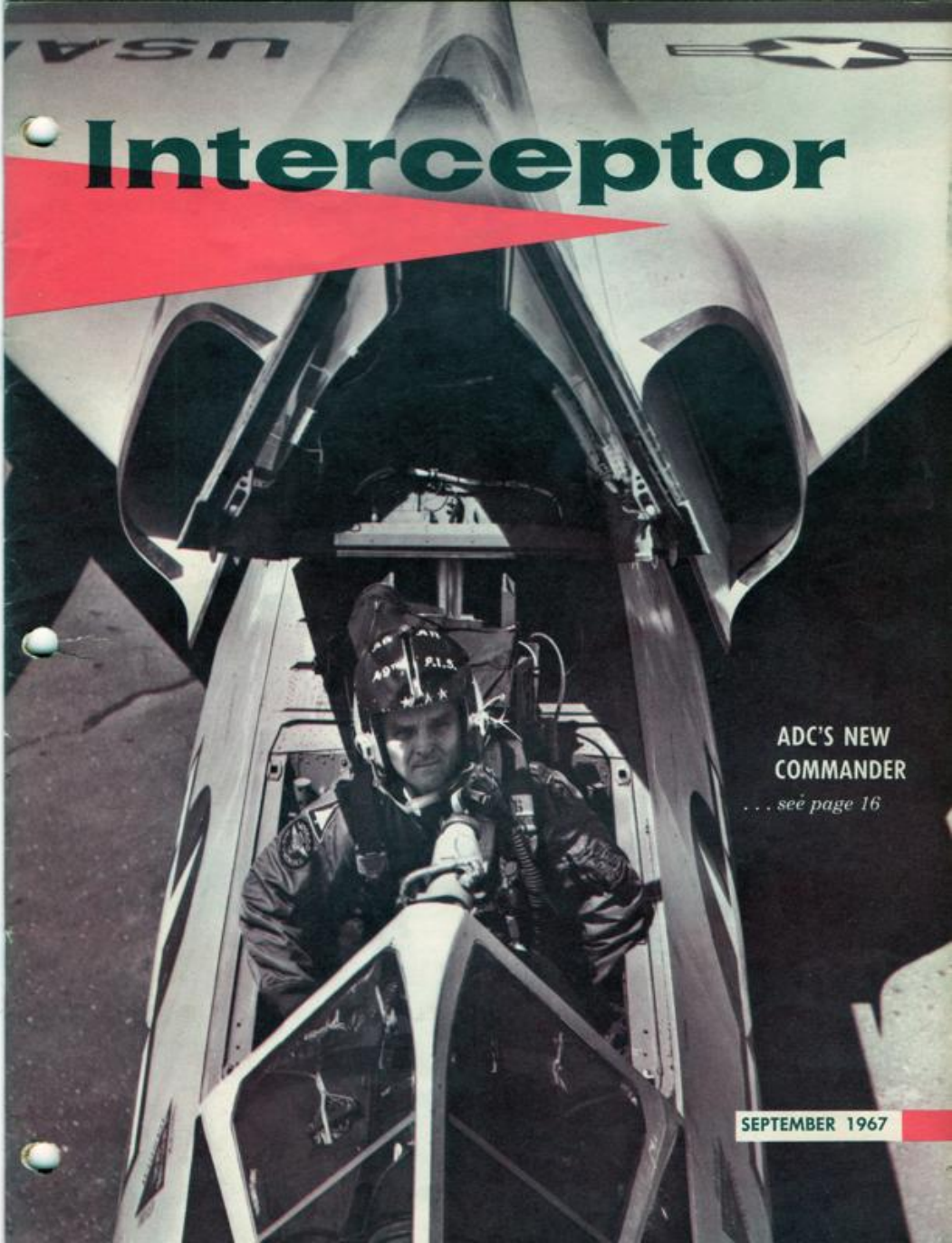
Interceptor



ADC'S NEW COMMANDER

. . . see page 16

SEPTEMBER 1967

FOR THE MEN RESPONSIBLE FOR AIR DEFENSE

Interceptor

volume 9
number 9

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Hq ADC Field Printing Plant
Ent AFB, Colorado

spotlight

I respect faith, but doubt is what gets you an education.
Wilson Mizner

departments

special features

OUR COVER

We salute our new Commander, Lieutenant General Arthur C. Agan, Jr.

memo
from the CHIEF OF SAFETY

EXPERIENCE – the two-way street

COL. OLIVER G. CELLINI

Recently I had the pleasure of discussing the term "Experience" with one of our well-known ADC Commanders. His contention was that if a pilot was combat ready by Air Defense standards, he was adequately experienced irrespective of total flying time or flying time in the particular machine. I maintained that "Experience" is a relative condition - that a high degree of experience, accompanied by overconfidence and complacency, can lead to aircraft accidents as can a relatively low degree of experience accompanied by a lack of mature judgment.

I would like to analyze how this really applies to our flying business by reviewing the records of two recent major aircraft accidents. As usual, there were many reasons listed as to the causes - Primary, Contributing, etc. In my opinion, while the underlying indirect cause of one accident was the relatively low degree of pilot experience, the underlying indirect cause of the other was "too much" experience. Let me explain.

When a fuel feeding problem developed, the pilot with a minimum of experience landed his airplane immediately on a short runway and ran off the far end. Result: Class 26! The highly experienced pilot, who also had a fuel feeding problem, pressed his airplane beyond the limits of the available fuel during a peacetime war game, and was forced to abandon it. Result: Class 26!

In these two instances, if I could turn back the pages of time and change the sequence of events by exchanging *only* the pilots, I believe that the two accidents would not have occurred. I do not believe that the highly experienced pilot would have landed on the short runway or that the relatively inexperienced pilot would have had the confidence to continue simulated airborne attacks to such extreme limits.

The pilot with few flying hours may never have seen an actual red light in the cockpit, perhaps he's never flown in extreme turbulence, never had to land on a real short field, or in a violent crosswind, or on ice and snow. Maybe he's never had to cut minimums like 200 and one half. Perhaps he's never really had the devil scared out of him. All of the above builds confidence and gains one experience. Unfortunately in the gaining of this experience, every now and then someone loses out.

The types of accidents occurring here are: The inexperienced - caused by too fast and improper action, not counting ten, or plain panic (adrenalin), not knowing correct emergency procedures, not recognizing a manageable emergency from the real McCoy, not knowing and understanding his own limitations; the oldtimer who's had the wits scared out of him a number of times and has gained a tremendous amount of confidence and experience can be the guy who becomes complacent - he has the "pressing" or "know-it-all-accident" - he did it before and got away with it, so he'll take another chance - he's too proud to abort.

We know that we have a "learning process," but unfortunately we also have a "forgetting process." What should we do? Detailed and repetitious briefings are a must, the young pilot must gain his experience and confidence slowly, panics must be identifiable as real and manageable; the oldtimer must constantly beware of overconfidence and complacency. Complacency cannot be tolerated; pressing may be required in wartime, but not necessary in peacetime; professionalism is a must; and finally, supervisors, at all levels, have the most relentless and thankless job known. Be aware of the dangers, know yourself and your subordinates, stay ahead of the airplane at all times. If you do not have a lot of experience, gain it wisely; if you do have a lot of experience, use it wisely.

HOT LINE

Cutaway after 35 landings, F-106, new tire!

DEEP SKID TIRES (F-102, F-106)

In the past three years, the Air Force has been working with the tire industry to develop and improve aircraft tires which would give more service life (additional landings). The tire ADC would be most interested in (the 30x8.8/22 PR (ply rating) for use on F-106, F-102, and F-100 main wheels) is on the verge of being qualified. Field evaluation tests are presently being conducted at Luke AFB, Arizona (TAC) and Castle AFB, California (ADC). On previous tests of the 30x8.8 tire, the average landings for 500 tires were 29.1 per tire. Other 30x8.8/22 PR tires with standard groove depth normally achieve 12 to 15 landings per tire. From the safety standpoint, we are gaining in several areas. The tires will have good, long-lasting relief in the grooves which will aid in preventing hydroplaning in wet conditions. The new deep-skid tires have been tested through 40 cycles on the dynamometer. This requirement involves 40 landings and 40 takeoffs on the dynamometer under full load condition (21,000 pounds). Taxi-out and taxi-in simulation are run prior to takeoff and after landings on the dynamometer during each cycle. This is 15 more cycles than the standard tread tire presently in use. Removing the wire from the tread material reduces tread chunking and permits the contractor to produce a tread near optimum. Foreign object damage (cuts) is almost nonexistent during the first half of the tread life because the deeper tread allows deeper penetration without damage to the tire carcass. The reinforcement plies for the tread have been moved down below the grooves and will eliminate the ragmop appearance of the fabric tread tires that have caused confusion in the past relative to maximum wear limits. The main changes which increase the tire life are additional tread material and moving the fabric reinforcement down below the tread grooves.

Another 30x8.8/22 PR tire is also being field evaluated. This one has a skid depth of .22 inch. This tire has also had the tread reinforcement fabric moved down below the groove.

The service life on this tire has been improved approximately 25%. Field evaluation results from the deep skid tire indicates that the state-of-the-art has improved to a degree that we will get additional safety, better, longer lasting tires from the tire industry.

Also there are no small wires embedded in the rubber tread for winter use. This seems strange because for years and years we have been told that these little wires were a very important part of any winter tire. According to some of the people at Ogden Air Materiel Area (AFLC) the wire does not aid the cold weather operation of this tire at all.

So far the tire looks good and if bought, will provide us a much better tire with longer life than any we have had in the past. Informal reports from Castle Air Force Base indicate that the test tire is giving excellent results. At the present time there is a plan to field test this same tire in the north country. To be specific, the 507 Fighter Wing at Kincheloe Air Force Base, Michigan. These tests will commence around the first of December.

A quick glance at the tire gives the appearance th there is nothing different on it than any other aircraft tire. A closer look will reveal that the tread is deeper than the standard tire.

SELF-RETAINING BOLTS

There are several different types of self-retaining bolts being evaluated for possible use in USAF aircraft. However, no one specific bolt has been qualified to date for Air Force use. Further testing is being conducted by the Systems Engineering Group.

The design feature of the self-retaining bolt is such that once the bolt is installed, it will not fall out due to vibration or unusual flight conditions. If the nut falls off, the bolt is locked in place through either a circular ring or ball detent method. These bolts will also have provisions for a castellated self-locking nut and cotter key.

ADC has established requirements with AFLC for the use of the self-retaining bolt for all interceptor aircraft. These bolts will be placed in all critical flight and engine controls linkages.

a salute

. . . in recognition of outstanding achievement in accident free operation.

Over 5 Years

★ 456 FIS, Castle

★ 119 Ftr Gp, Hector

Over 3 Years

48 FIS, Langley
62 FIS, K. I. Sawyer
87 FIS, Lockbourne
112 Ftr Gp, Greater Pittsburgh
115 Ftr Gp, Truax Field
120 Ftr Gp, Great Falls
132 Ftr Gp, Des Moines
141 Ftr Gp, Spokane
162 Ftr Gp, Tucson
4600 AB Wg, Peterson Field

Over 2 Years

18 FIS, Grand Forks
60 FIS, Otis
114 Ftr Gp, Sioux Falls
148 Ftr Gp, Duluth
149 Ftr Gp, Kelly
408 Ftr Gp, Kingsley
414 Ftr Gp, Oxnard
444 FIS, Charleston

Over 1 Year

13 FIS, Glasgow
27 FIS, Loring
95 FIS, Dover
101 Ftr Gp, Dow
144 Ftr Gp, Fresno
158 Ftr Gp, Burlington
539 FIS, McGuire
4760 CCTS, Webb

as of 30 June 1967

ORI

OPERATIONAL READINESS INSPECTION TEAM

HQ, ADC

THE FAKER MAKER CAN MAKE OR BREAK HER...

FAKER MONITOR

. . . is a specially trained, operationally ready weapons controller who has a console and ground/air communications at his disposal, and who monitors the progress, flight safety, and intercept actions against all simulated hostile aircraft (FAKERS) within his area of responsibility, in order to insure a safe environment during exercises and evaluations.

During every ORI Mutual Briefing, this statement is made: "Select your most experienced people for Faker Monitor, since rapid identification of fakers can mean early neutralization." We've found this to be a true statement. In looking back over past ORIs, we've found a definite relationship between the performance of the Faker Monitors and the outcome of the air battle.

This relationship can best be illustrated by the following story. (The names have been changed to protect the guilty.)

Captain Ignatius M. Mediocre, the division "Faker Maker", sat idly twisting paperclips, and thinking how boring it was to listen to the ORI Mission Coordinator brief the importance of good Faker Monitor procedures. "The gall of that headquarters weenie trying to tell me, a pro in this business, how to run my shop," he thought. Among other things, he completely missed the statement that he could raise the altitude of low-level fakers to maintain R&R (radio and radar contact).

That evening when diligent Faker Monitors would have been reviewing the Altitude Reservations and mapping their actions for the air battle, Captain I. M. Mediocre warmed his favorite bar stool at the club. He was plying the local FAA representative with "suds" and trying to convince him that Captain Mediocre was the greatest controller in the world. Adding to his non-professionalism, he had neglected to prebrief his team and had been vague on when they were to report for the air battle.

BIG NOISE APPLEJACK DELTA was two hours old before the Faker Monitor team was in place. Captain Mediocre was already behind the power curve so he decided to brief his team in-position. "Ah right, you lackluster bums, now we gotta get these targets in the system," he droned over his mike, "I don't wanna' hear any bitchin' about not being able to identify any targets, cause I gave you the ALTRVs and you can just look 'em up. If you got problems, get 'em squared away yourself. I've got an Excedrin number 6-67 headache this morning." As an afterthought, he punched in on his console monitor button and said, "And if them ORI Mission Coordinators give you any static, ignore 'em! We got plenty targets, so don't worry if you miss a few, . . . it'll be just that many less the weapons teams have to kill."

The first IP appeared right on time and was properly identified. The entire Faker Monitor team heaved a sigh of relief; this was going to be a snap. After all, there were only 40 targets scheduled. IND 4-1 had been assigned to identify the first five fakers, but because no route maps had been prepared, he was confused as to where they were to IP. No contact had been initiated with the faker pilots on their outbound leg

ease identification, and consequently, all five of his birds called in at once. IND 4-1 figured that if he skipped a few he could catch up. Fortunately, he identified two of his five assigned fakers, but one of them had traversed over 70 nautical miles of his route before it was classified a safe faker.

In the meantime, INDs 4-2 and 4-3 were having their problems. Since the Faker Monitor Chief hadn't been very specific on faker assignment, INDs 4-2 and 4-3 were vainly trying to sort out who would handle which fakers. Five low-level fakers were missed completely and three high speed high altitude fakers got to within 100 NM of their ground targets before they were put into the system. Of 20 scheduled fakers in Wave I, eight were not put into the system due to Faker Monitor error. Only 10 of the remaining 12 were neutralized by the weapons teams.

The Wave I scene looked grim for the air division. Wave II was a repeat performance on the part of the Faker Monitor team. Again, out of 20 fakers scheduled, the Faker Monitor team erred five times leaving 15 chargeable to the air division. The weapons teams neutralized 12 of the 15, not a bad record under the circumstances, but not quite good enough to reach the required 85% neutralization success rate.

The Faker Monitor team had reduced a 40 aircraft faker force to 27 useable targets, and of the 27, over 1000 NM of cumulative target travel was lost. The weapons teams needed to kill 23 to pass the ORI; only 22 were killed for a neutralization success rate of 82%.

Did the air division flunk because of ineffective combat capability, or because of poor supervision, lack of planning, and insufficient team training of the Faker Monitor team?

Fortunately, this story is the exception rather than the rule. For the most part, we have seen the highest standards of professionalism demonstrated by Faker Monitors, and where we have seen a lack of experience, it has been countered by dedication.

We are proud of the oustanding job that most Faker Monitors are doing in this difficult but important area. But may we be repetitious: PUT YOUR BEST PEOPLE IN FAKER MONITOR, because the "Faker Maker can make or break her."

TOM WILLE, Colonel, USAF

ORI Team Captain

Ed. Note: The last we saw of Mr. I. M. Mediocre, he was again plying the local FAA representative with beer and trying to convince him that FAA needed another controller.

"A Deafening Explosion"

The T-39, with pilot, copilot, and three passengers on board was cleared from Andrews Air Force Base, Maryland, to Peterson Field, Colorado, via Charleston, Louisville, Farmington, via Flight Plan Route, to climb to and maintain Flight Level 350. A decision was to be made at Farmington, based on destination weather, winds, and fuel remaining, whether or not they would make a fuel stop enroute or fly nonstop to Peterson.

To top the buildups, they requested and received Flight Level 390 over Louisville. Between Louisville and Farmington they called for and received Flight Level 410, and they were cleared to Flight Level 430 prior to Farmington. The farther west they traveled the higher the "bumpers." At Farmington the crew members checked fuel consumption, fuel remaining, and the weather at the Springs. Everything looked "Go" so they decided to press on to Pete.

To remain clear of the towering cumulus in their path, they requested and were granted Flight Level 450. Butler Vortac was crossed at that altitude.

Both pilots had their helmets on above FL 350, and passing through FL 400, the copilot attached his mask. Climbing through FL 430 both pilots were on oxygen.

Upon leveling at FL 450, one of the passengers came forward and stood between the seats. The pilot took his mask off and talked with the passenger for approximately three or four minutes. The passenger then returned to his seat.

Shortly thereafter the copilot disconnected one side of his mask and began to fill out the aircraft forms and trip reports.

And . . . then it happened . . . a deafening explosion occurred . . .

The pilot's initial thoughts were that the left engine had exploded through the fuselage. The cockpit was almost completely darkened by condensation and debris, and the aircraft was instantly thrown into a violent left turn.

The completely unexpected had, in fact, happened. The entrance door had failed and it was blown out with the tremendous force of the pressurized cabin. After the door separated from the fuselage, debris and clothing were blown out of the fuselage and some of it passed through the Number One engine causing a flameout.

The pilot fought to right the aircraft and checked his instruments for any signs of a fire. The only warning light the pilot observed to be illuminated was the cabin pressure fail light, which is red.

Door failure was inconceivable to the pilot and he still remained under the impression that the left engine had exploded. (These events, as we read them, actually only consumed a matter of a few short seconds). He then reached for the Cabin Air Selector switch and positioned it to "Right Engine" and then he attempted to don his oxygen mask, *but he had waited too long,* and he lapsed into unconsciousness.

Meanwhile the copilot, who had been filling out the paperwork, secured his oxygen mask over his face after the cockpit had cleared up. His first impression was that the windshield had blown in. After things cleared up he realized it was the door. He looked over at the pilot who, by this time, was unconscious, head forward and arms limp in his lap. The copilot took the controls, retarded the throttles, extended the speed brakes, began a descent, and turned in the general direction of McConnell Air Force Base, the closest available military field. He descended through holes and went around buildups in order to remain VFR and watch for other traffic. When the nose was lowered, the unconscious pilot slumped forward on the controls so the copilot had to hold him off the controls with his left arm. He then called May Day on the enroute frequency, as he didn't have a hand free to change radio channels. He could not hear anything as the explosive decompression and the air rushing past the open door made hearing very difficult. Sometime during the letdown he managed to turn the transponder on "Emergency" mode. Also during the descent he managed to hold the pilot back with his left elbow and place his oxygen mask on the pilot's face for a few moments, but there was no response. A quick glance in to the passenger cabin disclosed at least one unconscious passenger.

On reaching 10,000 feet, the copilot pulled in the speed brakes, decreased the rate of descent, and retrimmed the aircraft. He then removed his helmet and put on his headset, and changed the UHF radio to "Guard" channel. Sometime during the descent he had noticed the left engine was inoperative, but at the time he didn't have a hand free to shut it off.

Shortly after descending through 10,000 feet, he felt one of the passengers, who had previously been unconscious, taking the weight of the pilot off his arm, and saw him place an oxygen mask on the pilot's face. There still was no response. About this time a faint radio transmission was heard giving them a position three miles southeast of McConnell AFB and then he asked for a vector to McConnell. This welcome transmission was from Wichita Approach Control. Halfway through the turn to the new heading, the large, long runways of McConnell AFB came into view and according to the copilot, an airfield never looked more beautiful. He then advised the tower that he wanted "An ambulance standing by as the pilot hadn't come around yet."

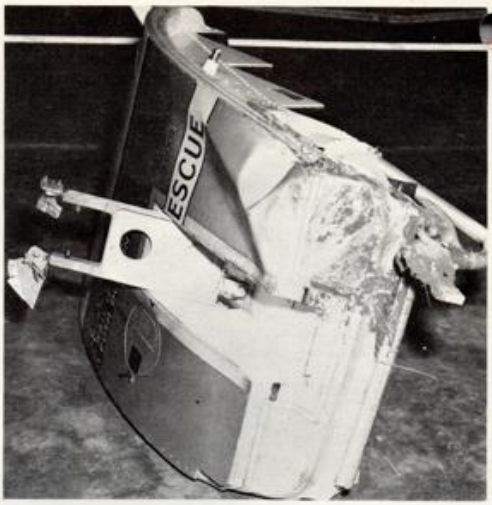
After calling field in sight, he was immediately cleared for a straight-in approach by the tower and advised that equipment was standing by. He then dumped gear, flaps, and speed brakes, and accomplished an uneventful single engine landing.

One "Sabreliner" minus a door, an unconscious pilot, three relieved passengers, and a weary looking copilot was what the crash crews found after engine shutdown.

The pilot, still hypoxic, was administered oxygen immediately and enroute to the base hospital. His condition did not improve, so an airborne KC-135 was diverted to pick up the pilot and take him to Kelly AFB, where he was transported by helicopter to the Medical Center at Brooks AFB.

While the pilot was under the influence of hypoxia, he experienced unconsciousness for a considerable period of time. And when he regained consciousness he did not have full control of all his faculties. He was belligerent and combative, but worst of all, mentally confused and blind. At Brooks he was placed in the chamber under the supervision of highly qualified flight surgeons and he gradually regained his eyesight, mental composure, and full use of his faculties. The following day he was transferred to Wilford Hall USAF Hospital at Lackland AFB for further treatment and observation. He was hospitalized for a total of 13 days and was subsequently released with no permanent ill effects. He was placed back on flying status and has generated considerable flying time since with no apparent mental or physical repercussions.

Door after 45,000 foot fall.



Doorway minus the hatch.

The passengers were administered oxygen for 20 minutes and then released by the flight surgeon as they showed no harmful effects whatsoever.

Let's regress now to the point at which the decompression occurred. The passengers had their share of problems, also. Two of the three passengers were rated pilots. The third was nonrated. One of the pilots was seated on the left side and one on the right side with the third passenger. When the door blew the emergency oxygen masks on the right side dropped down, but those on the left side did not although the doors did open. The passengers on the right immediately placed the masks over their faces and began breathing oxygen. The fact that one of them had his mask on upside down didn't seem to impair its effectiveness, and later on he discovered his error and corrected it. The passenger on the left meanwhile had unstrapped and stood up to pull his oxygen mask from the container. He immediately applied the mask to his face and tried to slip the headpiece over his head, but it was too small. He took several breaths out of it, but was unable to obtain any oxygen. He fell back in his seat, unconscious, unaware that in order to receive oxygen in the passenger position the hose had to be pulled completely from its container. As he fell he yanked the oxygen hose to its fullest extension. One of the passengers on the right then placed the mask over his face and he regained consciousness shortly thereafter.

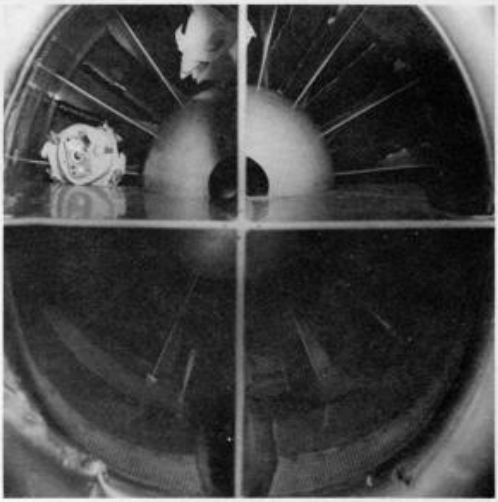
The two rated passengers then began fitting a parachute to the nonrated passenger. This required an abnormally long time to accomplish as the leg straps were set too small. This completed, he inadvertently pulled his rip cord, and the pilot chute popped out. They sat him down.

One of the passengers then donned a chute, activated the emergency bailout bottle, stuck the hose in his mouth, and proceeded forward to the baggage bin. There he obtained his hard hat and the helmet of the other rated passenger. He put his on and threw the other one to its owner. He fastened the mask and connected the emergency bailout bottle tube to the adapter, thereby giving himself a walkaround capability. The other pilot/passenger did likewise with his equipment and began fitting a spare chute to the nonrated passenger.

Meanwhile, up front, our first pilot/passenger had crawled cautiously by the opened doorway, which at that time must have looked like the Grand Canyon yawning at him. He pulled the pilot off the controls and held his mask to his face for a few minutes, but to no avail.

Although aircraft damage was relatively minor and injuries slight and temporary, this incident has grave implications. The fact that neither pilot was on oxygen at the time of the decompression was *not*, in fact, a contributing factor in this incident. The reg requires that *one* of the tw

Looking aft from the cockpit.



Intake of Number One engine — showing debris and damage.

be breathing ox between Fl 400 and 450. One of the two did get his mask on in time to react to the situation. The published average "Time of Useful Consciousness without Oxygen" at 45,000 is about 13 seconds. However, this decompression was more explosive than rapid according to the crew members, and medical advice from Brooks AFB informs us that the TUC under *explosive* decompression is somewhat less than the mean figure.

It would be the normal reaction of most pilots at the controls of a plane to prevent it from entering an uncontrollable condition after a resounding explosion of unknown origin had placed it in an unusual attitude. And to further analyze and correct the problem, it is felt in medical circles that the mental and physical energy the pilot expended during those first chaotic seconds after the explosion quickened the onset of hypoxic unconsciousness.

Emphasis has been placed on oxygen discipline on an Air Force-wide basis. Aircrews have been briefed on this incident and reminded of the need for complete and recurring emergency briefings to crew members and passengers regardless of whether the passengers are rated or not. Aircraft commanders will probably be more reluctant to allow passengers to come forward and talk to the pilot and copilot when at higher altitudes, for obvious reasons. Life support personnel have been encouraged to leave chute fittings and oxygen mask headpiece fittings at a larger than usual setting for it is easier to adjust them to a smaller size when in a hurry than vice versa. Oxygen walkaround bottles have been relocated to a more accessible position.

One recommendation is that a safety net be designed and adapted that would be snapped into place after the entrance door has been closed. The C-141 has one. This could prevent personnel and debris from being blown out in case of door failure.

Perhaps the most startling revelation of all to come out of this incident was the fact that it could have been prevented. The primary cause was materiel failure of the upper door beam coupled with materiel failure of both fuselage door lock pin support fittings. It was known and acknowledged by the factory that doors had shown signs of unequal distribution of bearing loads on the entrance door stop. They had issued a field service bulletin to correct this situation. The Air Force, however, had not yet adopted it. The doors have been reworked under a TOC since the incident.

It would seem that of all the recommendations to come forth as a result of this incident, the one with the greatest potential safety impact is the one that reads, "The prime AMA for the aircraft should critically review factory service bulletins for *safety of flight* implications to provide a more timely retrofit of the fleet." ★

IT'S THAT TIME AGAIN

People talk about learning and forgetting curves. Generally we know that in order to learn something we have to go over the same material again and again to reinforce it. We tend to remember best those things that we use often. We also tend to remember that which we want to remember. Also, in the opposite direction, we usually forget unpleasant experiences sooner than pleasant experiences.

This sounds fine, but what the heck does this have to do with the price of rice in China? It doesn't have anything to do with rice prices. It has to do with the smell of moth balls, football games, and ski bums who are up in the attic or out in the garage digging out ski poles and skis. Yes, these are the things we want to remember about the approaching fall and winter. These are easy things to recall.

What kind of unpleasant memories can we bring forth if we really try? Let's give it a go. Yes, it's all coming back to us now. Up front, in the flight briefing room, the weather man is talking. He is saying something about snow showers and chill factors. He is saying something about how hard it is to forecast winter weather. From what we can remember we can sympathize with him. Ah, yes, many unpleasant things are coming back to us now. As we recall, the weather man, the ops officer, and the safety officer all talked to us and the following was what they talked about.

The weather-guesser started the briefing off as follows: "The fact that a forecaster goofs up a forecast occasionally is certainly not news. But when does he miss most of his forecasts? At the time when the weather is changing rapidly, such as happens frequently during the cold months. The weather-guesser will be pushed to be able to provide a good forecast when conditions vary from bad to clear and 50 in a time span of a few minutes. Even if he realizes that rapid changes are possible, the system is taxed to the maximum in trying to disseminate the information to all using agencies in time to be useful to the pilot recovering with minimum fuel. Make sure, if flying, that the weather we ask for is current and not 40 or 50 minutes old. This won't do us much good if there are snow showers in the area and one of them happens to be over home plate on our recovery, and we don't know about it."

At this point the ops officer and the safety officer took turns telling us about winter operation in northern bases. Since the ops officer was bigger than the fly safe officer, he got to speak first. As we remember this is what he had to offer:

"Icy runway? Remember RCR, check weather sequence before you plan on landing or using a base as an alternate. You may have clea

weather, but the runway may be slippery as grease. Also remember how an RCR is taken. It may or may not be a good indication of the runway condition.

"We all know brakes are less effective on slippery surfaces. Be sure you allow for this. Use aerodynamic braking and make sure you touch down at the proper landing speeds. After you're down on the runway, expect the nose wheel steering to be ineffective. Then you won't be surprised when you find out the only way you can get around a corner is by using wheel brakes.

"You might do well to get the old Dash One out and have a look at short field landing techniques just in case. Be careful, however, and not get too short on landing. As long as the book is out, you might just as well read the whole section on cold weather.

"As long as we are talking about flying in cold weaather, why not go step by step and see what our problems are? Before we go to fly, we should be briefed on things like:

- Crosswind takeoffs and landings on slippery surfaces.
- Whiteouts and depth perception.
- Altimeter errors.
- Winter distress procedures.
- Aircraft surface icing.
- Increased demand for inflight weather reports."

The ops officer stopped talking at this point. He had suddenly discovered that his coffee cup was empty so he looked directly at Mister Safety and said, "You got it, boy!"

The "boy" rose to the occasion. He talked us all the way through a flight. The starting point was one of the aircraft which had sat outside in the snow for some time.

"If our plane has been outside in the snow all night, we should make sure all the snow and ice is removed. Snow and ice that have melted have been known to run down into the control surfaces and freeze. Maintenance should either pull the aircraft into a warm hangar or use deicing fluids. Never chip off snow and ice. Look into landing gear areas and actuating cylinders to make sure that they are clean. Check all the hydraulic lines and actuators for leaks. There probably are a few to be found if we check. Air lines and accumulators have a way of going down in cold weather. It seems as if the seals on our all-weather aircraft sometimes don't hold up. If we need to go up on the wing of the plane, watch out. There is nothing funnier than someone trying to keep his footing as he slides slowly off the wing onto a very hard ramp.

"So once we have walked around the airplane, we can climb up the ladder with our forty pounds of winter clothes and struggle into the cockpit with the aid of some crew chief with a shoehorn. Remember how hard it was to move with all the survival clothes? How about that - we got strapped in and are now ready to start. Remember in cold

Weather forecasters are never wrong.

Ice and snow must be carefully removed before flights.

Aircraft wings may be slippery in the winter time.

weather what happens to systems such as oil pressure when the engine gets going. We have seen some strange readings on various gauges caused only by *cold* weather. When the throttle is at idle, there is quite a bit of thrust coming out of the back end of the aircraft. If transient alert parked the aircraft on an icy ramp, it may be sliding toward something, even while the aircraft is chocked. Keep your head out of the cockpit and look around. Looks kind of silly when an aircraft slides into a ramp shelter.

"We slipped through the start, so let's try to make our way gracefully to the runway. On most any ramp we know that there can be FOD, and when there is snow removal equipment, there is usually much more of it. It may be pieces of steel from the snowplow blades, or it may be chunks of ice still left after the ramp and taxiways were cleared. Use only the power necessary to taxi, as more power would cause anything on the ramp to blow around hitting other aircraft or personnel. (This makes people mad.) Once the aircraft is rolling, remember that nose wheel steering may not be too effective. Once 40,000 pounds of metal heads one way, it may not want to change direction. Watch for ruts and snow windrows - these can really ruin the whole day if the gear hits one the wrong way. No sense in taxiing fast since we won't make the corner if it's slippery. Watch the spacing while taxiing to the runway. If the aircraft ahead finds a dry spot to stop on and ours doesn't find one, there may be two aircraft mated out of mating season.

"Now, if we are lucky enough to get the aircraft preflighted, started, and out to the runway, do we have it made? Of course not. The same slippery stuff that was on the ramp is out on the runway. We could encounter ice, snow, slush, or water, separately or all at once in takeoff position. Ever note how sometimes as the throttle is pushed forward, the aircraft moves in direct proportion with throttle increase? Not a bad design, but this should not happen when the brakes are locked. Got to find a dry spot to run up the engine for the before-takeoff check. OK, now the slide down the runway can begin. If there is some loose snow on the runway, get a good interval for takeoff; if not, we may find ourselves flying in a snowstorm kicked up by the troop in front of us. No one has really lived until he is going down the runway at 150 knots and can't see anything but white stuff.

"Once airborne, the next step is gear up. If the runway is dry, fine - just raise the gear and we can be on our way, but if there is water or slush on the runway, the answer may be leave the gear down for everything to blow out of the wheel well. If this isn't a satisfactory solution, how about recycling the gear, to make sure that they are free of water and slush? The gear will come up and lock in place all right, but unless it was clear when it locked up, there may be some problem in getting it down when we want to land.

"Flying around in the winter isn't much different than summer. There are a few things to look for, such as not being able to see some of the familiar landmarks we had all summer long. Survival won't be the same. If no one has given any lectures or demonstrations on how to survive in the cold, best grab them by the neck, make them to sit down and tell all they know about it. Check on winter survival schools. Many of the northern bases run some real good ones. They are not snap courses, but really let the people who attend get a feel for sleeping out in a 30 degree below zero condition. No one has really lived until he has snared his own rabbit and cooked it over an open fire out in the Montana prairies. Man, that's real living.

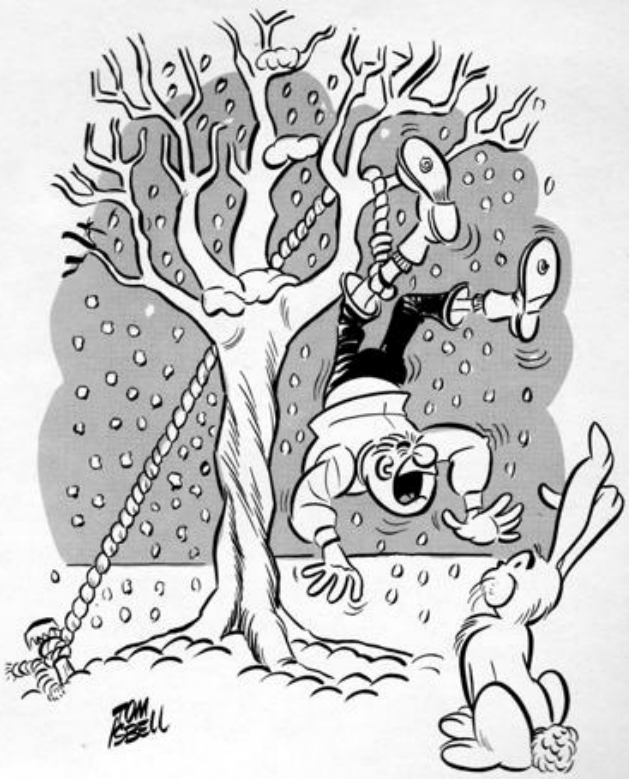
"Coming back in for recovery at home plate may prove quite interesting, to say the least. The weather conditions may not be anywhere near the same as when we took off an hour or two ago. Sometime during recovery, get the current weather at the base of intended landing. Don't assume things will be the same as when we left. Even in the approach, let's prepare ourselves mentally for the worst conditions possible. Know the alternates ... and

how much fuel it will take to get there. Don't be ashamed to make a missed approach and land at the alternate. The worst we can do is miss the party, or have someone else pull our alert (what a bad break!).

"If the approach is IFR, there is a very good chance of structural ice accumulating on the airmachine. Plan for it and make allowance for high stall speeds. Help out the guy behind. If the weather is significantly different than the weather-guesser gave, pass it on to approach control so they can relay it back to our buddy. He may even thank you for it when he gets down. Be careful on touchdown. With snow blowing either down the runway or across it, there is a tendency to round out and find we are still two feet in the air. By the time we realize this, we have already received a landing grade of "D" for the first bounce. We previously talked about RCR and braking on slippery runways. If there is a barrier at the end, don't be too proud to use it. That's why someone spent lots of money putting it out there. Besides, that way we can get more people out in the cold to join us in our misery.

"This about completes the flight except for taxi back and engine shutdown. Watch for the same things as taxi out. Don't fall off the ladder getting out of the aircraft. It doesn't look good for the crew chief to see a hot fighter pilot tumble to the ground after he has cheated death for an hour and a half in the winter skies."

Much more could and perhaps should be written about cold weather operation. The important thing is to get people to think about it, and remember how it was last year. Perhaps the one most important factor we could talk about as related to cold weather operations would be the psychological change which takes place in an individual when the temperature gets down to zero or below. Have you ever noticed that when it gets dark in the winter, it feels much colder, even though the temp is the same? How about when we have to fly at night during the winter? Doesn't it seem a lot harder to convince oneself to get out there and preflight? Speaking of preflight, how many things do we miss in the winter when it's really cold, that we might have looked at if it had been warm on the ramp? This applies to the maintenance people also. Who wants to work on an airplane in the cold? True, most northern bases have heated ramp shelters, but sometimes aircraft sit on the line. The work has to be done, but it doesn't get done right when it is minus 20 degrees and the wind is 15 knots out of the north. People with cold hands don't work well. The only thing that gets hot is tempers, when things don't go as they should. It is everyone's responsibility to make sure things go the right way. Don't pass the buck to the wrench benders or operations weenies. Don't hope someone else will catch the error. It is as much our problem as anyone else's. Let's not turn our backs on it - someone else may not catch it.



Cold weather survival can be fun.

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS AIR DEFENSE COMMAND
ENT AIR FORCE BASE, COLORADO 80912

SUBJECT: Safety and Air Defense

TO: All ADC Personnel

The Air Defense Command has a tradition of professional competence. Today we are confronted with an increasing threat which requires improved weapons systems of greater complexity. Air crews and maintenance personnel will need better training and higher skills to maintain and fly those weapon systems.

Part of being professionals in this flying business is understanding the airplane. All airplanes obey the laws of physics at all times. When an airplane is involved in an accident there is a cause. We must persist in investigating each accident, however long the trail, until we find that cause. We have to be honest with ourselves and our associates, be able to recognize our mistakes in and out of the cockpit, and be willing to admit to them. Let's go two or three steps further than the immediate cause to determine the facts leading up to the accident as this will almost always reveal ways the accident could have been prevented and, hence, ways we can improve. Pressing ourselves or our aircraft to the extreme limit is acceptable only when directed to do so in time of great peril to our country. Let's save ourselves and our airplanes until then.

It is a good measure of just how good a man is to note the approach he takes to accidents. The professional wants to know all the facts. He has nothing to hide and allows nothing to be hidden. Most accidents have small beginnings. There are usually strong warning signals such as: a hurried superficial approach to, preparing for, and carrying out a flight; tolerance of imperfect aircraft, maintenance malfunctions or maintenance malpractices; a series of aborts or incidents for which causes and corrective actions are not clearly understood; training or procedural deficiencies. These and others should alert us. Good airmen and good supervisors are alert and know the facts personally. Accurate and honest reporting will assist in early recognition of undesirable conditions or trends so that timely corrective action can be taken.

The Air Defense Command has an enviable record. I am proud to once again be a member of this team of professionals, confident of your continued dedication to the elimination of the needless suffering and waste that accidents cause.

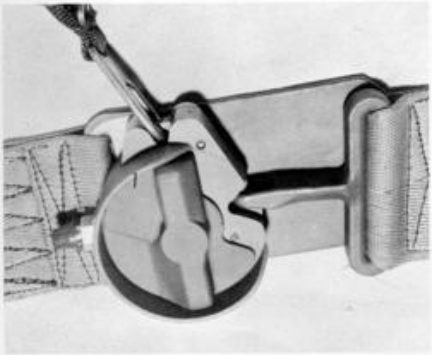
ARTHUR C. AGAN, JR., Lt General, USAF
Commander

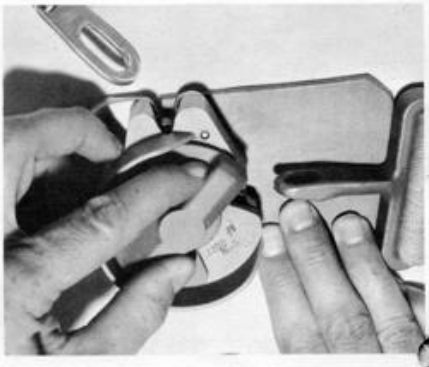
GIMMICKS & GADGETS

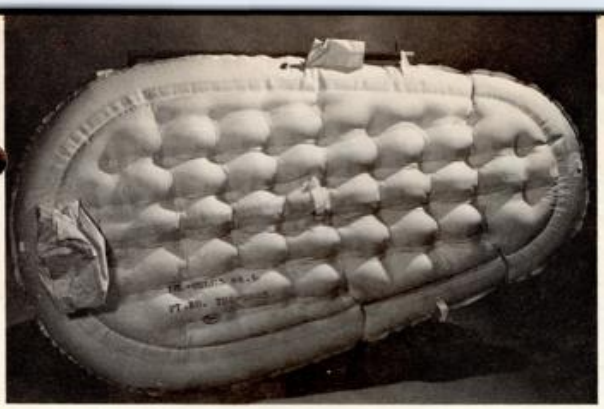
HBU-2/A LAP BELT

ADC is presently conducting an operational test and evaluation of a new lap belt. The test is being run by the 4756th Air Defense Wing, Tyndall Air Force Base, Florida. The HBU-2/A lap belt incorporates a newly developed automatic buckle and has been designed to replace the standard MA-5 and MA-6 lap belts. The belt assembly is capable of integrating with present ejection seats without requiring seat modifications. This item was developed in order to provide a belt that is compatible with present capabilities of USAF ejection seats. Ejection seat capabilities have improved over the past several years while the lap belt has remained the same. The major problems associated with the present belt that have become apparent during the past few years are that: (1) the manual release is capable of being inadvertently opened during the ejection sequence, negating the automatic parachute feature; (2) the gas pressure required for automatic actuation while the belt is subjected to high loads is unacceptably high; and (3) buckle separation after automatically opening under high loads is compromised by binding forces. The lap belt is an item of life support equipment which may be flight tested without modification to the aircraft or other items of life support equipment. Flight tests will be conducted in various types of aircraft. Aircrew personnel from the 5th to 95th percentile will be required to flight test the lap belt. *(Anthropometric measure??)*

A flight test program under field operating conditions will be conducted to evaluate parachute lanyard and shoulder harness attachment procedures, buckle halves connection, buckle release actuation, and buckle separation. This portion of the OT&E program will include crewmember evaluation of the technical orders provided to disseminate instructions and safety procedure pertaining to the operation of the lap belt buckle. The flight tests should consist of the various missions for which the belt is required. As many crewmembers as possible should be given an opportunity to test the belt. Questionnaires will be provided and are to be completed twice by each crewmember — one after 30 days of the flight test period and one at the completion of the flight test period. Completed questionnaires will be made a part of the final test report.







NEW SINGLE SEAT LIFE RAFT

Here is some good news for those of us who fly interceptors off the coastal waters of the United States. ADC has something which will replace the present one-man life raft. Before the life raft is blown up, it looks just like any other raft. The difference becomes evident after raft inflation. The floor is inflatable. The material is made of single ply nylon fabric with a neoprene coating. The floor inflates to a maximum pressure of 0.50 lbs. per square inch. This will provide us with a great deal more insulation between the water and the pilot's posterior than we now have in our present raft.

To go along with the inflatable floor we will have a hood or inflatable canopy also. The canopy gives a dimpled appearance as does the floor. However, this should be inflated only enough to show the dimple patches. This canopy is made of weather shield material (1.1 oz. rip stop nylon, 12 rip stops per inch, coated on one side with 2 oz. of crude rubber).

The method used to close the canopy opening is a 1½ inch velcro pile and hook strip which runs the full length of the canopy.

This life raft is now in being. ADC will have 500 of them for winter use by units on the coasts that will be flying over waters which get cold in the winter. The plan at the present time is for installation of these rafts in the F-101, F-102, and F-106 aircraft. Nothing is planned at the present time for any other aircraft within ADC.

GLOVE TESTING

ADC is taking part in a comparative evaluation of a new type of all-leather lightweight flight glove. The comparative evaluation is being conducted to determine acceptability for use under operational and survival conditions. The glove is fabricated from a washable leather that has been processed to resist shrinkage and deterioration when subjected to direct flame and heat intensities as high as 500°C (932°F). The glove is to be compared with the standard fabric and leather combination, Type HAU-7/P Glove (issued as part of this test), or the limited standard all-leather Type B-3A Glove, if this is the glove currently being worn. The design and sizing of the new glove is the same as the standard HAU-7/P or the limited standard B-3A gloves, in order that the evaluation may be limited to a determination of the comparative comfort, dexterity, laundering characteristics, and service. Consequently it is important that the gloves be worn as continuously as possible. At the end of the test period questionnaires will be completed and returned to WPAFB.

"None

"None Shall Excel Them" is the motto of the 13th Fighter Interceptor Squadron located at Glasgow AFB, Montana, and none has, at least during the past year.

The 13th Fighter has been selected by Lieutenant General Arthur C. Agan, Jr., ADC's Commander, as the outstanding Fighter Interceptor Squadron and is the Air Defense Command's nominee for the coveted Hughes Trophy.

The Hughes Trophy is awarded each year by USAF to the most outstanding Fighter Interceptor Squadron selected from all of ADC, USAFE, AAC, and PACAF. Cri-

Their leader, Lt. Colonel "Archie" Young.

Hangar talk.

Shall Excel Them"

teria for the award is the top squadron in the following areas of accomplishment:

- MAs, or "Hack Rate"
- Aircrew Testing
- Operationally Ready Rate in both aircraft and crews.
- Flying Hours
- Launcher Rail/Rack Reliability
- Aircrew Training
- Aircraft Safety
- Additional unit accomplishments which, with the Thirteenth, have been a record of outstanding ratings by teams of inspectors and evaluators.

The Thirteenth FIS distinguished itself by absolutely superior performance in the field of Air Defense from 1 July 1966 through June 1967 and was therefore selected by ADC's Commander over three other top notch Air Defense Command Fighter Interceptor squadrons with almost equal outstanding ratings. They were the 57 Fighter Interceptor Squadron, Keflavik, Iceland (F-102), nominated by the Commander of First Air Force; the 437 Fighter Interceptor Squadron, Oxnard AFB, California (F-101B), nominated by the Commander, Fourth Air Force; and the 319 Fighter Interceptor Squadron, Homestead AFB, Florida

Training never ceases in an outstanding unit. The troops are checking their emergency procedures by the use of their homemade "Question Box."

Like the aircrew's flying boots, the hangar floor shines.

The moment of truth.

Be there, be there . . . . . oh no!

(F-104), nominated by the Co
mander, Fourteenth Air Force.

The 13th FIS is currently co
manded by Lieutenant Colo
Archibald Young who has led
small band of Voodoos into ADC
winner circle.

The squadron originally began
Selfridge Field, Michigan, in 19
along with the 14th and 15th Squa
rons which then formed the old 53
Pursuit Group (I) of the then Thi
Air Force of the Air Force Comb
Command. The first UE aircraft
the 13th Pursuit Squadron was t

The "13th Express" is a limousine of exquisite refinements.

The Chief of Maintenance and some of his heavy artillery — the stripes responsible for the unit's truly outstanding maintenance section.

The shine on the flying boots almost matche
the maintenance hangar floor — spotless.

P-35, they then flew P-39s, P-51s, P-47s, and P-40s. In 1952 the 13th Fighter Interceptor Squadron flew the F-86D and since 1959 the F-101B.

The sustained demonstrations of superior performance and the outstanding achievements of this squadron during FY-67 are a credit to the Air Defense Command.

We extend to the Thirteenth the best wishes of the Command in your accomplishment of Air Defense Command's leading contender for the Hughes Trophy Award. ★

Three "Thunderbolts," circa 1943, sporting the snorting Black Bull of the 13th.

First 13th aircraft was this Seversky P-35.

The 13th Pursuit Squadron, 1944.

The 13th Fighter Interceptor Squadron, 1967.

The coveted Hughes Trophy.

DOWN and out

HIGH, HOT, AND LONG (F-102)

Following an uneventful preflight, start, taxi, takeoff, and climb to altitude, a flight of two aircraft was instructed to descend from 18,500 feet to 12,500. A combat descent was accomplished and a series of intercepts was completed. The flight was then instructed to descend to 2000 feet. A second combat descent was made to that altitude and an extended intercept on a high speed target was completed.

After being repositioned for the next attack, the flight leader advised the intercept controller that he was experiencing secondary hydraulic system failure and flight control oscillations. Pressure in the secondary hydraulic system indicated 500-700 psi and the hydraulic failure warning light was flashing. Oscillations were experienced in both pitch and yaw, with pitch variations predominant.

The instructor pilot, flying wing position, instructed lead to take up a heading for return to base and to initiate a climb to a higher altitude. During the climb, airspeed was reduced to 220-240 KIAS and the oscillations became less severe. Pitch and yaw dampers were disengaged, but had little effect on flight control responses. As the wingman moved into a chase position, he observed the oscillations being experienced by lead and advised him to trim the aircraft, then attempt hands off flight to eliminate any pilot induced variations that might be present.

Confirming that the secondary system pressure was low (500 psi), and that the primary system was indicating normal operation, the instructor advised lead not to extend the ram air turbine unless the primary system failed. Pressure in the primary system was monitored for the duration of the flight. The flight leveled at an altitude of seven to eight thousand feet and proceeded inbound to the base at 220-240 KIAS. Yaw oscillations at that point had disappeared and pitch variations were no longer severe.

The first of two UHF channel changes was made and the leader spoke briefly to Approach Control. The controller was advised that a VFR recovery would be made and that a GCA approach was not desired. The instructor then advised lead to extend his landing gear with the emergency system while they were at a safe altitude. This was done, and lead reported that he was receiving safe indications on all gear. He was reminded that he should be prepared to use the emergency system of extending the speed brakes for drag chute deployment.

A second radio channel change was made and the flight established contact with tower. The aircraft had reached a position approximately seven miles north of the runway and lead initiated a turn onto a final approach. He informed the tower of his position and that he was making a precautionary full stop landing with secondary hydraulic failure.

The instructor pilot recognized that lead was lining up with the active runway and that a straight-in approach from that point and altitude would be difficult to make without landing long or with excessive airspeed. He asked if a three hundred and sixty degree turn was going to be made (presumably to lose excessive altitude). The answer was negative and that a straight-in approach from that position was going to be made. The instructor then re-evaluated the approach, believed that lead was beginning to slow his approach airspeed, and elected not to advise a descending turn or a go-around. His final transmission to lead was to remind him of the emergency speed brake extension for drag chute deployment.

Having previously determined that oscillations were more noticeable at airspeeds above and below 230 KIAS, lead continued to maintain that indicated airspeed down the final approach (with idle RPM). When it became evident to him that the landing would be long, he began planning for the probable engagement of the aircraft arresting barrier at the south end of the runway. He moved his hand away from the drag chute handle and placed it on the arrest hook handle as the aircraft was flared for touchdown.

Initial runway contact was described as smooth by the pilot and several witneses. All agree that the aircraft attitude at touchdown was shallow, compared to a normal landing attitude. The pilot estimated his touchdown speed as having been approximately 190 to 200 KIAS. Smoke began pouring from the underside of the right wing immediately after touchdown, followed

shortly thereafter by a large streak of flame. The Runway Supervisory Unit Officer called for drag chute deployment. When it became evident that it was not being used and that a barrier engagement was going to be required, he called for extension of the arrest hook. He received no acknowledgement and, not being able to determine that the hook had been extended, made a final call, "Hook down!"

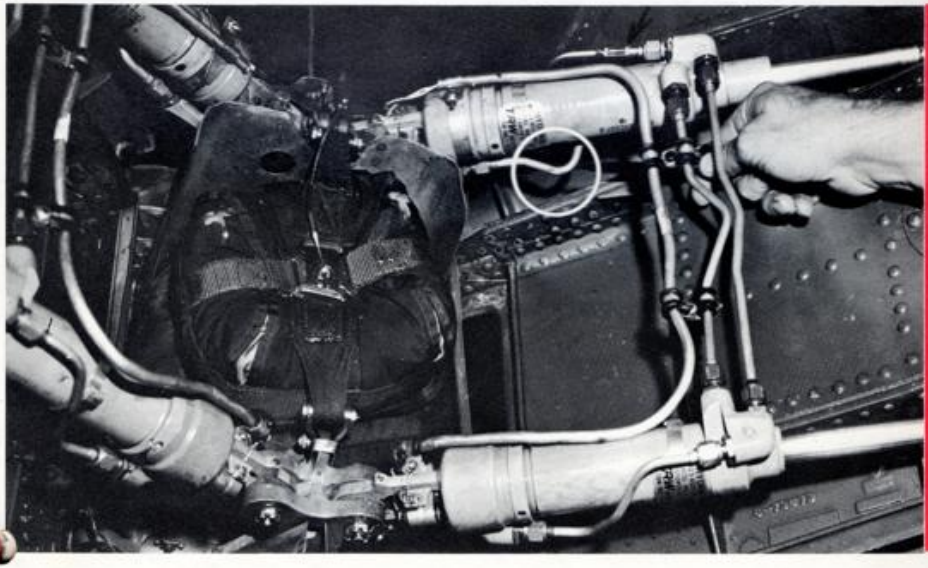
The right main gear tire had failed shortly after touchdown and the bright flash of flame occurred when the wheel disc contacted the runway surface. With smoke continuing to trail from the right undercarriage, the aircraft drifted toward the right edge of the runway at approximately a three to five degree angle and departed the hard surface at a point 2700 feet from initial touchdown. It proceeded to travel some twelve hundred feet over soft sod, and, as the ground speed reduced, the path of the tires became deeper, eventually causing failure of the lower portion of the nose gear strut.

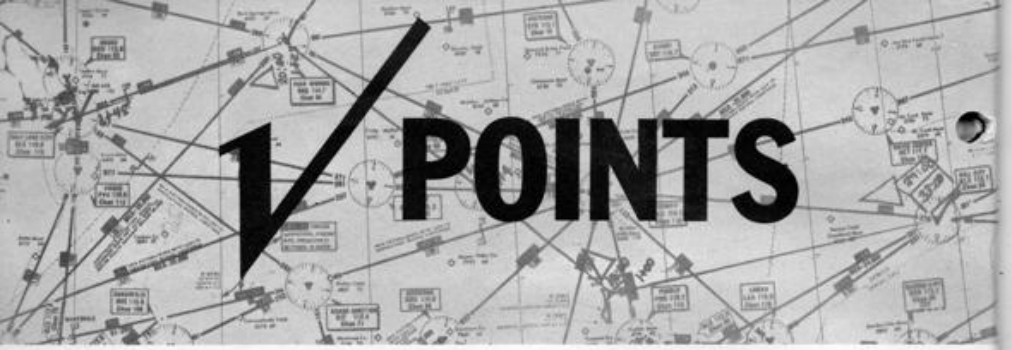
As the aircraft came to rest, the pilot prepared for egress by unstrapping from his parachute, turning off the main fuel shutoff switches, tripping the master (electrical) switch and actuating the canopy jettison handle on the forward end of the left armrest. The canopy separated from the aircraft and came down slightly aft and to the right, struck the upper right fuselage, bounced off the right wing, and came to rest just to the rear of the aircraft. The pilot then egressed from the aircraft and was immediately taken by Air Force ambulance to the Base Hospital.

Fire fighting equipment, which had responded to the declared airborne emergency, was in position almost as the aircraft came to rest, but was not needed, as no fire developed.

Initial examination of the aircraft in its stopped position revealed a considerable quantity of hydraulic fluid on the right aft section immediately below the speed brakes. The fluid appeared to have been lost between the time the aircraft came to rest and the time the engine was shut down.

When the speed brakes were opened, the drag chute was found to be saturated with hydraulic fluid. Closer examination of the hydraulic tubing in the speed brake area revealed that the lower horizontal line to the top right actuator had been rubbing on the top corner of the drag chute housing. A hairline crack could be seen in the rubbed area on the tubing through which hydraulic fluid was slowly leaking. ★





V POINTS

This section of the magazine has been designed for you. Be you a headquarters type at any level, a commander, safety officer, pilot - interceptor, transport, light aircraft - radar intercept officer, mechanic, a civilian in industry, weatherman, doctor, designer, or Indian Chief. This is your corner.

We solicit your ideas, items, notes, photographs, sketches, and pictures. The writing should be less than a paragraph - preferably a sentence or two.

We would sincerely appreciate your inputs mailed directly to: The Editor, INTERCEPTOR, Box 46, Ent AFB, Colorado 80912.

V An analysis made of accidents in the Air Defense Command has disclosed the fact that regardless of how many total flying hours a pilot has, he is more apt to have a pilot error accident during his first 150 flying hours in any given aircraft. (ADCSA)

V Memo to all rated personnel on waiver for diabetes. Be aware that there are new regulations set down by the Surgeon General regarding your responsibilities in continuing your waivers. The information can be obtained from your Flight Surgeon and also the implementation of your responsibilities can be handled through your Flight Surgeon office. Don't get caught short; trying to stretch your waiver is like trying to stretch glide. DON'T DO IT! (WGCSG-S)

V Major air commands or your local flight surgeon have no authority to grant waivers for anyone wishing to enter initial pilot or navigator training for any medical defects. (WGCSG-S)

V One of our enterprising wings established the policy of functional testing of survival kit guns. During initial firing, **two** of the weapons malfunctioned. On one, the bolt seized and had to be released by a hammer blow. The entire cartridge casing had lodged in the firing chamber, and the round cannot be removed nor the barrel unscrewed from the stock. On the second weapon an attempt was made to insert another round into the chamber after initial firing. It was then discovered that a portion of the previously fired shell was lodged in the barrel approximately one-half inch from the chamber. The cartridge separated at the indent just below the primer head, ejecting the primer portion and leaving the rest of the cartridge lodged in the barrel. An EUR was initiated. Will your weapons fire under survival conditions? (ADCSA)

√ Several T-33 flameouts at cruising altitude in cirrus clouds recently are believed to have been caused by insufficient anti-ice additive in their JP-4. Fuel sample analysis indicated 8 to 9 percent. (Normal is 10 to 15 percent.) (ADCSA)

√ Although some birds start to migrate South in midsummer, the greater movement begins in late August and continues through October. The hazard to aircraft in the Fall is greatest between 1 September and 30 November. Pilots and flying safety officers should be alerted to the hazard period, as well as areas of heavy bird concentrations. Large birds, such as swans, geese, gulls, ducks and hawks are the greatest potential hazard to aircraft; however, small birds can be a serious hazard as well. Large flocks of blackbirds, mourning doves and many other species of birds cause aircraft damage, especially to engines. The heaviest concentration of birds occurs around Chesapeake Bay, Lake Mattamuskeet in North Carolina, the vicinity of St. Louis, Missouri, Salton Sea and the Sacramento Valley in California, and the South Louisiana marshes. Blackbirds concentrate near Moody AFB by the millions, as well as near Barksdale AFB, areas of the dismal swamp in Virginia and North Carolina and in agricultural areas of the Midwest and California. Birds are struck by aircraft most frequently on low-level missions, yet have been hit over 20,000 feet. Low-level flying is not advisable in the heavy bird concentration areas between 1 September and 15 March while birds are on the wintering grounds. When large flocks of birds are observed in flight it is suggested that information on their location be given to local air traffic control so that alerts can be broadcast to aircraft in that area. (ATCSA)

√ Commanders and flying supervisors take note . . . failure to comply with the spirit of AFR 60-7 as amended, and ADCR 55-1, Paragraph 3(c), and 3(d) can make you painfully aware of their intent if they show up in an incident or accident report. ADC is in the process of qualifying certain fighter units in aerial refueling. With the new capability comes a new problem. The fighter jocks will be flying longer training missions than they have ever been exposed to in the past. A **tired** fighter pilot in a single seat interceptor on a five hour mission that winds up during the hours of darkness is a potential hazard to himself, his wingman, the tanker, and indirectly—his commander. (ADCSA)

√ If statistics on seat belts are correct, then Fourteenth Air Force personnel should suffer fewer motor vehicle accident fatalities in the future. The Fourteenth Air Force has reached 100 percent in the installation of seat belts by both military and civilian employees in the command. General Putnam has tendered his congratulations to each unit and each individual of his command for their 100 percent acceptance of the seat belt policy and has stated, "The job is now half done. You've got 'em. Don't bet your life, buckle your belt." (14AF)

√ Proper T-33 pre-flight procedures should be emphasized to the maintenance troops. A T-Bird recently flamed out while at cruising altitude. Investigation revealed that an excessive quantity of water was in the leading edge and fuselage tanks. The plane had not been flown the 12 days prior to the incident. (ADCSA)

safety officers' FIELD REPORTS

TIRE FAILURE. On an FCF when the antiskid was checked out, the right antiskid detector did not function properly and the right main tire was blown out. The antiskid detector was removed and replaced.

AC POWER FAILURE, F-102A. During climbout after takeoff, the AC generator fell off the line and could not be reset. The emergency AC generator functioned normally and a safe precautionary landing was made. Inspection of the system revealed that the CSD governor had gone into an underspeed condition, causing generator failure. The governor was replaced and the system was operationally checked, with no further deficiencies noted.

SEVERE SKID, F-102. Aircraft had just become airborne and entered a severe skid to the left; pilot applied full right rudder and aileron, but could not correct left yaw. He came out of burner at 210 kts and aircraft yawed left and right and pitched up and down. Dampers engaged had no effect. Dampers and radar turned off and oscillations slowly dampened out. Gear lowered at 210 kts and pilot felt vibrations in rudders and floor board. Cause: Afterburner nozzle binding. Corrective Action: Changed duct weldment afterburner rear.

SMOKE IN COCKPIT, T-33A. Aircraft was returning home station upon completion of crosscountry. Pilot initiated SFO, on go-around light smoke developed in cockpit. Pilot landed aircraft without further incident. Maintenance personnel were unable to duplicate malfunction during ground check. During functional check flight to check deficiency the pilot duplicated SFO, negative results. After fifty minutes of flight, at 7,000 feet, throttle was retarded to idle, immediately heavy smoke filled the cockpit. Emergency smoke removal procedures failed to clear cockpit. Pilot declared an emergency and landed without further incident. Smoke dissipated after canopy was opened. Engine removed for stripped threads in backside of compressor front bearing support assembly where main oil pressure tube attaches.

PRECAUTIONARY LANDING, F-101F. At altitude the left engine oil pressure had a 5 to 10 psi fluctuation dropping as low as 35 psi. A precautionary landing with no further problems was accomplished. Maintenance replaced a defective engine breather pressurizing valve. Ground operational check completed OK.

SPLIT FLAPS, T-33. After 45 minutes of flight the pilot was attempting a VFR VOR/ILS approach. Speed brakes and gear were down. Airspeed 160-165 kts. As flaps were extended the aircraft started a slow roll to the right. Flaps were stopped and power applied for a go-around. Pilot attempted to raise flaps which showed 15-degrees down. Left flap stayed 15-degrees down and right flap was full up. Tip fuel was used up and the aircraft was checked for controllability at 150 kts. Full aileron trim to left and slight aileron needed to maintain straight and level. With full landing configuration (except flaps) pilot was able to maintain control to 130 kts. On landing approach 150 kts was maintained until over the overrun. Throttle then reduced to idle. The engine was stop-cocked on touchdown and canopy opened at approximately 80-90 kts. No difficulty with control or stopping aircraft. Inspection revealed that the flap interconnect cable had twisted off causing malfunction.

OPPOSITE CONTROL, F-101B. After level-off at 35,000 feet, the pilot attempted a left turn with the AFCS engaged. The aircraft responded opposite to the control stick movement with a 5° right bank. The pilot could not get the aircraft to bank to the left. The aircraft then oscillated a few times before the pilot was able to disconnect AFCS, MCSL, and yaw damper. The aircraft was landed without further incident. Water was found in the AFCS calibrator module.

BACKFIRE, C-119J. After level-off at 3,000 feet, power was reduced to cruise RPM of 2,000. At this time, No. 1 engine began to backfire continually. Action was taken for a possible in-flight engine shut down. Electrical boost pumps were still in the emergency on position and mixture levels full rich. The engine continued to backfire at low RPM and it was later discovered that backfiring would stop at high RPM and HG setting. Power was left at 2600 RPM, an emergency was declared with departure controller and GCA was accomplished without further incident. An ignition coil was found to be breaking down.

THE WAY THE BALL Bounces

ACCIDENT RATE

1 JAN THRU 31 JULY 1967

	ADC	ANG
Thru July 1967	4.7	4.0

MAJOR — ALL AIRCRAFT

ON TOP OF THE HEAP

MO	ADC	MO	ADC	MO	ANG
66	456 FIS	37	87 FIS	28	119 Ftr Gp
46	62 FIS	36	444 FIS	54	162 Ftr Gp
39	48 FIS	30	414 Ftr Gp	42	112 Ftr Gp
37	4600 AB Wg	74	18 FIS		132 Ftr Gp
					141 Ftr Gp

ACCIDENT FREE

BOX SCORE

ACCIDENTS FOR JULY	1st AF	4th AF	10th AF	14th AF	4600	ANG
CONV						
T-33						
F-100						
F-101	1					
F TF-102				1		
F-104						
F-106			1			
B-57	1					
F-89						
EC-121						

MINOR ACCIDENTS THIS PERIOD — 0

CUMULATIVE RATE

1 JAN THRU 31 JULY 1967

	ADC	ANG
JET	6.0	4.3
CONVENTIONAL	1.4	0

BY AIRCRAFT

	ADC	ANG
T-33	3	0
F-89		0
F-100	52	
F-101	7	
F TF-102	10	6
F-104	21	
F-106	5	
B-57	9	
EC-121	3	

RATE = MAJOR ACCIDENTS PER 100,000 FLYING HOURS

we point with PRIDE

1/LT HARRY E. RODMAN, JR.
4781 Cmbt Crew Tng Sq
Perrin AFB, Tex

OIL LOSS (F-102)

Lt. Rodman, a Combat Crew Training student at Perrin AFB, Texas, was scheduled to fly a local F-102 high altitude target. Takeoff and climb to Flight Level 240 were normal. After leveling at that altitude, the aircraft had simultaneous AC/DC power failure. He immediately reset the emergency AC generator, turned toward Perrin AFB, and advised the controlling GCI site of the situation. While accomplishing the recommended emergency procedures for AC/DC power failure, he observed that the oil pressure warning light was illuminated. Again following recommended procedures, Lt. Rodman reduced the throttle setting to 88% RPM.

The existing weather at Perrin was reported as nine hundred feet broken, twenty four hundred feet broken, seven thousand feet overcast, and seven miles visibility. The runway surface was wet from rain.

At approximately 16 Nautical Miles from Home Base, severe engine vibrations occurred. Realizing that engine failure could occur at any moment and that the existing weather conditions precluded a dead-stick landing, Lt. Rodman directed his aircraft to an uninhabited area and transmitted his intention to eject. He then began a further power reduction, preparing to stopcock the throttle, but at a lower RPM the engine vibrations ceased. Lt. Rodman elected to stay with the aircraft and attempt a straight-in approach to Perrin.

Approximately 10 miles from the runway, Lt. Rodman extended the speedbrakes, slowed to 240 knots, and began a descent. By this time, a TF-102 had joined in a chase position and at 5 miles advised him that the runway was in sight. Lt. Rodman then lowered the landing gear. At 3 miles and 6,000 feet, he saw the runway through a break in the clouds and aimed for the overrun, gradually reducing the power. As he flared over the overrun and retarded the throttle to the off position, the engine froze. The aircraft landed smoothly 1800 feet down the runway but the drag chute did not fully deploy until the last 2,000 feet of landing roll. Lt. Rodman extended the arrest hook and utilized maximum braking to stop the aircraft on the remaining runway. The aircraft stopped just short of the BAK-12 barrier with no damage.

Lt. Rodman's exceptional flying ability was obvious in his calm appraisal and effective handling of this difficult situation. His skill and judgment in saving a valuable aircraft and preventing possible injury or damage to persons or property certainly qualify him for the "We Point with Pride" award.

AFTER BURNING

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

HALDANES 2:1 RULE

Your recent blurb from ADCSA on SCUBA/Flying criteria smacks of old poop. AFR 50-27, paragraph 8e, dated 24 January 1966, states that "no individual is to be exposed to cabin pressure of more than 18,000 feet within twelve hours after SCUBA diving to a depth of 30 feet or below."

Current aeromedical thinking as to the formation of nitrogen bubbles identifies the criteria for the regulation. The problems associated with decompression sickness are based on violations of Haldanes 2:1 rule which finds bubble problems occurring at altitudes in excess of 18,000 feet.

Major Kenneth J. Sherwin
ADC Physiological Tng
Coordinator
4780 USAF Hospital
Perrin AFB, Texas

***Sure glad to know that—it also makes you sick.**

KUDOS, FIREFIGHTERS!

Reference your article "No Old Bold Pilots," July issue. The author has apparently not been exposed to fire station activities for quite some time. Ping pong and card games are virtually nonexistent in fire stations. Instead, these old time beliefs have been replaced by vigorous training programs to maintain the highest degree of proficiency in all phases of fire protection in an effort to offer the best possible fire protection to our Air Force family members. Once these activities come to an end and all fire equipment has returned to service, those few who still have the stamina are welcome to engage in a game of skill.

Incidentally, anyone being able to play ping pong in a sitting position has to be real darn good at the game.

T/Sgt Erich W. Lietz
Fire Protection Supervisor
4600 Civil Engrg Sq
Ent AFB, Colorado

***Your professionalism is our salvation and we all know it, even though we may "kid around" occasionally.**

EJECTION AT 2000 FEET

Reading your May issue of the INTERCEPTOR, I noticed in Check Points that 2000 feet is your magic number for level flight ejection. We in Marine Air Group 32 use the figure 1500 feet as our minimum altitude. I begin to wonder if 1500 feet might be a little low and that it possibly should be higher. Would you please pass on to us how and why you decided on 2000 feet? We agree on 10,000 feet as the altitude for ejection from a diving or spinning bird.

Your magazine is very thoroughly read by all flight crews here at Beaufort. I only receive five copies of each issue of the INTERCEPTOR. I could certainly use a couple more if they were available.

Major C. D. Hatfield
MAG-32 Aviation Safety Officer
MCAS Beaufort SC

***ADC Safety Analysis arrived at the figure of 2000 feet as the result of a study of successful ejections versus fatal ejections from ADC aircraft.**

OUR THAI FRIENDS

Request I be put on the mailing list for your magazine. There is a great deal of information that my Air Force and myself are very much interested in. Please forward the magazine to my address.

Major Tuangpuech Donavanik
Flight Surgeon
Royal Thai Air Force
Donmuang AFB, Thailand

***Thank you for your interest—Southeast Asia is our major concern.**

the Cold Hard Facts

ADCR 501-1 requires that every crew member flying ejection seat aircraft carry these five items on his person in the flight clothing, and that every crew member flying nonejection seat aircraft have these items readily available. It's entirely possible, despite our precautions, that what you have in your pockets will be the only survival items you will have after a bailout or an ejection. These five mandatory items could mean the difference in whether you are rescued or not.

MC-1 KNIFE

The MC-1 knife should always be carried in the flight suit knife pocket with the hook blade in the open position. It will then be available for cutting line-overs or making the four line cut on descent, as well as a survival knife.

MATCHES

A fire is a mighty comforting thing, as well as being an excellent signal.

SIGNAL MIRROR

The signal mirror is an outstanding day signaling device. Its use requires practice.. The time to get this practice is during your survival training classes, not when you're in a real survival situation.

WHISTLE

The whistle is a very good signaling device. It takes much less effort to blow the whistle than to shout, and the whistle blast has been heard for over a mile.

FLARES

The individual flare kits are an excellent night signaling device. Their visibility during the day is much less, so use the mirror during the day and save the flares for the night hours.

FIVE MANDATORY ITEMS