error in that two structural bolts had not been installed. The commander then had the entire fleet inspected for the same condition. Two more aircraft were found with these bolts missing. This resulted in a directive requiring a Red Xentry in the AFTO 781A anytime door 82L or 82R is lowered.

Looks like there's a valuable lesson here for all of us. That Red X idea could save a lot of headaches.

a closer look

The takeoff was normal until the F-4 pilot came out of afterburner. The left throttle responded normally, however, the right throttle remained stuck in full AB. The pilot throttled the left engine to 80 percent and extended speed brakes in an effort to keep the speed under control. Both crew members tried to retard the throttle unsuccessfully.

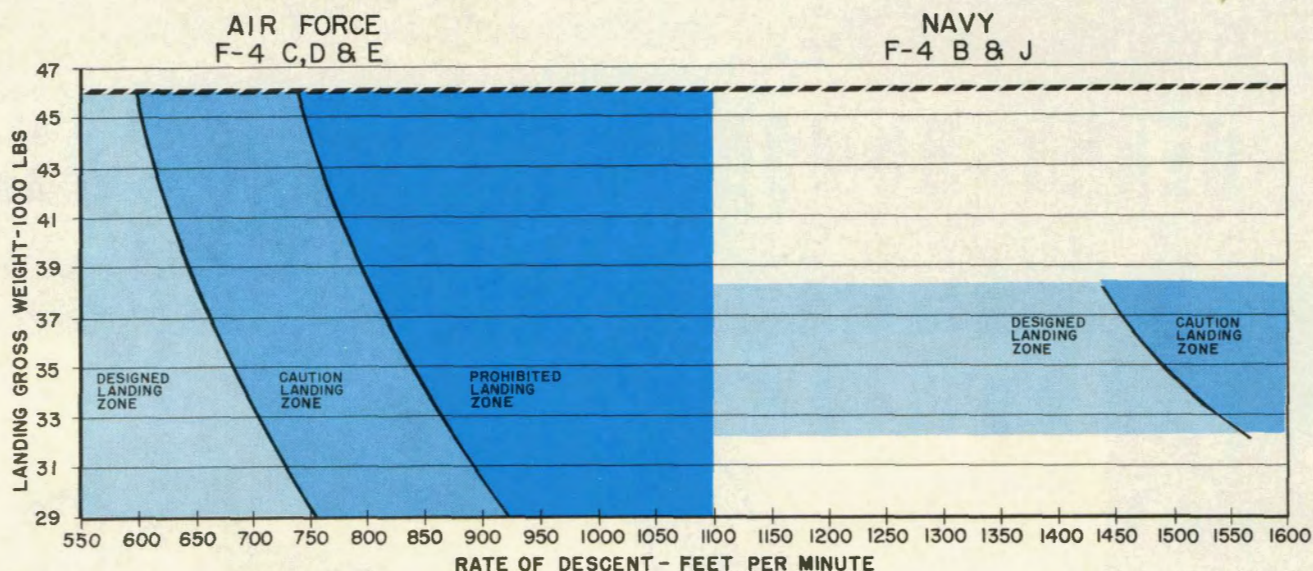
Fuel was dumped to reduce the gross weight for a straight-in landing. Just before touchdown the pilot shut down the right engine with the engine master switch. The landing was uneventful.

Subsequent investigation revealed the starter cartridge breech cap was missing. The throttle was found movable throughout its entire range. The probable cause was determined as "right starter breech cap jammed the throttle so that it would not move." The breech cap itself apparently dropped out when the gear was lowered, opening the aux air doors.

This is the second incident where a starter breech cap is suspected of having jammed the throttles, then fallen out through the aux air door when the gear was lowered.

Looks like a subject for special concern by crew chiefs and pilots during preflight.





F-4 GEAR STRENGTH

by Major Campbell Gray
Hq TAC (OSF)

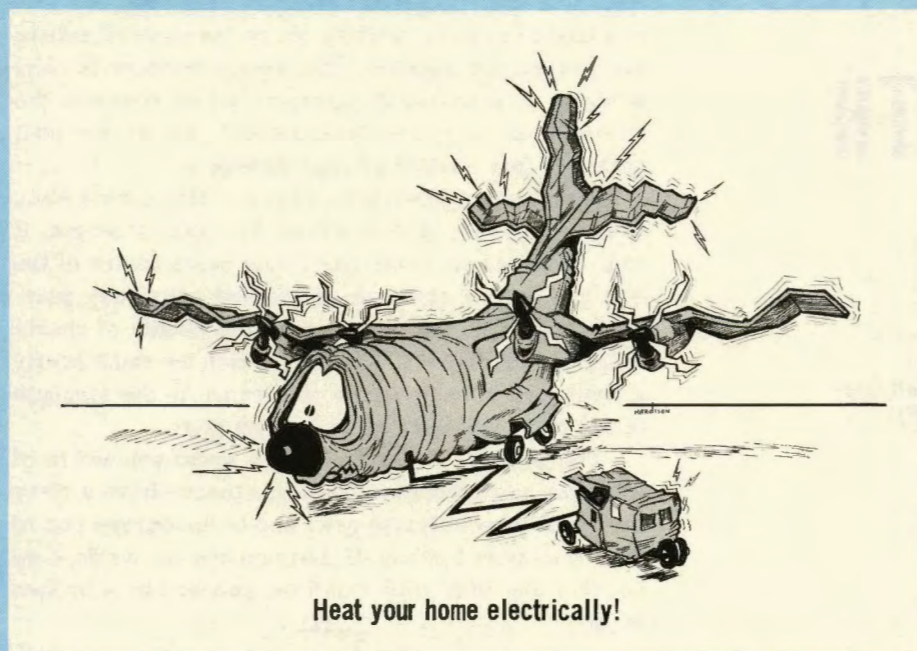
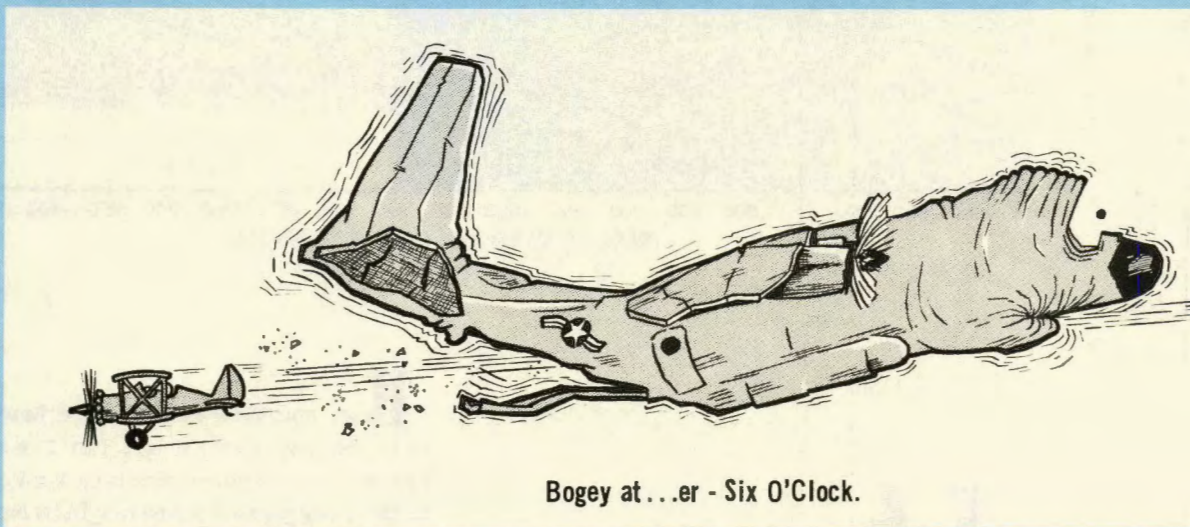
Have you ever made a hard landing in an F-4? If yes, did you write it up? The F-4 landing technique has been a new phenomenon to Air Force pilots. Early in the program we were taught by Navy instructors to fly an on-speed final with no increase in aft stick when the aircraft got into ground effect. This made for a pretty firm touch down. Then we started breaking and bending struts, wheels, and other gear components. The latest procedure has backed off a bit from the original "crunch-on" to a "hold the aircraft attitude when you go into ground effect." This requires that you move the stick slightly aft as the aircraft enters the ground air cushion. This new procedure is considered a reasonable compromise between the "crunch-on" and the "grease-on." Yet we are still getting a fair amount of gear damage.

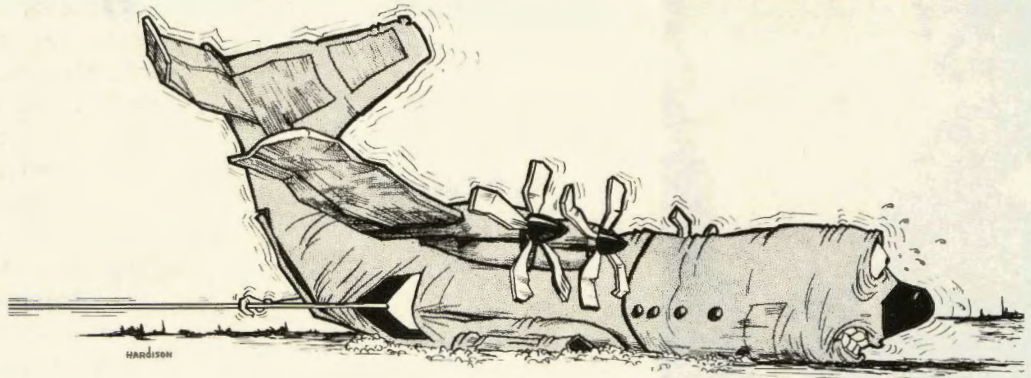
Some time ago we published a Safety Alert Letter (Number 67-41, 28 July 67) on F-4 gear strength. It was designed to make our pilots more aware of the Air Force gear strength as opposed to the Navy gear. Since that SAL we have received a couple of charts from the McDonnell Company which we think pretty graphically illustrate the difference in the strength of the Navy and Air Force landing gear.

The point of this article is to make you aware of what you have, dispel any thoughts that we have a Navy (or even almost Navy) gear and to encourage you to take it easy on landing. If you plant one on, write it up so that the next pilot won't be shocked by a broken strut.

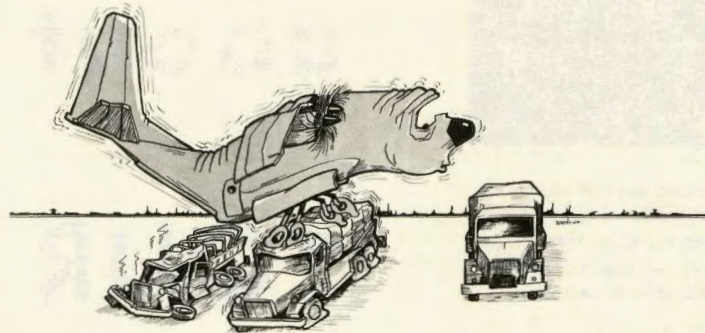
HERKY HUMOR

a gallery of Hurt Herkys by Hardisc

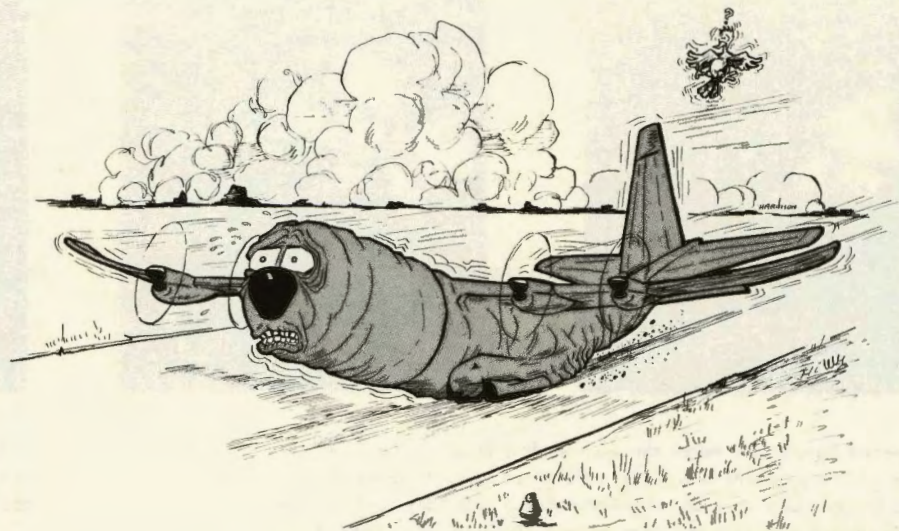




My aching ramp!



Trip toe thru the truck park.



Gad, I'm glad it's not grooved.



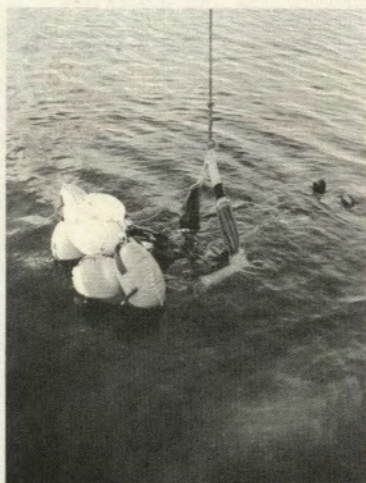
can do it, so can I."



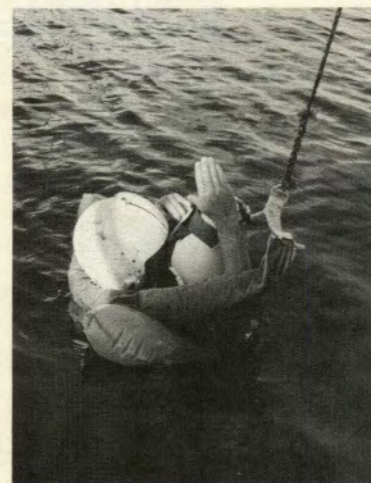
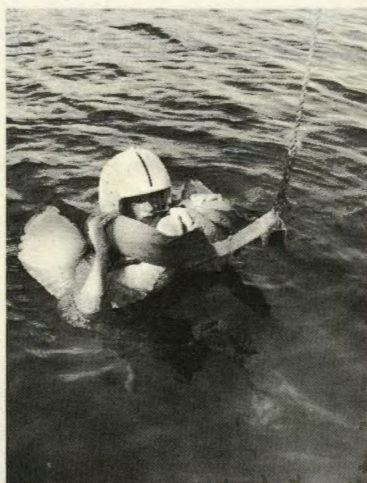
by Don Reynolds

This airman is making several mistakes which may turn a reliable chopper rescue technique into a fatal fiasco. Recognize his errors now to avoid duplicating them later, when it's too late to learn.

about YOUR RESCUE



A downed airman can enter the rescue sling (horse collar) by either of two procedures with the LPU strap fastened or open. Left: Grasp sides of collar near lift cable. Float body through, feet first, placing collar mid-section under armpits. Hold collar to chest by crossed wrist grip (photo 4). Right: Alternate method is grasp collar near bottom; place over head against back of neck.



Hold collar position with left hand while raising right arm through collar until right side of collar is firmly under armpit. Repeat same procedure on left side of collar.

training when you knew you were going to survive.

The rib cracking splash-down is aggravated by chute oscillation but you manage to find the canopy release latch and draw the survival gear alongside.

Once on your raft, you take inventory, open the accessory kit, actuate the radio transmitter and settle back to ease your anxieties, which by now, have been honed to a sharp and brittle edge.

You do a slow three-sixty, scanning the four-foot swells hoping for a glimpse of your navigator who punched-out a few seconds before you. And you squint to separate the horizon from low hanging scud, expecting to see the Jolly Green which should be on its way.

In a little while you see red smoke. It must be your navigator about a half mile away. Sure 'nuff, about 20 degrees left of the smoke are two JGs. You pop a smoke flare, wave it overhead and wait.

As the chopper approaches, it seems higher than you expected,

dangling a horse collar. But you roll over the side and get ready to grab hold.

Water pellets sting your face as rotor wash whips the swelling sea. You struggle against the wind blast which seems to be pushing you away from the dangling life-line.

When you finally get hold of the collar, you pull it over your head and under your left arm. But the bulky LPU seems to be blocking your efforts to secure the collar. So you deflate the right LPU, push the collar under your right arm and you're set, ready for lift.

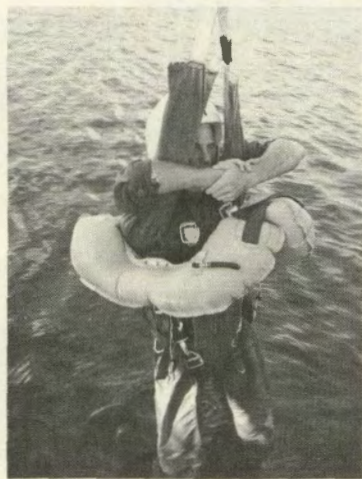
As you rise from the sea a wave starts you swinging like a pendulum. So as soon as you near the chopper, you grab for the fuselage. When the lift operator twists the collar toward the open sea, you're sure he has problems in hauling you aboard. So, you grab the door frame and pull, deflating the remaining half of your LPU as it strikes a sump drain.

You secure your one-hand hold by stretching your free hand through the collar, grasping the wrist of the operator who is still trying to turn you away from the open door. That's when you slipped from the collar, dropping forty-five feet to the rolling sea, never to be seen again!

This pilot's "help" prevented his rescue, and in fact, caused his doom. He had been through three survival training courses, none of which taught deflating the LPU to secure the horse collar. His second mistake was trying to enter the chopper in an unprescribed manner, preventing trained experts from using tested recovery procedures.

The following illustrated techniques were photographed at TAC's Sea Survival School, Homestead AFB, Florida.

If your time comes to punch-out, join the hundreds who have had successful recoveries by limiting your "helping hand."



When collar is secure under both armpits, using either procedure, cross arms over chest for double wrist grip. Hold wrist grip until rescue is complete and hoist operator assists removal of collar.



During lift to chopper door, hoist operator will twist collar to face rescued airmen away from the door. DO NOT TRY TO ASSIST! Hold wrist grip and let rest of body relax in sling.



Rescued airman is pulled into chopper 'back first' with hoist at a level which allows buttocks to scoot across chopper deck. Hold wrist grip until legs are inside door and crew advises collar be released.

NIEUPORT N.28C-1



by Lt Col Carl E. Pearson

HARDISON

FLIGHT LEADERS

The first pursuit squadrons of the American Expeditionary Forces flew into combat in the lightly-armed, highly-maneuverable French Nieuport .28C-1. In fact, its first exclusively American front-line appearances were unarmed patrols. Eager and competitive, pilots of the 94th and 95th Pursuit Squadrons couldn't wait for their machine guns to arrive. They "reconned" without them. When the machine guns finally caught up with them, the 95th discovered that their pilots missed gunnery training. Disgruntled, they went to gunnery school. Happy, the 94th flew the first AEF armed combat patrol and scored the first kills: a Pfalz DIII shot down in flames, and an Albatros DVa forced to crash land.

Nieuport 28s were a follow-on series of a long and famous single-seat biplane fighter. They started with the Model 11, a "sesquiplane" or one-and-a-half winger. The single spar lower wing had about the same span as the upper with less than half the wing chord. Light, fast, quick-turning, its 80 hp Le Rhone rotary gave it an early combat advantage.

Demands for greater speed, higher rate of climb, increased firepower, forced bigger engines and more weight on the lightly constructed Nieuport. Stretching its basic design to the limit seemed to hit the point of diminishing returns in the Nieuport 28. The French Air Service rejected it as a first-line pursuit. Badly in need of airplanes and the Nieuport .28C-1 now available, the AEF entered combat in them.

A single .303 Vickers mounted outboard of the left center-wing struts fired thru the prop. Out-gunned by German fighters, a second Vickers was mounted left of centerline on top of the fuselage. Balloon-busters carried one 11 mm. Vickers firing incendiaries.

American combat markings changed from a white star to the pictured roundel... red outer circle, blue inner, and white center. AEF units earned their right to paint squadron insignia on their planes. The famous Hat-in-the-Ring of the 94th Pursuit Squadron was authorized after registering the required three aerial victories.

Large, block numbers on each side of the fuselage and upper and lower wings identified individual squadron aircraft. The roundels on the underside of the upper wing carried over from French marking of early one-and-a-half wingers. These upper-wing

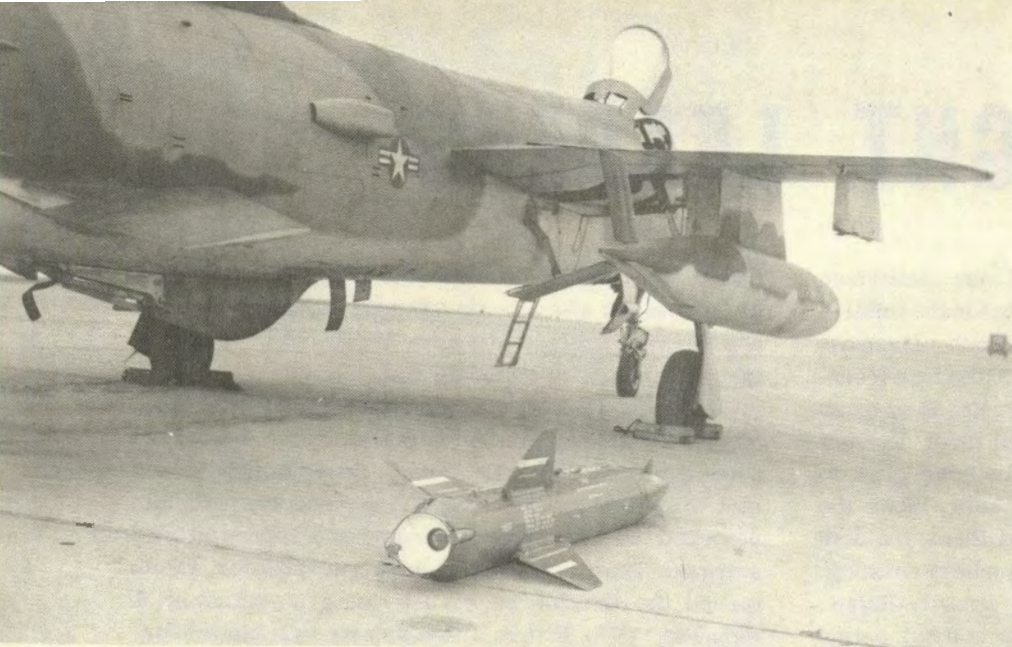
roundels disappeared when the wing was repainted or recovered after battle damage. Roundels weren't used on the fuselage and after World War I the star-in-circle marking replaced roundels.

The new Gnome nine-cylinder rotary delivered "around" 165 hp at 1380 rpm, but it didn't have the dependability of the Le Rhone. Dual ignition helped fuel combustion and plug firing. The big problem centered on throttling the engine and reduced power settings. The Gnome didn't have a carburetor. Pilots turned the ignition on or off, using a control stick mounted "Blip Switch." Besides the full-blower-or-windmill Blip Switch choice, added buttons on the control stick grounded out one or more cylinders for low power operation. Liquid lock in cylinders, plug fouling, engine fires from unburned fuel, placed serious time limits on partial power operation. Recip types who've checked mags in the Off to On position will wonder about pilot-induced engine failures in the Nieuport 28. Fuel entered into the cylinders thru bypass ports whether firing or not. Blowing unburned fuel from the exhaust stacks and cowling made a Gnome go-around a sporty affair.

When hitting on all nine, the Gnome pulled the Nieuport 28 along at a top speed of 122 mph. It climbed to 5000 feet in four and a half minutes and hit its service ceiling at 17,000 feet. Diving the Nieuport was dangerous. Fabric peeled off the upper wing when overstressed. By the time a fix came along, the Spad XIII had moved into the inventory.

No brakes, no throttle, no steerable tail skid, even taxiing presented problems for Nieuport pilots. Fighting torque on takeoff roll until reaching rudder control speeds added to his dependence on the ground crew. He couldn't start or stop without his mechanics pushing, pulling, guiding his bird with skilled hands on the wing struts. His safety pivoted on his ground crew.

It still does! A pilot's dependence hasn't changed too much since World War I. If anything, increased complexity and sophistication of today's birds make him dependent on more people. A broad base of support troops get him off the ground and back down. Pilots know it and respect their importance... and hope every airman in that growing group does the same.



a 2nd look

TO ERR IS HUMAN

Recently a Thunderchief pilot taxied out for a practice AGM-12/B missile firing mission. As he turned onto the taxiway the missile slowly slid backwards off the adapter rails and fell to the ramp.

Now the AGM-12/B is a costly weapon, so a full blown investigation resulted. The blame was laid on the load crew for missing a step in their checklist. However, they had a lot of help.

'Seems the load crews don't use the aft umbilical hook of the missile adapter. It's not required with the AGM-12/B missile. While loading it on the adapter this load crew was not familiar with the proper position of the aft hook. Since they were working against the clock, trying to make the start engine time, the load crew chief failed to consult his checklist. Fate was against them.

A maintenance team had recently modified the missile adapter. For reasons not yet known they had

improperly assembled the kicker jettison gun. As a result, the missile wouldn't lock in position.

By missing a step in their checklist, "...Aft umbilical hook up (Step 17)," the load crew was fooled into believing the missile was firmly locked. The extended aft hook pressed down on the missile lock pin causing a mechanical drag that gave the false impression of a locked missile.

Prior to taxiing an NCO came by to inspect the installation. He immediately noted the extended aft hook and placed it in the "up" position. The sheer weight of the missile, and possibly a bit of haste, caused the NCO to believe the missile was locked.

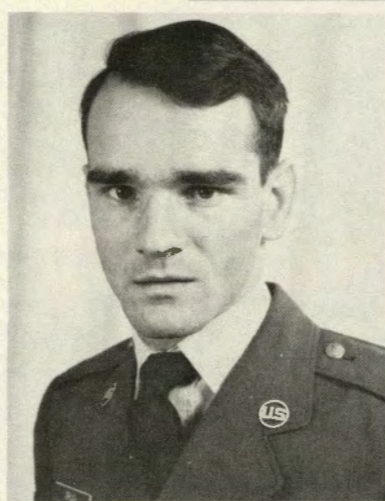
The results, a damaged AGM-12/B missile, some red faces all around and a decertified load crew. A check of all the missile adapters disclosed that 16 more had been improperly assembled by the maintenance team.

We all know how badly this load crew must have felt. Nobody works harder or under more difficult conditions. The Air Force long ago recognized that "...to err is human." That's why we have check lists. That's also why we have seven and nine level supervisors to check a man's maintenance work. And that's why we have Quality Control inspectors to re-check the maintenance man and his supervisor.

In this case our system of checks and balances broke down. Fortunately, no one was injured and the aircraft was undamaged. Maybe we should all make a note of this accident and take a second look at our munitions maintenance and loading procedures.

MAINTENANCE MAN OF THE MONTH

Sergeant Philip J. Griggs of the 4525 Fighter Weapons Wing, Nellis Air Force Base, Nevada, has been selected to receive the TAC Maintenance Man Safety Award. Sergeant Griggs will receive a letter of appreciation from the Commander of Tactical Air Command and an engraved Award.



Sgt Philip J. Griggs



CREW CHIEF OF THE MONTH

Sergeant John D. Roach of the 4511 Organizational Maintenance Squadron, Luke Air Force Base, Arizona, has been selected to receive the TAC Crew Chief Safety Award. Sergeant Roach will receive a letter of appreciation from the Commander of Tactical Air Command and an engraved award.



Sgt John D. Roach

MANHOOD



SAFETY

by Chaytor Mason
Lecturer,
Aerospace Safety Division

One of the curious curses of our culture is the conclusion that anyone interested in his own safety is far too frightened to play the game well or give the job its fullest measure and therefore should be sacked on the spot.

This is a sad but realistic truth relating to Man's own appraisal of - Manhood.

When it comes to "being a man," the average proud male cannot satisfy himself with buckling his biceps, or even by looking at the handsome progeny his seed has begotten.

Some secret spark of pride also directs that, should the occasion demand, the Man will also be willing to conduct himself like an utter Boob, disregarding all precautions ... expressed or implied ... in the performance of almost anything that will prove he isn't a Sissy.

We lost a lot of good men that way.

And some of the characters classed as Sissies, because they have at least a small regard for their own skins, manage handsomely to survive, live to see another day, and in the process contribute magnificently to the total goal.

This seems to be today's unsatisfactorily unsafe story of safety education ... be it flight safety, highway safety, or even something as relatively minimal as household safety.

Let's flashback a few years: Baseball was born in Hoboken, N.J., in 1846. It was born a barehanded game. The first teams played with the same hard-rock ball used today. But the baseball glove hadn't been invented. Caught with bare hands, the ball broke hands and split thumbs. Not every catch was a lucky one.

And so it went along its maiming way for 25 years until, on one sunny day, Charlie White, first baseman for Boston and tired of sore hands, came onto the field wearing a thin, but nonetheless protective glove. He never got a chance to use it. He was laughed off the field with a chorus of catcalls:

"If ya that scared of th' ball, don't play." ...
"Catch the ball: don't MUFF it."

Gloves were not worn on an American baseball diamond for another five years. And baseball went through the same time-trials in the evolution of a catcher's mask, a chest protector and even today's hard hat.

Football, you will remember, fared no better in the development of "safety appliances." You may also recall that it has been a few years ago when one

of these bits of evidence for superior manliness was the cool defiance of a quarterback heaving his heavy helmet heavenward. Now there was a MAN who would lead the team to victory, the fans said.

No matter the game, the story has been essentially the same. You saw it in baseball, football, hockey, boxing ... or that grimmest game of all ... war.

Even in war the development of life-protecting headgear, garments and even practices historically has been considered a vile form of cowardice ... unmanly and even unpatriotic!

Let's look at the record for a moment:

In the American Revolution, the Soldiers of his Britannic Majesty, George V, wore brilliant red coats and white pants and marched in bold, shoulder-to-shoulder formations against the sharpshooting guerrillas of the day.

The Redcoats never really got the idea.

And about 140 years later the French Poilus and the British Tommy Atkins were again marching off to war wearing crimson hats of cloth. Without so much as a change of uniform, they moved from the sidewalk cafes in Paris to the Front.

With little more ado, they faltered and fell before the machine guns of the Germans ... who happened to have been wearing very hard hats at the time.

Resistance to hard hats and the protection they afforded was not necessarily a soldier-of-the-line idea. Despite directives from superiors, local commanders resisted trading off the bravado of the bright and soft hat for the dull steel helmet. One British commander went so far as to declare that anyone in his command who wore a hard hat would be court-martialed on the spot for "cowardice in the face of the enemy."

It was just another case of a man trying to prove that he ... as well as those in his command ... weren't Sissies and could firmly establish their manliness just by flaunting safety!

Come to think on it ... have you ever seen a picture of World War I's Black Jack Pershing or World War II's Douglas MacArthur wearing anything but a soft hat? What were they trying to prove?

And then there was that firebrand of the ETO ... old Blood and Guts Patton. He wore his hard hat, or at least a helmet liner, all of the time. But he had to prove how tough he was by insisting that the vehicles in his command move with tops DOWN ... and to Hell with whatever Old Man Weather happened to be

dropping off at the time.

There are other stories and other examples and you can supply your own variations to the theme.

But the essence of it all is simply this:

We can talk about Safety as a hoped-for ideal. But we will not even go through the motions of doing things safely unless they do not disturb our own ideas of what is manly.

It also means that, unless we make some sweeping changes in our own thinking about safety and about its relationship ... if any ... to manliness and all the business of being a Man, we will continue to have the same old disappointing safety statistics year after year ... in the air, on the highway, even in the home.

In the field of aviation safety, we can expect that the accident rate for junior flying officers will continue high because there are "manly" young men who are trying to prove themselves. But the same rates may apply for those officers in their "dangerous Forties" who are trying to re-prove their manhood all over again.

Probably we will arrive at no improvement at all, in the matter of safety until we re-evaluate "manhood." First of all, this must be a personal re-evaluation.

Is a MAN the one who runs headlong into a well-camouflaged machine gun nest knowing it means sudden death? Or is the real MAN the one who flanks the nest and throws in the destroying grenade?

Is a MAN the pilot who says "give me a plane and point me toward the target?" ... or the one who says, "a flak vest and a hard hat will help me on this mission?"

Is a MAN the one who scoffs: "I'll fly through this front or bust my butt?" ... or the pilot who is willing to sit a spell, wait for the ugly weather front to pass, and then gets up there to deliver the goods?

It's a strange heritage which decrees we are Men only when we disregard caution.

And all of the Safe-Flying, Safe-Driving and even Safe-Living campaigns in the world will be of little avail until we conclude that being Safe isn't being Sissy.

It will take a lot of education.

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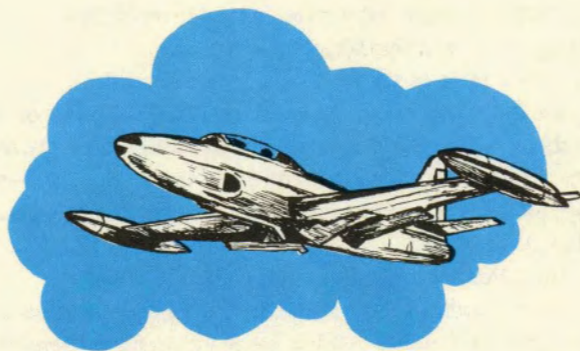
TAC TIPS

IFR VISUAL APPROACH

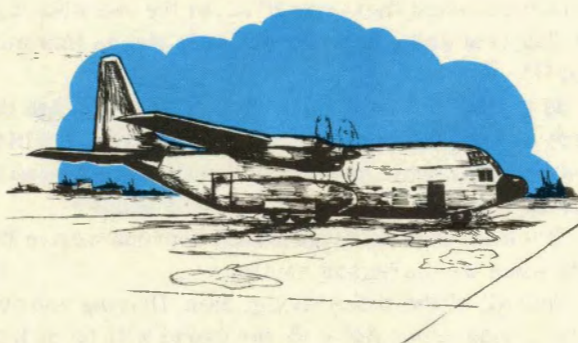
*Safety Bulletin 1 Feb 68
Maxwell AFB, Ala.*

Sometimes when approaching your filed destination on an IFR flight plan, you may hear approach control clear you for a Visual Approach and landing on the active runway. This is something new!

The reason they clear you for a visual approach is to blend the IFR and VFR traffic into an orderly sequence. You still retain your IFR clearance, but instead of being vectored to an ILS or radar straight in final for landing, you'll be vectored to the VFR traffic pattern. This will only happen, obviously, when the airfield is VFR. Approach control will expect you to enter the VFR pattern and land. If you want to fly around a while longer you must cancel your IFR



clearance with the tower or Approach Control. You can, of course, request to continue your instrument approach. Approval will depend on the local traffic.



PUDDLE JUMPER

The Herky pilot started his takeoff on an alternate runway dotted with patches of standing water. At 105 knots his nose wheel sliced into a water puddle five inches deep throwing a heavy spray. He lifted off and called for "gear up" and a check of nose

wheel doors. The flight mechanic reported the aft nose gear door damaged. They decided to recycle the gear but the nose gear didn't make the full down position. It wedged against the rear nose door. They used Dash One chaining procedures on the reluctant gear and landed with no problem.

Besides the damaged aft nose door inspectors found the main gear doors and actuating rods damaged, the main gear taxi lights missing, and sheet metal tears inboard of the left main gear pad. All this was caused by the force of water thrown by the nose wheel.

Aircrews at Hickam now want a better "how deep's the water" briefing by base ops types before using the poorly-drained alternate runway ... and then only when crosswinds require its use. They're understandably reluctant about turning their Herky-birds into water spaniels.

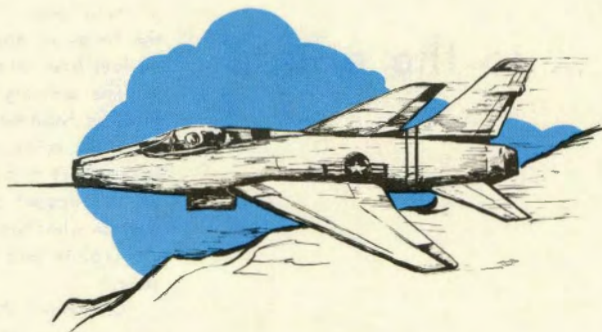
...interest items, mishaps with morals, for the TAC aircrewman

PRESS ON...PRESS OFF

After takeoff on a combat strike mission, the F-100 pilot learned that his gear doors wouldn't retract. He slowed down and cycled the gear... then cycled it again...

After 12 tries, and 10 minutes of cycling, he finally got the light in the gear handle to go out. He accelerated to climb speed and pressed on with his mission. As he passed 10,000 feet, he felt the doors separate from the bird. He gave up, turned around, and went home.

When the maintenance folks checked, they found supply was fresh out of F-100 gear doors. That made the bird NORS for parts!



There's a lesson here somewhere about allowing your tiger aggressiveness to overpower your normal good judgement.



LIQUID LOCK

The IP was demonstrating single-engine operation to a new A-26 flight crew. He decided to show them

how it handled during an actual feathering of Number Two engine. He pulled the throttle back, punched the red button and watched the prop streamline to the feather position. About 2 or 3 minutes later he pulled the mixture control from full rich to cutoff. The demonstration over, the IP pulled out the feathering button and watched the prop start turning slowly. Then it quit and refused to move. An uneventful single engine landing was subsequently accomplished.

Investigation by the maintenance troops revealed the extended period with mixture full rich and the prop feathered had caused raw gas to collect in the lower cylinders. This resulted in a liquid lock... which prevented the engine from turning. This appears to be an inexpensive demonstration of the value of the checklist.

LETTERS

...to the editor

Reference the article entitled "Better Mousetrap Department" in the January 1968 TAC ATTACK. I have several questions regarding Sergeant Brandt's idea.

T.O. 11A10-1-107, paragraph 5-16a states "The pretesting will be accomplished in an isolated area of 50 feet or more from other munitions, aircraft and other personnel."

Question? I assume the words "Other munitions" means other MK-24 Flares awaiting testing as well as other types of munitions. If this is true, how does the Sergeant propose to get the required 50 feet from other munitions?

The warning in paragraph 5-16 states that the flare has been known to function when the cotter pin is removed. Us bomb jocks, here at England AFB, take this to be the gospel and that the flare might just do what the warning says. Therefore we isolate and test only one flare at a time.

Question? We assume that the flare may ignite when the cotter pin is removed, otherwise, no reason for pretesting the flare. According to the write-up and drawing, as depicted in TAC ATTACK, how does Sergeant Brandt propose to keep from igniting the other nineteen flares? (His table is built to hold twenty flares.)

The experts (EOD) here at England AFB assure me, that if one flare does function it will surely ignite the other nineteen flares, as one flare burns for 180 seconds with 2 million candlepower.

The flare burns powdered magnesium and other chemicals which, when ignited, cannot be extinguished. The heat from a burning flare is so intense that it will melt steel. It says so on each set of instructions that comes with each box of flares.

Maybe our thinking is out in left field, but we feel that the good Sergeant is asking for one heck of a fire. We consider his idea basically good, but his table or rack should be constructed to hold one flare at a time. We agree that having to pretest each flare separately is a big pain, but it's necessary as the T.O. tells you.

We would like to know if Sergeant Brandt's idea has been approved by the Office of Explosive Safety (OSMEN). If it has, we would like approval to use a similar setup for testing our flares.

MSGT JAMES W. BROWN
1st Air Commando Wing
England AFB, LA

The Explosive Safety types in TAC OSMEN tell us that the suggestion was submitted and approved prior to publication of T.O. 11A10-1-107 which does require 50 foot separation when pretesting or presetting the flares. The idea was considered sound... but the new T.O. permits only one flare on the table at a time.

Ed.

PEANUTS

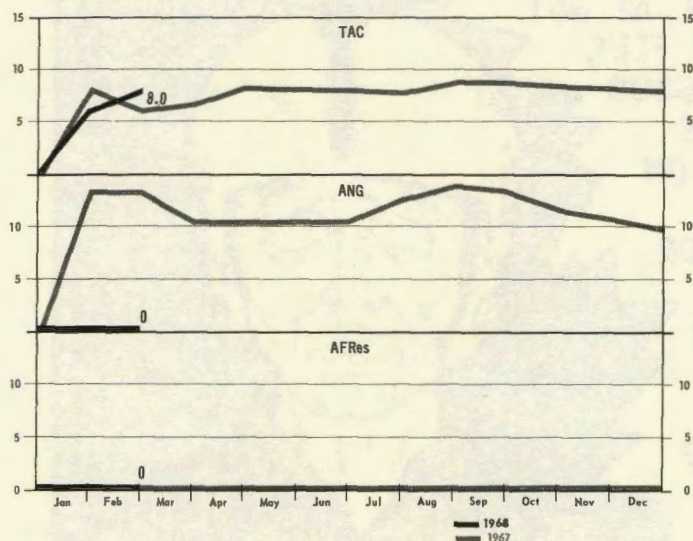
Courtesy of Daily Press, Newport News, Va.
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TAC TALLY

MAJOR AIRCRAFT ACCIDENT RATES as of 29 FEBRUARY 1968*

MAJOR ACCIDENT RATE COMPARISON



UNITS

	1968	1967		1968	1967
9 AF	12.0	8.3	12 AF	5.9	3.6
4 TFW	23.6	0	23 TFW	0	19.4
15 TFW	28.8	34.4	27 TFW	0	0
33 TFW	20.7	22.7	140 TFW	0	29.2
113 TFW	130.4	0	474 TFW	80.4	0
354 TFW	0	0	479 TFW	27.4	0
4531 TFW	32.5	0	67 TRW	0	0
363 TRW	0	16.2	75 TRW	0	0
64 TAW	0	0	123 TRW	0	0
316 TAW	0	0	313 TAW	0	0
317 TAW	0	0	516 TAW	0	0
464 TAW	0	0	4453 CCTW	0	0
4442 CCTW	0	0	4510 CCTW	0	0
			4520 CCTW	0	0
			4525 FWW	0	44.8

SPECIAL UNITS

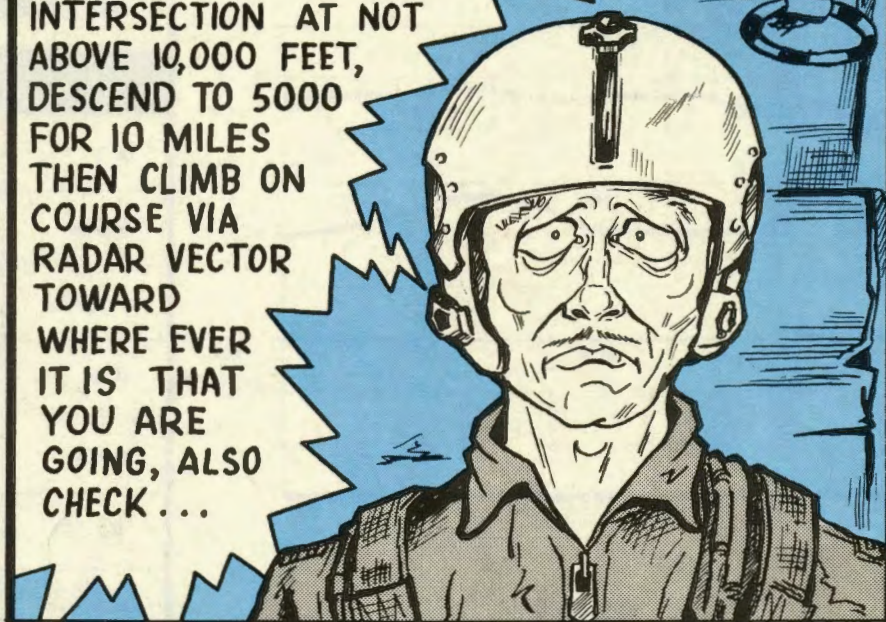
1 ACW	0	0	4500 ABW	0	0
4410 CCTW	9.6	0	4440 ADG	0	0
			4416 TSQ	0	0

AIRCRAFT		1968	1967
TYPE	TAC	ANG	
A-1	0	0	0
RB-66	0	0	0
F/RF-84	0	0	32.4
F-86	0	0	0
F-100	6.2	0	15.4
RF-101	0	0	0
F-105	0	0	0
F/RF-4	15.4	0	0
C-47	0	0	0
KC-97	0	0	0
C-119 (AFR)	0	0	0
C-123	31.5	0	0
C-130	0	0	0
T-29	0	0	0
T-33	14.1	0	0
T-39	0	0	0
O-1	0	0	0

* ESTIMATED FLYING HOURS

The Most Violated FAA Reg

ATC CLEARS DINGBAT 32 TO THE FATCHANCE AIRPORT VIA CLANKSVILLE DEPARTURE NUMBER 2 TO STONESVILLE, JET 82 TO JESSUP INTERSECTION, FLIGHT PLAN ROUTE MAINTAIN 2000 FEET FOR THREE MINUTES, THEN CLIMB TO 4000 FEET WITHIN 2 MILES, PROCEED TO HURRYUP INTERSECTION AT NOT ABOVE 10,000 FEET, DESCEND TO 5000 FOR 10 MILES THEN CLIMB ON COURSE VIA RADAR VECTOR TOWARD WHERE EVER IT IS THAT YOU ARE GOING, ALSO CHECK...



DEVIATED FROM CLEARANCE