Interceptor

OCTOBER 1966

WINTER FLYING

. . . see page 20

FOR THE MEN RESPONSIBLE FOR AIR DEFENSE

Interceptor

volume 10
number
ADCRP 127-2

spotlight

You only get a portion of what you want because you only use a portion of what you have.

departments

special features

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Hq ADC Field Printing Plant
Ent AFB, Colorado

OUR COVER

Just as sure as death and taxes, winter brings on cold weather and its associated problems. The white stuff, short days, long nights, and low temperatures should cause us to re-evaluate our mode of operation.

memo
from the CHIEF OF SAFETY

COL. OLIVER G. CELLINI

THE NEW BOSS

From gravel agitator to fighter pilot to various command positions spans the career of our new boss, Colonel Oliver G. Cellini. It all started a long time ago when Colonel Cellini received his brown bars and a reserve commission in the Infantry following graduation from Indiana University. The mud sloggers received the benefit of his labors for the first fourteen months of active duty from mid-1936 to 1937. Realizing that walking was a poor mode of transportation, Colonel Cellini worked to get a civilian pilot license beginning in 1933, finally being licensed in 1936. In February 1939, he received his wings in pursuit aircraft after completing the aviation cadet program at Randolph and Kelly.

When the Big War broke out, Colonel Cellini had held his first command, a pursuit squadron. A couple of years later, 1943, he served in the Operations and Gunnery instructing business before going overseas the first time. Colonel Cellini arrived in China in 1944 and commanded the 81 Fighter Group, flying P-47 aircraft.

After that war, he assumed the Deputy Commander's position at Selfridge Air Force Base. During early 1947 he managed all ANG affairs in the Tenth Air Force, but by the end of that year, he moved over to reactivate the 52 Fighter Group (All Weather), flying first the P-61 Black Widow, and later the F-82-F.

By mid-1950 he had assumed command of the F-80 equipped 51 Fighter Group in Okinawa, moving it into Japan, and finally Korea. Early in 1951, he took command of the 51 Wing.

After that fracas, followed a staff assignment at Headquarters, Air Defense Command, during 1952. Colonel Cellini commanded an Air Defense Wing in 1953 and later activated the AEW&C Wing at Otis Air Force Base. After the stint in the Connie business, he pulled a three year tour in Europe as Director of Air Defense for Allied Air Forces Southern Europe.

Returning to ADC in 1959, Colonel Cellini was the Inspector General for three years and then the Assistant DCS/Materiel for two more. Prior to his last move to the Chief of Safety job, he was the Vice Commander, Fourth Air Force.

The wealth of command experience Colonel Cellini brings into the Safety shop will surely provide a steady and capable hand to the Command's accident prevention programs. He knows the problems of the fighter squadron aircrew, the maintenance man, and supervisor, for he has been there himself many times. Since assuming his new job this September, Colonel Cellini has launched his first salvos aimed at short-stopping our more critical problems.

HOT LINE

SHIELD of FREEDOM

AGE-OLD PROBLEM. A T-bird crew preflighted their bird for a cross-country hop, only to find out the UHF radio would not operate after they were strapped in the cockpit. The crew chief opened the gun bay doors and called for a comm technician. The radio man cured the problem from the cockpit without having to go into the nose section. The crew returned to the cockpit without performing another walk-around. Guess what? During takeoff the nose compartment door opened. Luckily the crew was able to land the airplane safely. Everyone knows about this age-old problem, but this is a good example how things happen when we deviate from the normal.

NAVY REPLACES FLARE GUNS WITH LIGHTS. If you ever have an occasion to land at a Navy field, you may notice some strange lights beside the runway. These flashing red lights are used as waveoff warning for pilots attempting to land with their gear up. The lights, operated by a mobile control officer, are mounted in three clusters along each side of the approach end of the runway.

BARRIER LIMITS. The BAK-6 design limit for a center engagement is 160 knots for an aircraft weighing less than 34,000 pounds. This maximum capability deteriorates rapidly with off center engagements. If an engagement is apparent, the pilot should strive to make contact as near the center as possible.

LPU-2 FAILURES. We have received reports of LPU-2 failures around the grommet attaching area. The engineers at the depot tell us that this is caused by improper fitting. If the preserver is donned haphazardly so that it is loose and positioned well below the armpits, the full force of a water entry will be placed on these grommets causing them to tear away. However, if the preserver is fitted properly, the shock of a water entry will be absorbed by the under portion of the arm and shoulder rather than the attaching grommets. Students in our survival schools use this equipment, properly fitted, over and over again with excellent success. Pilots should have the P.E. types periodically check their fitting.

PERSONAL EQUIPMENT STATUS. We have received a report on personal equipment status from our personal equipment section. Here is some of the hot poop:

- Production of the URT-21 locator beacons has ceased. The improved URT-27 should be getting into the supply channels.
- There are sufficient strobe lights in supply to fill all normal requisitions. Everyone should have blinkers now.
- Due to the critical shortage of oxygen regulators, the twelve month time change is extended on the condition that the flow check is made every seven days instead of thirty. People are working on this problem and let's do our share.
- The "Deuce" will be getting the Weber Zero-Zero ejection system shortly. An improvement has been made in the chute-seat disconnect to make it more difficult to inadvertently fire the drogue gun.
- Some of our Global Survival kits are getting pretty old and tired. A study is in progress to determine the cost of repairing the old ones versus buying new ones. Once this is completed, the kits will be changed every 24 months.
- Our pressure suit program has been lagging, but should get underway shortly. The six drivers are being fitted with the A/P22S-3 and it is being tested for suitability in the F-104.
- Helmets have been held up for the lack of pads. The contractor has several thousand on hand and they should be in the supply channel shortly.
- URC-10 radios have been in short supply due to the demand in SEA, but at the present production rate, we should be getting well soon.
- For those of you who are still having trouble with those pesky little blue Amphenal plugs on the communication leads, they have made a new straight through lead available under FSN 1660-740-5423. You don't have to order the whole personal lead bundle.
- Units in ADC should be receiving the new LPU-3/P life preservers now.

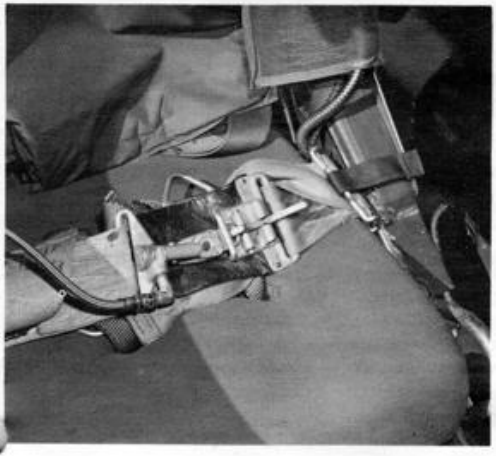
Wanted: Gimmick or Gadget

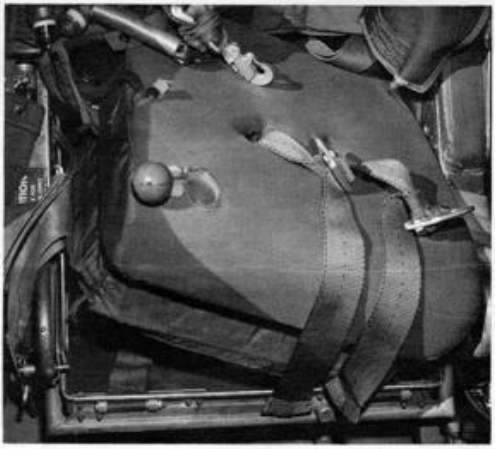
Usually written on these pages are Gimmicks or Gadgets which will aid people in doing their work. These things provide a better, or perhaps an easier way of doing something. This is not the case on this particular one. The story that we are about to relate identifies a possible problem with SA-20 parachutes. We are not sure it does exist, but if it does, we want everyone aware of it.

Here is the story. It is called a SA-20 seat type parachute or, as we know it, a seat pack chute, for the old T-33. It seems as though one of the commands cited the parachute and its associated components as an important factor in two of the major accidents they had.

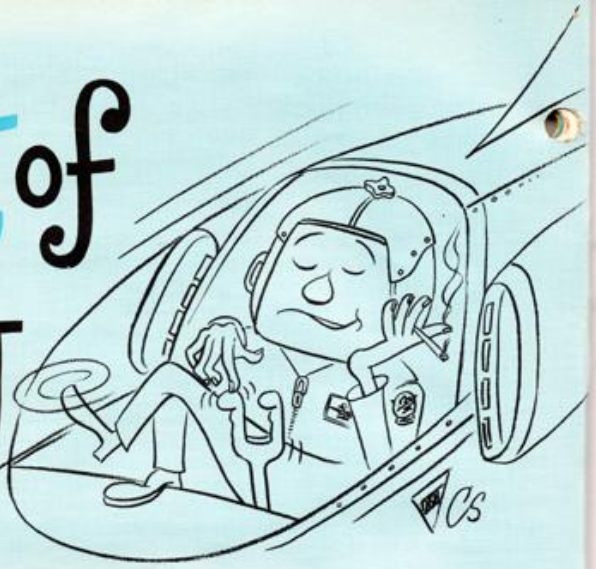
The story goes something like this. The jock, who had an SA-20 seat pack parachute strapped to his back side ejected from the front seat of a T-33. His airspeed was 190-200 knots and altitude between 4,000-5,000 feet. After ejection, man-seat involvement occurred in that the pilot was struck by the ejection seat as his parachute deployed. He received major injuries of the head and spinal column during the collision with the ejection seat. This seat pack chute was equipped with a T-handle rather than a D-ring. With the zero lanyard attached to the T-handle, the pilot started the ejection sequence. One second after the seat fired, the lap belt initiator and the man-seat separator fired. When this happens the anchor lanyard remains attached to the left side of the lap belt. As the man-seat separator moved the pilot forward, the F1-B automatic parachute arming knob was pulled, starting the one-second delay required for automatic opening of the parachute. The zero lanyard when fully extended is 30 inches long. Since this is true, then the pilot would be about two feet forward of the ejection seat before the zero lanyard could apply force to pull the parachute T-handle. When this force is finally applied, it is opposite to the direction required to pull the T-handle from its mount, so the T-handle could not be unseated by the lanyard at this time. The applied force merely stopped the pilot's motion relative to the seat, kept him from further separating from it, and probably caused him to rotate to the left. During this time period the F1-B timer reached the end of its one-second delay and opened the parachute. As the parachute opened and the pilot decelerated, he was struck by the seat.

Part of the problem appears to be when the seat chute is packed, the outside dimensions are 16½ inches wide, 15 inches front to back, and 5 inches thick. The inside width of the T-33 ejection seat is 17⅛ inches. This is adequate room, but when you consider the lapbelt buckles which cannot be placed outside the seat, they will reduce the seat width to 16⅝ inches. For the pilot to insert the seat pack chute, he must angle it to one side and slip it into place. The other side must then be pushed into place. After the chute has been used several times it gets a little larger than its original size. When ejection takes place, some of the energy of the seat-man separator is spent just forcing the seat pack out of the seat and past the lapbelt buckles. This, of course, limits the energy available for man-seat separation. We should be prepared to kick away from the seat.





the Art of Flying



THERE are not many professions that provide the wide range of challenges, that demand such precision and exactness; and that can be so unforgiving of errors as that profession of airplane pilot. Being strapped to a single seat century craft or up front of a planeload of passengers provides a pilot with a great deal of satisfaction when the job is well done. There is little argument that there is nothing more beautiful than the skillful application of stick and rudder. On the wing of a sharp leader, one can feel this glow of accomplishment, and we strive that much harder to be the perfect wingman. There is never a lack of confidence on our part when the number one displays excellence in skill and judgment. Our efforts are to mimic him, since we all appreciate the fullest meaning of top performance. We all want to become top notch leaders and display to our contemporaries that we do possess that extra drive and that we also have that special "it." With hard work and diligent application of our study of the art of flying we begin to rise a little higher than the crowd around us. Once we have demonstrated our special skills, those around us begin to lose any doubt of our qualification, and special responsibilities begin to come our way. We are placed in a position where we can make more important decisions and exercise a great deal of judgment. With these new challenges enters a more important aspect of the art of self-discipline.

There have been books written on the subject of discipline, but our purpose here is to look at one facet of this overall area—Air Discipline. There is not a great deal of difference, if indeed any at all, between air discipline and any other type. Rather it is the vertical expression of the type that we exercise on the ground. Chances are that the individual who maintains self-control, character, and orderliness on the ground will also display the same traits while airborne. Are these traits of self-control, character, and orderliness inborn, or are they something that can be developed? The answer must contain a little of both. Discipline can be defined as training. In college a good course that challenges the mental faculties can be called a discipline. It is a course of instruction that corrects, molds, or perfects our way of thinking and, hopefully, builds moral character. However, in some people, the basic character is such that large doses of training may be necessary before self-control and orderliness become self-evident.

Any breakdown in discipline or judgment by the one who has been given greater responsibilities than his contemporaries results in greater impact on the unit and the individual. A flight leader with three troops on his wing can, in one error of judgment, or in one breach of discipline, cause the entire flight to terminate their flight in something other than a routine fashion.

Let us examine some causes for an error in judgment or breach of discipline.

When such an error does occur, the cause may very well lie in a failure of attention. Attention is generally defined as selective consciousness. At any moment, a pilot can be "conscious of" only a limited range of information that is available to him. A large number of different inputs from the aircraft systems and the situation around him continually feed into his central computer. However, the old gray matter is often taxed to the max with this large number of variables. And in flying, time does not stand still nor will the airplane stop in mid-air so the pilot can catch up with it. In words of the space age, pilots operate in "real-time." We are required to make judgments on events as they occur.

What are the causes that result in judgment errors or failures of attention? Overloading is probably the biggest culprit. This is when a pilot fails to respond adequately to a clear input from his aircraft or its environment in spite of the fact that all cues were present and the proper decision was well known to him. A certain number of this type of failure are inevitable.

In close association with this overloading comes fear and anxiety. They tend to narrow the range of attention so that the individual's total capacity is substantially reduced. Channel vision comes about such as the well known disease of get-down-itis. Here, at the slightest provocation, the pilot makes the straight line toward the nearest runway while oblivious to everything and everyone around him.

Other kinds of attention failures can be classified as inattention, fixation of attention, and fascination. Inattention basically is looking at or worrying about the wrong thing. Here a pilot concerns himself with attempting a channel change on the radio while he allows the airplane to run out of airspeed and altitude. Situations such as this reflect back to what we discussed earlier—training and judgment. Because of a breakdown in his prior training, he becomes overly concerned with establishing radio contact with a controlling agency to the detriment of his control over the aircraft.

Fixation of attention occurs when a pilot concentrates on one set of information to the exclusion of other which also require his attention. Here we can use the example of the flight leader who is the number one boy while VFR, but who completely disregards his wingmen when in the soup. Ever fly on a troop's wing who will make large power changes, drop the gear, boards and flaps without giving the first clue to his actions? Chances are that he has become saturated with flying his own aircraft and has ceased to worry about his wingmen. Fixation can also result from inadequate training in the control of attention. It is most apt to occur when the pilot is emotionally aroused—like trying to break a low ceiling in a low visibility condition.

Fascination of attention is similar to fixation. In this kind of failure the pilot perceives all the aspects of a situation, but still fails to come through with the proper decision. Although he is aware of the situation, and may realize its danger, he feels detached from it, as though it is unreal, or as though he is observing it from the outside. This is a real bad one. The pilot may feel that he is only dreaming of the occurrence and soon he will awake and find himself comfortably lying in bed. But it doesn't come out that way. It usually ends in a big bright flash followed by total darkness. Fascination usually occurs only under extremely stressful situations in which the threat of death is very real and in which control of the situation already has been lost to a large extent. A spin or pitch-up under night weather conditions can be conducive to fascination.

Overloading is a big culprit

The failures in judgment, attention, or discipline often aren't so dramatic as to end up with a fatality and a destroyed flight of aircraft. Oftentimes it is only a single ship accident that occurs during a deviation from the normal. The landing-gear up accidents can be used as a good example of what we're talking about. A pilot enters the pitch-out and rolls out on downwind. Tower calls and requests that he extend his downwind for traffic on the runway. The pilot does go long on downwind, flies a fat base leg, a long final approach, and ends up on the runway with the gear in the well.

Or. how about this one that happened not too long ago?

Fear and anxiety narrows the range of attention

Fascination of attention

A flight of two were returning to the home base after darkness had overtaken the field. The forecast weather was 10,000 feet scattered, 15 miles visibility, winds variable at 10 knots gusting to 20 knots, with thunderstorms in the vicinity. While enroute, the controlling center advised the flight of a severe weather warning affecting the destination. A check with a nearby radio station reported the existing weather as VFR with CBs in the area. The flight was given 6,000 scattered, 12,000 scattered, visibility 15 miles plus, a line of CBs north through east, a towering CU to the west, lightning to the southwest, and surface wind 6 to 8 knots from 330 degrees. A forecast for one-half hour later was requested by the flight. They received the same weather except for possible thunderstorms over the area that would reduce the ceiling to 6,000 feet and cause increased surface winds.

After receiving this briefing, the flight decided to proceed to a feeder fix where the area was reporting clear and 40, descend to VFR flight conditions, proceed VFR if the destination was still reporting VFR. If unable, the flight would divert to a nearby field that had excellent weather conditions. Fuel was no problem as the flight had ample to reach several suitable alternates in the area. Upon reaching the feeder fix, the flight leader cancelled IFR and received clearance to proceed to the destination at 11,000 feet. The destination airport was visible to both pilots at this time. Forty miles south of the runway, approach control was contacted for the current weather. They received 6,000 scattered, 12,000 scattered, winds 330 degrees at 6 to 8 knots, CBs in the area, and a thunderstorm north of the field moving southward. At thirty miles, the runway came into view of the pilots. Also lightning in the cell north of the field was clearly visible.

The flight leader suggested a straight-in approach to the active runway to reduce the elapsed time for recovery. The wingman was to land first and so the leader dropped into a trail position.

When the wingman was about three miles out, the tower advised the wind holding 330 degrees 6 to 8 knots (right down the runway). The leader was about six miles out at this time. The wingman had set up a 190 knot final speed for his fuel state and appeared to be holding an excellent glide path until approaching the overrun. At that time he sensed that he was dropping low and began to advance power from the 88% RPM position he was holding. Full power was reached, the aircraft leveled out and the wingman elected to abort his approach and go around. As he passed over the end of the runway the tower advised that the wind was now 330 degrees at 18 knots and requested the pilot's intentions. Tower was advised that he would enter closed traffic for another approach. As the pilot turned on downwind leg, the tower acknowledged the flight leader's gear down check and advised the winds to be down the runway gusting up to 38 knots. At this time the flight leader was about one mile from touchdown. The pilot elected to continue his approach since he was experiencing no difficulty maintaining the course and glide path he had set up. As he came over the lights, he saw that he was a little flat so he retarded the power a little and assumed a landing attitude. In the flare he began to reduce the power when the aircraft slammed down onto the runway. The aircraft bounced into the air and the pilot pushed forward on the stick causing the aircraft to enter a porpoise from which it did not recover. Throttle was stopcocked, canopy jettisoned and the aircraft left the runway at the 6300 foot point from the threshold. It continued to slide and turn to the left until it came to rest at the 6900 foot point, 150 feet from the left side of the runway with the left main gear sheared and the right main collapsed. The pilot evacuated the aircraft without injury and the wingman diverted to the alternate where he recovered safely.

Investigation of the graphic recording of the surface winds surrounding the time of this accident shows the wind velocity increasing from 4 knots at 55 past the hour to 45 knots eight minutes later at 03. The direction varied from 350 degrees to 030 degrees.

Primary cause of this bash was found to be pilot error in that he exercised poor landing technique which resulted in a porpoise. Poor technique and improper procedure prevented a recovering from the ensuing maneuver.

No one can argue that this wa

a pilot error accident. We can all sit back and see where he didn't use good technique in the landing phase and where he didn't exercise proper judgment in continuing his approach under the rapidly changing wind conditions. But let's apply a little aviation psychology to this problem.

We have already discussed the problems associated with attention span under adverse emotional conditions. With a thunderstorm moving in on the field as evidenced by the increasing surface winds, there can be no question that the pilot was a bit puckered during his approach. We also know that only so much can be attended to at one time. On this approach, the routine was disturbed by the rapidly changing weather conditions. Although we can bring into focus a lot of inputs from the airplane and on the ground, the immediate focus of attention is surprisingly narrow. This limited span is overcome by rapid shifting to the various instruments or agencies that are providing us with information. However, there is a limit to the effectiveness of attention shifting in a real-time situation. When we pass this limit, the pilot becomes overloaded and some bit of information is bypassed or dropped. We cannot definitely state that this pilot experienced this problem, however, all the ingredients necessary for an attention failure were present. It isn't really important to definitely determine whether this was a real problem to this pilot since it is already after-the-fact. He had his bash. However, it is important to the rest of us to realize that this type of difficulty is possible and may catch us at some future date.

There are things we can do to help us to not fall into this inattention trap. Overlearning, integration, and rapid shifting can be used to improve an individual's sampling capacity to enable him to keep track of more things and make more responses than otherwise would be possible. Training and practice in rapid shifting and decision making increase our speed with which these can be done. The flight simulator is one excellent device for this purpose, particularly where the sequences to be taught are required for dealing with emergency situations.

Emotional control can be taught when the chips are really down. However, the most important thing for a pilot to realize is that there is a direct relationship between emotion and attention and know the type of degradation that comes about under stress situations.

The second area that we should look into is decision making. The pilot in this landing accident could be criticized for improper judgment in deciding to land under the varying weather conditions. Poor judgment and pilot error go hand in glove and are a catch-all on many accidents. Often, as in the case we briefed, there is evidence that the pilot did not do what, after the smoke cleared away, seemed to be the best course of action. Whether any of us would do the same thing is a matter of conjecture. Nevertheless, we all know that decision making in the cockpit is not a straightforward chore. In fact, some of the decisions that sometimes are required of pilots are beyond human capability.

Decision making functions well under some conditions and very poorly under others. In the cockpit speed affords little or no time to ponder a judgment or ask for help in finding out which way to move. A correct decision made too late can be just as disastrous as an incorrect decision made soon enough. Furthermore, the decision usually must be made immediately since postponement may also be disastrous.

In most cases, as in this landing accident, there are limited alternatives available to the pilot. In this case, the choice was to change the approach in speed and/or power setting to compensate for the variable conditions, to continue as is, or to go around. In choosing what course of action to pursue, the pilot's judgment is affected by whether he had anticipated the problem and selected a provision to combat it, and his diagnosis of the event. If the pilot had anticipated control problems and had had in the back of his mind certain actions he would take, the chances of coming up with the right answer are much greater than if he didn't think ahead. It has been proven many times that when events begin to occur which are not anticipated and no response provided, the probability is quite high that the pilot will diagnose it incorrectly or fail to diagnose it at all. The training and experience of the individual provide him with the background against which he will evaluate the situation and make a decision. In this sense, correct decisions in flying go back to the same thing said about attention. Training and experience will make the difference between successful completion of the mission or a "poor judgment" and "faulty technique" accident.

Many everyday decisions concern events of little consequence. It seldom makes much difference whether we decide to have steak or hamburger for dinner, to pack a lunch or go to a restaurant, or to stay home or take in a movie. This obviously is not the case in flying. Our rear ends depend on the decisions we make in the cockpit. By knowing the importance of training and the effects of its lack in attention and judgment, we should decide to apply ourselves more diligently to the task on hand—the study of the art of flying. ★

WX

SUBJECT: INTERCEPTOR Magazine August, 1966
FROM: Chief, NORAD Hq Liaison
TO: ADCSA

The back cover of the August 1966 issue of INTERCEPTOR, "The Cold Hard Facts," contains good advice, but I believe one statement needs some clarification. The article states in part, "In high density areas, for better traffic control, their radar is often used in the beacon mode." Such a practice would not be used for operations below flight level 240. Primary radar, or skin paint, must be used in those altitudes below Area Positive Control (flight level 240) since aircraft operating below that level are not required to be beacon equipped. Only aircraft equipped with beacon (secondary radar) are authorized to operate above 240. The ARTCCs do use "beacon only" in the high altitude sectors. This permits filtering out nonpertinent traffic operating below the positive control areas. Although controllers using only secondary radar will not observe any weather on their scopes, they can, if alerted, often turn on the primary radar to observe the weather provided this will not result in weather clutter rendering the scope unusable for traffic control.

FAA radar is primarily intended for air traffic control. In the past, the echoes received from precipitation rendered the ATC radar unusable. To avoid such disruption to radar service a modification known as Circular Polarization was incorporated in the FAA radar systems. This modification eliminates all but the heaviest areas of precipitation. Consequently, all areas of precipitation will not appear on the controller's scope.

Pilots can do much to assist the controller by reporting severe weather encountered, or anticipated severe weather, and requesting vectors to avoid.

FAA Advisory Circular AC No: 90-12, which provides additional information on this subject, is attached for future reference.

/s/John V. Tighe

ED. NOTE: Instead of us holding the circular for future reference, we reprint it here for everyone to file away for their future use:

PURPOSE. This Advisory Circular (1) warns all pilots concerning flight in the vicinity of known or forecast severe weather such as thunderstorm activity, severe turbulence and hail, (2) advises all pilots that air traffic control facilities (Air Route Traffic Control Centers, Control Towers, Approach Control facilities, etc.) even though equipped with radar, might not always have the capability nor be in a position to provide assistance for circumnavigation of areas of severe weather, and (3) recommends certain practices for air traffic controllers in assisting pilots with respect to severe weather phenomena. DISCUSSION: The need for exercising prudent judgment with regard to flight through areas of known or forecasted severe weather is well recognized by experienced airmen. Flight through severe weather activity should be avoided if possible.

Present procedures provide for controllers assisting pilots, particularly when operating on IFR flight plans in avoiding areas of known severe weather. It is important, however, that all parties concerned with aircraft flight operations be fully aware that there are, at times, limitations to an air traffic controller's capability to provide such assistance. There are several reasons for this. First, it should be recognized that the controller's primary responsibility is the provision of safe separation between aircraft. No additional services can be provided which will derogate performance of a controller's primary responsibility. Secondly, limitations of ATC radar equipment, communications congestion, other air traffic, etc., may also reduce the controller's capability to provide any additional services.

To a large degree the assistance that might be rendered by ATC will depend upon the weather information available to controllers or the request by pilots desiring to avoid severe weather areas. Due to the extremely transitory nature of severe weather situations, information available to controllers might be of only limited value unless frequently updated by pilot reports or radar weather information.

In-flight reports from pilots in direct communications with controllers giving specific information as to area affected, altitudes, intensity and nature of severe weather can be of considerable value. Such reports when received by controllers should be relayed to other aircraft as appropriate.

Should a pilot desire to avoid a severe weather situation along his route, he should request such deviation from route/altitude as far in advance as possible, including information as to the extent of deviation desired. Controllers should bear in mind that limitations of airborne radar, limited flight visibility and th

speed of modern aircraft may result in pilots having only a limited amount of time in which to avoid a detected weather condition they might wish to avoid.

Obtaining IFR clearance to circumnavigate severe weather can often be accommodated more readily in the en route areas away from terminals because there is usually less congestion and therefore greater freedom of action. In terminal areas the problem is more acute because of traffic density, ATC coordination requirements, complex departure and arrival routes, adjacent airports, etc. As a consequence, controllers are less likely to be able to accommodate all requests for weather detours in a terminal area or be in a position to volunteer such routes to the pilot. Nevertheless, pilots should not hesitate to advise controllers of any observed severe weather and should specifically advise controllers if they desire circumnavigation of observed weather.

WEATHER PHENOMENON AS OBSERVED ON RADAR. It must be recognized that those weather echoes observed on radar (airborne or ground) are a direct result of significant precipitation. *Radar does not display turbulence.* It is acknowledged that turbulence is generally associated with heavy areas of precipitation; however, all radar utilized for air traffic control purposes is not capable of equally displaying precipitation information. Under certain conditions in the past, the echoes received from precipitation have rendered ATC radar unusable. To avoid such disruption to radar service, modifications designed to considerably reduce precipitation clutter have been added to ATC radar systems. This feature known as Circular Polarization eliminates all but the heaviest areas of precipitation. Consequently, all areas of precipitation will not appear on the controller's radar scope.

In accordance with current procedures, controllers will provide information concerning severe weather echoes observed on their radar when deemed advisable and will, upon pilot request, provide vectors for avoidance whenever circumstances will permit. However, for the reasons outlined above, it is emphasized that pilots should not completely rely on air traffic controllers to provide this service at all times, particularly in terminal areas or in holding patterns. Pilots should also recognize that the controller's data is often far from complete due to the design of the radar and its location relative to the weather observed.

In addition to primary surveillance radar, all Air Route Traffic Control Centers and some terminal facilities are also equipped with secondary radar systems. These secondary systems receive only those signals emitted by airborne radar beacon transponders and do not display weather echoes. Since all aircraft operating in positive control areas are required to be equipped with operating radar beacon transponders, controllers handling such traffic normally utilize only the secondary radar system. This permits filtering out nonpertinent traffic operating below the positive control areas. Although controllers using only secondary radar will not observe any weather on their scope, they can, if alerted, often turn on the normal radar to observe weather, provided this will not result in weather clutter rendering the scope unusable for traffic control. One exception is the Great Falls ARTC Center which, at this time, does not have this capability.

RECOMMENDED ACTIONS.

Pilots:

- Avoidance of Known Severe Weather—Recent research has proven beyond any doubt that all thunderstorms are potentially dangerous and should be avoided if possible or penetrated only when the pilot has no other choice.
- Forward Reports—to ATC of any severe weather encountered giving nature, location, route, altitude, and intensity. Pilots are also reminded to review Federal Air Regulation 91.125 pertaining to pilot reports.
- Initiate Requests—to avoid severe weather activity as soon as possible being specific concerning route and altitude desired. Pilots are reminded to review the Flight Information Manual pertaining to "Detouring Thunderstorms" and "SIGMET Procedure."
- Adjust Speed—as necessary to maintain adequate control of aircraft in turbulent air and advise ATC as soon as possible.
- Do not rely completely on air traffic controllers to provide information or to initiate radar vectors to aircraft for avoidance of severe weather particularly when arriving and departing terminals or in holding patterns.
- Plan ahead to anticipate the need for avoiding areas of known severe weather. If necessary, delay takeoff or landing, as applicable.

Controllers:

- Suggest utilization of alternate routes, whenever possible, to avoid known areas of severe weather along normal or requested routes.
- Expedite action on requests for route/altitude deviation to avoid known areas of severe weather. Such requests are time critical.
- Relay pilot reports of severe weather or other flights as appropriate and, if necessary, initiate requests for additional reports to aid in anticipating requests for detours.
- Plan ahead when known areas of severe weather conditions exist and provide pilots with maximum information, rendering assistance in avoiding such areas when requested.

ORI

OPERATIONAL READINESS INSPECTION TEAM

HQ, ADC

MAs AND THE SINGLE PLACE JOCK

Recently, in a Bantam and Robinsky article, we gave a little knock on the knuckles to our friends in the dual-place, multi-engine or double ugly crowd, for committing a few of those unmentionable *aircrew* errors. Knowing full well that the Convair for lunch bunch hardly ever makes even a minor mistake, let alone an aircrew error, and since Webster says that a crew is all of a ship's personnel except the officers, we like to refer to the aircraft commanders of single-seat airplanes as pilots, and the few things they do wrong as pilot errors.

What with everything in the command being in short supply these days, except orders to Southeast Asia, things become a bit terse when units pick up some unnecessary MIs chargeable to pilot error. For the most part, the performance of the pilots in the "wedge" squadrons makes even the most hardened headquarters weenie think that things are better than typically effective.

Let's start off by telling you about some of the nicer things we see during our travels. The well-trained, highly motivated and aggressive pilots seem to overcome all manner of problems and get good results. When air mass positioning is not the greatest, a couple of double shunts and a few reversals, and G. Gordon Goodguy has saved another MA for the Alma Mater. When the poor IND, who hasn't had a valid target height since he graduated from controller school, comes out with "search high and low," our hero gets hot on the elevation vernier, makes excellent use of the motor thrust selector and drag devices, stirs the right-hand portion of the lock-on handle, and somehow finds the target. When the radar can't see much further than the pitot boom, and the computer appears to have just come from a 30-day TDY on "Voyage to the Bottom of the Sea," the tiger does a radar periodic, complies with a couple of TOCs and presses on with another successful mission. His complete opposite complains about GCI, maintenance, operations, higher and lower headquarters, and then aborts for a slight background noise on ground control frequency, but we don't see many of these folks.

Certain types of missed intercepts, attributable to pilot error, seem to occur on just about every evaluation. The most common of these is for dot steering. As long as we have people fixing and flying airplanes, this problem will be with us. If the number of PEs for steering isn't excessive, we don't get too excited. As all of you real professionals know, the position of the steering dot at the time of launch of our guided weapons is not nearly as important as aspect angle and launch range. When it comes to the big fellow that goes out there unaided for a ways and then goes off, steering is most critical. The requirement for an assessable MA is clearly established in the manuals, and we follow the criteria. The pilots that are staying sharp by doing plenty of good flying don't have too much trouble here—it's generally the poor guy that doesn't have time for regular aviation tha

We earn our pay by getting the bullets in the target.

gets nipped in the bud.

The next most common problem we see is the fellow who wants to lock-on somewhere in the vicinity of first offset on a stern attack, and let the Tool Company's computer take care of the rest of the thinking. It probably works just fine for him on a local training mission, because very few of his buddies flying target are truly dirty guys, and darn few squadrons have their own B-57s. However, when the professional target force boys see someone doing this during an evaluation, a couple of rather sizable tinfoil drops strategically planned, one or two 20-degree bank turns, and our "lock-on at offset" friends normally find themselves about a day late and a dollar short. Admittedly, it can be done, but it's doubtful if anyone's weapons training officer is backing such a program.

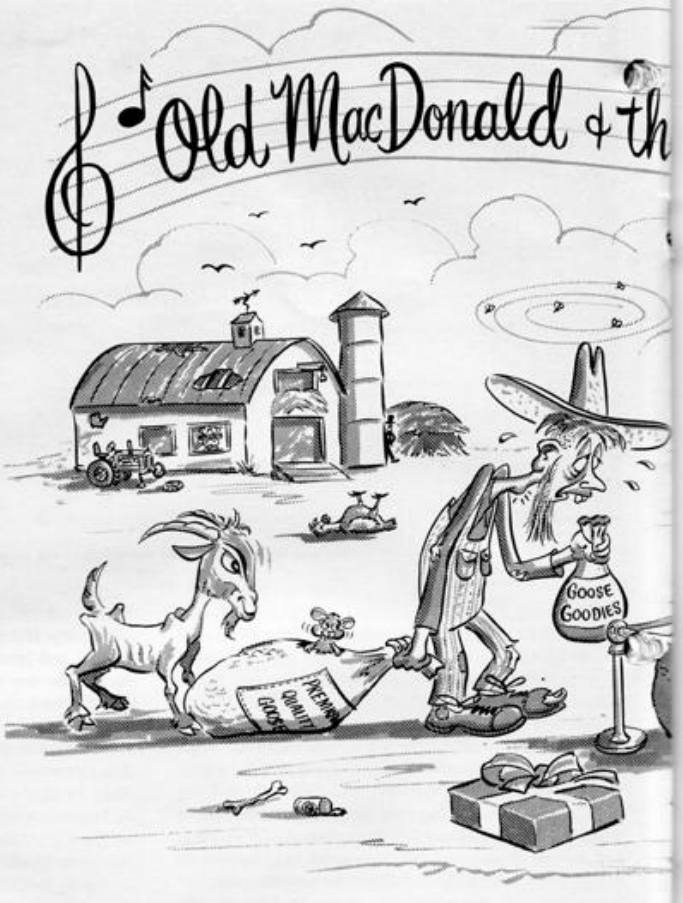
The reluctance of a lot of pilots to use the IR system causes a few unexplainable MIs, and allows some targets to reach the bomb release line with fighters still backing off trying for a lead collision MA. An IR lock-on certainly aids the pilot who is having trouble getting a radar lock-on, and really helps when the target's countermeasures make for tough radar-tracking. Some of the six pilots are still getting too excited about getting into the lead collision mode when IR dominant with ROT would do just fine.

The failure of pilots to employ the armament properly has caused some red faces. The 102 folks manage to launch the radar-guided kind in the stern and end up with only IRs on a front. Their friends flying the heavier and faster Convair product have been known to launch the big white thing in pursuit, with ROT, and have a whole bay of the little ones hanging there just waiting to get into the fray.

When the weapon systems verification (rack/rail) program comes into play, pilot error just about always rears its ugly head. Admittedly, the shooting of blue AIMs and yellow AIRs doesn't bring many people up on the edge of their ejection seats, but it is the only thing we have to simulate the selection and launch of our family of weapons. The deuce crowd is fairly free from error with the exception of an occasional failure to arm, but those other guys have managed everything including failure to arm or unlock, selecting only one bay when two would be much more appropriate and releasing the trigger at a most inopportune time. The requirement for the WSEM to make wiggly lines for a long time after a real one would have fired, doesn't closely simulate a tactical situation, but the requirement is well known and often forgotten.

If the mistakes made by you pilots as a result of not knowing or not thinking could be eliminated, things that start at the top and roll down hill would decrease and make everyone's job much easier.

COLONEL JOHN H. ROGERS
ORI Team Captain



NOW Old MacDonald had a farm. And on this farm he kept some geese. He kept them to rid the place of vermin and insects, and for an occasional goose egg omelet, but deep down, he wanted a goose which would lay golden eggs. Everyone told him that such a thing was impossible, and he allowed that it was a bit silly to hope for such a fowl, but just the same that was what he wanted.

One day a stranger came along. He was a tired old man, and he looked like he was on his last legs. He asked Old MacDonald if he would like to have the goose which trailed behind him on a leash. Old MacDonald's eyes grew crafty; could this be the very goose he hoped for? The old man told him that this special goose laid golden eggs, and that if Old MacDonald would like it, he could have it for free. But, he cautioned, this was a very special goose, and must be cared for with very special attention. If the owner did so, the goose would lay one golden egg each year. Old MacDonald was ecstatic. The answer to his dreams at last! He snatched up the goose and ran gleefully to the barnyard with it.

Now what the old man didn't tell Old MacDonald was that this goose was so very special that it would take all of his time and effort just to keep it well and happy. That was what had made the old man so tired in the first place, and that was why he was willing to get rid of the bird for nothing. As the months went by, Old MacDonald neglected his farm something terrible. The regular geese were becoming quite a nuisance, since they were always having accidents around the yard, and when stepped in, the accidents were very messy. So he killed them all one day and put them in his freezer for the winter. He didn't have time to milk all of his cows, so he sold them and closed up the barn. The pigs and ducks and chickens went the same route, since he didn't have time to care for them. The goose that laid the golden eggs wasn't at all well, and Old MacDonald was constantly running to fetch it vitamin pills, hot water bottles, and a special grain, which was the only thing it would eat. He couldn't afford to have any accidents with such a valuable goose on the place, so he kept it in a golden cage, because, after all, you wouldn't keep a goose like that in chicken wire! Everyone who saw the handsome fowl admired it, but they usually asked, "Where are the golden eggs?" Or said, "My, your place sure is getting run down, Mac. Look at all the insects and vermin!"

But Old MacDonald ignored them. What were a few insects when he had the golden goose? That goose was worth all the farms in the county, he told himself.

When the year was almost up, the goose finally got ready to lay the golden egg. Now the old man had al-

e Golden Goose Egg

by
MAJOR RONALD B. WEINERT
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Idaho Air Guard

so neglected to tell Old MacDonald that laying a golden egg is a tremendous strain on a goose's system, and that it should have a few doses of mineral oil just to make things easier. So one morning, Old MacDonald came down to the golden cage to find the golden goose had succumbed giving birth to a five pound egg.

Then the Feds, who had been keeping a close eye on the goose all year, descended on the farm, confiscated the egg, and arrested Old MacDonald for illegal possession of gold.

By the time he paid his fine and took out for taxes, the bank had foreclosed on the farm mortgage, and all Old MacDonald came out with was a freezer full of goose livers. The rest of his life he wandered around, telling everyone he met about the golden goose he once had, and how he had held the golden egg in his hand for a whole minute. But poor Old MacDonald, everyone just laughed. "Ha! What good are golden eggs, Mac," they said, "if you can't eat them?"

The USAF Flying Safety Program reminds one of Old MacDonald and his golden goose egg. The concept that the only acceptable accident rate is zero accidents per 100,000 flying hours is about as impossible as MacDonald's goose. But it is constantly hoped for. "Accidents are preventable." This is the first conception in the Flying Safety Philosophy. Note, however, that it doesn't say *all* accidents are preventable. It doesn't say that the entire effort of the USAF should be directed toward the reduction of accidents to zero per week, zero per month, or zero per year. That attitude, unfortunately, is the interpretation of various commanders, flying safety officers, and administrators. They seem zealously dedicated to eradicating all accidents. That attitude, while noble and courageous, is also unreal, impractical, and restricting.

An Air Force where absolutely no accidents occurred would be marvelous. So would world peace. Or the complete elimination of sickness, disease, and poverty. Or the attainment of racial harmony. Or a goose that laid golden eggs. Yes, Utopia would be a grand place in which to live, *but it just isn't possible*. Why not? The answer is obvious. People are involved, and they are subject to emotional, psychological, and intellectual limitations and aberrations. The only practical hope is for progress. We strive for fewer accidents, less poverty, sickness, and disease, less racial friction, and a healthy goose. Golden goose eggs? Nevva hotchee, GI. Not if we want to keep the farm.

The Golden Goose Egg Boys seem to be telling us, "If it is dangerous, stop it." This will reduce the accident rate toward the Ultimate Goal. They go so far as to suggest that anything which has resulted, or could result, in an accident, should be ceased. A

recent Flying Safety School Graduate tells me that the instructors at the school believe in the elimination of practice flameout approaches. Why? Because a flamed out fighter is very difficult to land under any circumstances? No, although that is a truth. No, they want to eliminate practice flameouts *because several accidents have occurred during practice*. Well, if no one practices them, it is a certainty that no one will ever bend an airplane practicing one! But the chap who is at high key with a broken motor is going to wonder about his chances. And chances are he will eject (which involves a certain risk to the old body) rather than risk killing himself with an attempt at something as difficult as a deadstick which he has never practiced. But, there goes the accident record; the egg turns to brass.

Following the illogic of the "Don't do it if it is dangerous" philosophy to its illogical conclusions, we come eventually to the elimination of takeoffs and landings, since they are where the bulk of the accidents occur. And then we must "progress" to eliminate taxiing the airplanes, or starting the engines, because accidents happen there, too. Even that wouldn't be enough, since some happy soul would figure out a way to drive the follow-me or the line taxi into one of the birds as it sits mouldering in the chocks. Perhaps if we put them all on pedestals in the municipal parks around the country, the safety rate could approach the Golden Goose Egg, but there would still be the vandals to contend with.

Perhaps this is offensive to the reader. Get serious, you say. How could we do the job if we didn't fly at all? Well, we couldn't and the ADC pilot today is faced with the near impossibility of getting the job done. He isn't restricted from flying —yet. But his flying is so regulated that he is constantly concerned with what is "legal." He finds himself less directly concerned with what is safe, because "there must be a regulation to cover it. If it weren't safe, we wouldn't be doing it. So long as it's legal, it's OK."

Where, oh where did we come up with the idea that flying is safe? Nothing is safe in this life, and flying is one of the less safe aspects of it. That is not to say that flying is *un*safe, but it certainly is not *safe*. The airlines have an enviable safety record. They say, "Safety, Comfort, Schedule." Safety is paramount because the paying public has a right to expect the safest possible ride for their dollar. Yet airliners do crash, however rarely. They are subject to human error, mechanical breakdown, and various gaps in the human-machine relationship, just as we are in military aviation, but in military aviation, specifically Air Defense Command, our purpose is not to transport people safely. It is, unhappily, to kill people who are trying to kill us and destroy our country and our way of life. Most of us hope it will never come to fruition, and that we will never have to start pulling triggers for real, yet we are training to that end, and we should be ready to perform if and when the time comes.

Now, it seems that the training of aircrews for armed combat against an enemy who has no intention of dying without a fight, just might be a little teeny bit dangerous. It is not quite like going down to the corner grocery for a loaf of bread, or sitting in the town barber shop on Saturday morning. Most of the pilots and ROs realized this when they signed up; this is not a social organization for the edification of OWCs, nor is it a flying club dedicated to jollies and games. It is the Air Force, the Air Defense Command, and it involves life and death. Anyone who does not fervently believe it had better face it and then if the idea is repugnant to him, resign and give someone else a chance to do a good job. If safety becomes so important that it prevents the accomplishment of the mission, or the probability of mission accomplishment, it is out of its rightful realm. If that is not a truism, we might as well quietly fold it all up and save the taxpayers a lot of noise and expense.

Before the reader tells me that this type of thinking does not interfere with the mission, consider this. A low altitude threat is going to come in at X feet. Where do many of us practice from day to day? Right! At X feet plus Y feet, plus, plus, plus. It seems every command level tacks on a few more just to be "safe." After all, we *can't* have an accident. Better be safe than risk breaking one of our machines, so we drone around, practically on oxygen, practicing "low" intercepts.

The criterion says that low level intercepts will be conducted a maximum of 3,000 feet above the terrain, but I imagine there are instances where even that unrealistic height is exceeded. Example (theoretical): A sector has a general terrain of 3,000 feet above sea level. One mountain in the sector, Old Black by name, pokes its ugly head up to 7,000 feet. Where do the low level intercepts take place? Generally at around 8,000 feet indicated, which puts them 5,000 feet above the terrain most of the time. But "what's a commander to do?" Suppose he conducted the mission at, say, 4,000 feet, and just suppose one of his troops managed to scatter himself on the slopes of Old Black. The commander, due to the "no accident" philosophy, feels he would be open to criticism, supervisory error, ad nauseum. So he hides behind Old Black and everything is fine. But if you have never tried a *real* low altitude intercept in mountainous terrain, or over water on a windy day, for that matter, the day

of the Big War isn't the time to begin. San Francisco is depending on you and there you are, facing a target at X feet and 400 knots.

Curiously enough, in spite of the regulations, the directives, the red-bordered letters, we continue to have accidents. The appalling thing is the number which are truly needless. Those are the ones which occur outside the area of acceptability, even in a realistic environment: the pilot who buzzed and scattered himself around the local flying area; the T-33 pilot who went into a field with 4,000 foot runways and a field elevation to match to drop off a passenger (who could have taken the bus the extra twenty-five miles) and cartwheeled his way to oblivion on takeoff; the pilot who had been conditioned by the "system" to bury the dot, and instead buried his wing in the target. The list goes on and on, and the corrective restrictions increase by the square. The training gets "safer," yet the accident rate hovers at about the same level. Might it not be better to keep the training at a high level of realism and demand, and lose those few airplanes through regrettable, yet "necessary" accidents? "Necessary" does not mean unpreventable, but it does mean accidents which are bound to occur from time to time in the course of training; those losses which are the result of a serious, dangerous, necessary business.

No, realism, or whatever you want to call it, will not automatically eliminate the needless accidents. It will not merely transfer the broken airplane pile from the wasteful to the unavoidable, but the emphasis on the relative dangers of everyday training just might incite the aircrew to exercise his mind in a more consciously safe attitude. As it appears now, we in the USAF are fast approaching the state where the individual pilot, through constant reminders, *believes* he doesn't have the judgment to know right from wrong, or safe from unsafe. He passively flies around depending upon the regulations to protect him. The increasing problem is his inability to recall all of the overlapping and contradictory rules in time to avert the impending accident, which won't wait around for his mental search through chapter, page, and paragraph.

There have to be rules, certainly. The average pilot abides by the rules of flying just as he abides by the rules of society and of nature. But the regulations which are oriented around the quest for a perfectly accident free flying record become more than just guides to safety. They evolve into restrictive, burdensome, stifling dogma which reduce the initiative and innovation of the individual to a corresponding big "O." Soon enough there is no longer an interest in getting the job done. The operators in the field and on up the line are more interested in compliance with the myriad of written commands than in the improvement of the techniques and the accomplishment of the mission.

This is not a plea for the return to the open cockpit, leather helmet, and goggles. We have no room in the Air Force (or Air Guard) for the man who is not convinced that safety is important. It must constantly be invoked from the highest command down to the people who do the work—the knuckle-busters on the flight line. Without flying safety, we would soon be out of hardware and out of business. But we are not in the flying game in order to gain a Golden Zero Accident Rate, and our attempts to do so are apt to reduce the Air Force to an organization designed, built, maintained, and operated by machines. Remove the human element and you *may* remove the accidents, but you *will* remove the only unique features the human being has left; capabilities for change, corrective action, innovation, and decision.

Necessity is the only criterion. If it is necessary to mission accomplishment, it is justifiable. Takeoffs and landings, however dangerous, are necessary. So are frontal attacks and *low* level intercepts. The commanders are the ones who must search their minds and make the decisions as to which other operating and training procedures are validified by necessity. If they are also a mite dangerous, so be it; the Golden Goose Egg glimmers and fades, replaced by a tarnished brass ring. You reach to catch it for the free ride, but sometimes it pulls you off your horse.

ABOUT THE AUTHOR

Major Weinert received his wings via the cadet route in 1955 and proceeded directly to BIS. It was then to Willie and Del Rio where he logged some 2000 hours scaring and being scared by students. He left active duty in January 1958 and joined the Texas ANG as an instrument instructor at the Air Guard Instrument School at Ellington. In September 1959 Major Weinert became a copilot for a West Coast airline and transferred to the Idaho Air Guard. He is presently the Operations Officer at the 190th Fighter Interceptor Squadron at Boise.

it's time to WINTERIZE

THE grass on the golf course has a slight touch of brown on it. Some of the leaves on the hardwood trees are not the green they were a month ago. When you snap on the Boob-Tube you can settle back and watch pro-football or some college drum majorette at half time with few clothes, do all sorts of nice things. Yes, we agree it is a nice time of year to be alive. But as surely as taxes come due in April, winter must follow fall and along with the white stuff come several hundred pounds of paper on what we should do, what we shouldn't do, and fifty different ways to do each to combat winter hazards.

Winter, in case some of us have forgotten, is when the people in the banana belt wear a light jacket because it is a little cool on morning preflight. It is also the time when ORI teams start their annual inspections of southern bases. This same winter should mean much more to those of us who have flown up north or have been stationed up there for more than one winter.

What should it mean to us? Well, that depends on who us is. To the pilot cold weather means one thing, to the maintenance people it means a different thing. To all of us it means a time of planning, close supervision, and lots of war stories for stag night at the club, provided we live through it.

Why don't we put down a few things that it might mean to the throttle-benders, just to remind us of what to look for this winter? Generally speaking, cold weather means clothes. Lots of warm socks, thermal underwear, thermal boots, flight gloves with liners, a spare pair of socks put somewhere, and a personal survival packet. Remember how we sweat to death in the alert hangar, and then froze when we went outside to preflight a bird, or walked over to ops for the morning briefing?

Besides the problem of how many clothes to wear, how about the weather we are going to fly in? This is an area where we need more than skill and cunning to hack the mission, day in and day out. 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.

Since we have been briefed on the weather, let's go flying and see what particular problems we might run into. Not too many things will help us in the winter. Looks like most of them are turning into hazards. Here are a few to fight.

Icy Runway—Remember RCR, check weather sequence before you plan on landing or using a base as an alternate. You may have clear 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 weather, 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.

OK, we got our ops briefing, so we are ready to go preflight the aircraft. 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 control surfaces and freeze. You should either pull the aircraft into a warm hangar or use de-icing 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 you 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 you 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. Don't laugh. We know a Colonel who stepped on a ladder, lost his footing, fell, and broke his arm.

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, and are now ready to start. Remember in cold 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 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 plow 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 start. If there is some loose snow on the runway, get a good interval for takeoff; if not, we will 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 condition. No one has really lived until he has snared his own rabbit and cooked it over an open fire out in the North Dakota 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 what the alternates are 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 gotten a landing grade of "D" for the first bounce. We have already 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 already.

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 ourself 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's else's. Let's not turn our backs on it—someone else may not catch it. ★

Slick runway, poor visibility, and long landing can result in gear removal the hard way.

incident reports

T-33 FLAMEOUT

During a functional check flight, the aircraft flamed out at 15,000 feet, 200 KIAS, 80 percent RPM, over the field, when the fuel system switched from normal to emergency. Several unsuccessful air starts were attempted, using the gang start switch. RPM would go up to 40 percent, but when throttle was brought to idle or higher, the engine flamed out again. A successful air start was made with starting fuel switch in the manual position. The aircraft was landed from a simulated flameout pattern and the throttle was stopcocked just prior to landing to decrease the landing roll because of snow and ice on the runway.

The gang start system and the emergency fuel system were both checked on the ground prior to the flight. The cause was a faulty emergency fuel control. The emergency fuel control solenoid was found to be rough and binding. This caused flameout from fuel starvation when the emergency fuel system was selected. Actuating the gang start switch put the aircraft on the emergency fuel system and automatic fuel sequence when the throttle was stopcocked. When the throttle was in idle or higher, the aircraft was in emergency fuel system only. The air start with the starting fuel switch in the manual system was successful because fuel from the normal fuel control was available.

F-102 NOSE GEAR IN A SLING

As the Deuce was positioned for an attack during a training mission, a loud "pop" was heard which sounded as if it came from under the cockpit. The mission was continued when no apparent reason for the noise could be discovered. About 5 minutes after the "pop" was heard, the pneumatic pressure low warning light came on. The pilot continued with the attack since he was only 35 miles from base with 5200 lbs. fuel remaining. At 14 miles during the recovery, the pilot put gear handle down, nose gear green light did not come on, and warning system showed unsafe. Gear was recycled with same indications. Gear was retracted, the light bulb changed, and IP tried to lower gear from right seat. The unsafe indications continued. IP pulled "G's", yawed aircraft, and finally tried emergency gear lowering system, all to no avail. Nose gear was verified up by mobile control and the pilot declared an emergency. The runway was foamed and IP landed without landing lights. When main gear touched, pilot turned master switch off, in the hope that gear would fall out. It did not. IP flew nose down until pitot tube touched runway, and then he ran out of aircraft control. When aircraft nose was lifted by crash crew, it was discovered that nose gear was actually hung up on nose wheel well curtain. Curtain was cut and nose gear fell free. The jackpad and/or bushing snagged the curtain assembly and tore it down to double stitching, where it caught. The curtain was new and had been inspected on aircraft preflight by maintenance personnel and aircrew. Damaged were pitot boom assembly, nose door and actuator assembly, and associated sheet metal.

F-106 TRIMMING RADAR ANTENNA

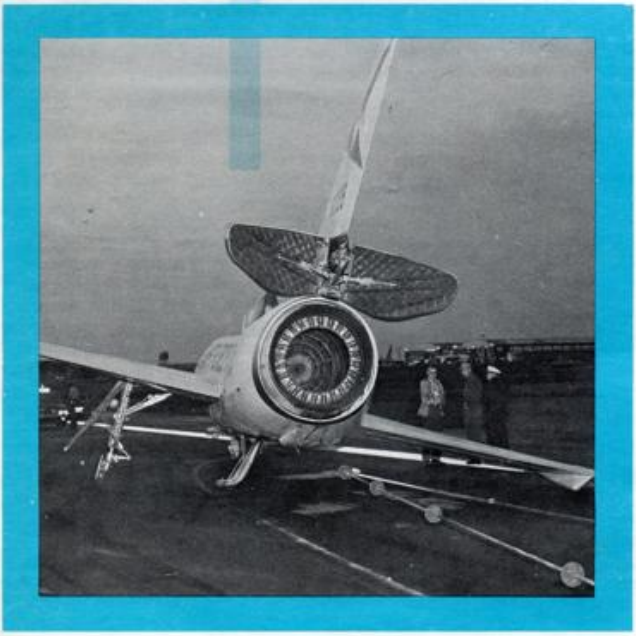
The F-106 pilot checked his takeoff trim prior to taxi and again before takeoff roll. The light illuminated on both checks. A visual check by the ground crew before taxi confirmed that the flight controls were in the proper position. On lift off, with the flight controls in the direct manual mode, the aircraft rolled to the right. Three-fourths left aileron was required to keep the aircraft in level flight. The controls were not responsive to aileron trim and the rudder trim had little effect. An emergency landing was made without further incident. Before engine shut down the takeoff trim was checked and the flight controls responded normally. Aileron trim was checked and was OK. A complete flight control checkout was made in accordance with the Tech Order and all systems were within limits. The MA-1 system was timed in to simulate a takeoff situation in direct manual. When the aileron trim button was moved, the radar antenna drove to the right and down, but the aileron trim did not move. Depressing the takeoff trim button had the same effect on the antenna. The 083 unit was removed and bench checked revealing a direct short between the two pins and the unit case. Unit head was removed and the base section revealed an exposed wire sticking out of the cannon plug. The unit was reassembled and indications of the short previously described recurred intermittently when the unit was held in different positions or when shaken vigorously. The 083 unit was replaced and the systems checked OK. The aileron trim actuator was replaced as a precautionary measure, due to a suspected overvoltage from the shorted pins.

DOWN and out

Two Down and Locked

It is sometimes strange what will cause an accident. Normally when we talk about accidents, it is something big like a mid-air collision, or the aircraft digs a hole 30 feet deep into the ground. Later during investigation many facts and causes are put forth as to what caused the crash. However, this is not always the case with our accidents. Some of these can be eliminated very easily, and this can be done by people knowing their job and doing it the proper way.

Let's look at one that took 200 man-hours and $10,492 to repair and only a few minutes to cause. An F-106 was scheduled for deployment to Tyndall. A few days before the aircraft fuse panel in the right MLG wheel well area had been removed to allow maintenance on the fuel quantity indicating system. There was no entry in the 781A or AFTO Form 210 showing removal of the AC exciter box, which had to be disconnected from its mounting to remove the fuse panel. The last time that the exciter box was installed, it was put in upside down.



How did this happen? Well, it seems as though an electrician on the night shift received a call from workload to go out and install the main wheel well fuse panel. He installed the case for the fuse panel, and then secured the grounding strap. After this he installed the fuse panel. Once this was done the airman installed the AC exciter box. Although this electrician did not remove the box, he did lift it up in place backwards and secure it that way. Once the work was completed workload was notified and they sent the maintenance expeditor out to inspect the panel. The NCO along with the electrician went to the hangar to inspect the work. He checked everything over and signed off the red X on the 210 and 781A forms.

The next morning the aircraft was put on alert where it stayed until the first flight to Tyndall. The pilot made a normal walk-around prior to flight and noted nothing wrong. No problems occurred until the gear handle was placed in the down position on GCA final. At this time only the nose gear and left main gear would come down and lock. The right main gear door was slightly cracked, but would not open any farther. With 2000 lbs. of fuel remaining, the pilot advised the tower that he would make a pass down the runway and bounce the left main gear in an attempt to shake the right main gear loose.

When this did not help lower the gear, the pilot elected to attempt an approach end barrier engagement. With 800-900 lbs of fuel remaining, the pilot rolled out on final for his landing. The hook engaged the cable 27 feet right of runway centerline. Upon engagement the nose and right wing immediately started down. As the nose gear contacted the runway, the lower shock strut immediately failed. The aircraft came to rest 921 feet from cable engagement. The pilot closed the throttle, raised the canopy, turned off the master electrical switch, and evacuated the aircraft.

The cause, of course, was maintenance factor due to the electrician installing the AC static voltage regulator box upside down. This box would not allow the right main gear to come down. This airman had someone to share in the blame. This was the assistant line chief who inspected and released the work of the electrician without carefully checking the installation of the AC exciter box.

This accident was a case of people not knowing their job as well as they should.

Air Flask Explosion (F-106)

There is an age-old cry about how to stop accidents. This has been sounded through the command for years. It goes something like this. The only way to really stop having aircraft accidents would be to lock the airplanes in the hangar, or chain them to the ramp. Everyone used to agree with this until a couple of months ago someone shot this theory full of holes.

The story goes something like this. During a preflight inspection the crew chief found evidence of a fuel leak on the forward end of the starter, and logged a job to the CSD shop to check the system. At this time he was informed it would be about 20 minutes before the specialist could be ready for an engine run to leak check the starter system. At the same time the crew chief had the maintenance expeditor call for an air compressor to service the aircraft. The compressor was hooked up to the airplane and when the aircraft pneumatic system indicated approximately 2800 PSI the MC-11 pump was disengaged.

At about this time the specialist arrived and started to prepare the aircraft for engine run. Shortly after he began to preflight the F-106 there was a loud internal explosion in the aircraft.

Inspection of the aircraft showed that the forward pneumatic flask ruptured into two halves. As is exploded it tore into the armament bay, both intakes, aircraft ribs, and ripped electrical bundles. The estimated man-hours to put this aircraft back into flying condition was 16,000 man-hours. This estimate placed the aircraft into the major accident category.

The whole accident was caused by a material failure of the forward air flask. So it goes that our old saying of "If you want to stop aircraft accidents, chain them to the ramp" doesn't hold water any more. There were a couple of other areas which all maintenance people should look into. One of these is some of the operators are using incorrect procedures to stop the MC-11 from pumping air into the aircraft. Secondly there is an indication that we have some defective high flow regulators and high flow safety valves in the MC-11. These can cause all sorts of problems to a pneumatic system.

safety officers' FIELD REPORTS

F-106 FLAMEOUT. Pilot had completed his checklist on a functional check flight and was attempting an intercept for WSEM qualification. While descending from 25,000 to 15,000 feet at 83 percent the engine flamed out. One air start was attempted on the normal system with negative results. Pilot switched to Emergency and a successful airstart was accomplished. Aircraft was recovered without further incident. Prior to shutdown, in the parking area, the pilot switched back to the normal fuel system and the engine flamed out immediately. Both an aircraft incident and an EUR were submitted. The fuel control was shipped to the Hamilton Standard Company for teardown inspection. No results have been received as yet.

QUICK-FIX. One very significant malfunction and problem area is that of the failure rate of the F/TF-102 personnel leads. During the period 1 Jan thru 31 May maintenance replaced seventeen personnel lead bundles (S/N 1660-629-4464). Of these, seven have been estimated to be a cause of complete UHF airborne radio failure. Investigation of the personnel lead bundles reveals that the major failure cause factor is that the connector (item 5, fig 4-2, T.O. 15X11-2-23) is not held securely in the female housing. Any tug or pull will allow the connector to work out approximately 1/8 inch causing the pins to break contact. On all Sierra manufactured bundles inspected, the sleeve (item 7, fig 4-2) was not long enough to prevent end play when the cap (item 7, fig 4-2) is bottomed out. Of all fire well manufactured bundles inspected, the sleeves were 1/8 inch longer which provide a secure fit. Telephone conversation with Mr. Allen, OCAMA, R&D Division, indicated that Sierra Inc. has identifed this problem to the depot and has requested that the contract drawing be changed to correct the discrepancy. It will be some time however, before corrected bundles reach the field. In the interim this unit is installing a small spacer washer between the sleeve and cap to provide a secure fit. EUR is being submitted on this item as a result of an airborne abort where the sleeve was left out entirely.

LOTS OF DRAG—F-102. After takeoff, the pilot felt the aircraft decelerate. All engine instruments read normal; speed brakes were opened and could be felt opening. The landing gear was lowered and indicators appeared normal. Speed brakes were closed and gear raised. Maximum speed that could be attained was 300 knots at 5,000 feet. Aircraft was landed and nothing out of the ordinary could be found. The next flight was flown with a chase aircraft. After takeoff the main gear retracted but did not close. Aircraft landed O.K. Aircraft had just complied with the 1060 modification. While doing the work, the electrical connector to the main gear door valve was removed but not replaced. Also, a broken wire was found in the nose wheel well which prevented an unsafe indication during the flight.

CLOSE ONE. A man was injured while checking for air leaks after a modification of armament doors (STCTO F-102 1060). He was in the armament bay, tightening a fitting holding the number 6 rail partially retracted when it extended, striking him on the head. There was 500 PSI of air on the system. The extent of the injury was a deep gash. The procedures have been changed to allow no one in the bay when pressure is on the system.

SHARP EYES. Shortly after formation takeoff, the wingman observed the forward electronics bay door latch cover to be open on the lead F-102 aircraft. Fearing the latch cover might break off and be ingested by the engine, the leader elected to return and land immediately. It was determined that the Dzus fastener on the cover was worn excessively and could not be properly secured.

AFT FIRE WARNING LIGHT—F-102. The aircraft had been airborne about an hour when the aft fire warning light began to blink. All engine indications were normal. Throttle was reduced slowly to idle, but the light continued to flash. A precautionary straight-in landing was made. The light went out on final. Maintenance personnel discovered a defective overheat control box, which was replaced.

CHECK THAT PIN. Recently, prior to an evening intercept training mission, a pilot of an F-89J completed his cockpit check, removed the seat pin, and flew the mission. Upon landing, he attempted to insert the seat pin back in the seat. He was not pleasantly surprised to find that the pin was still in the seat. Only the handle was removed when he originally removed the pin. Investigation revealed that the handle had worked loose from the pin. It appeared that the method of joining the two together (pin and handle) was to roughen-up the pin and attach the handle. This evidently allows the pin to separate from the handle after long usage. A check was made and four other pins were found to be in the same condition.

F-101F ATTITUDE INDICATOR. During the descent in recovery from the mission, the attitude indicator in the front cockpit froze in pitch in a ten degree nose down position. The instrument was operating properly in the bank indications, and the attitude indicator in the rear cockpit was operating normally. The malfunctioning instrument remained in the nose down indicating position even after landing.

F-101 ANTISKID BRAKES. Antiskid inoperative light came on inflight several times. Antiskid switch was turned off for landing and aircraft landed without difficulty. After aircraft was stopped, the antiskid switch was turned on and brakes failed immediately. They operated normally again after switch was turned off. Cause was a malfunctioning antiskid detector on the right side.

SPLIT FLAP. An F-101B crew experienced a "Split-Flap" condition. The pilot reported that on two cycles the flaps operated normally, but on the third the right flap went down while the left flap remained up. The aircraft rolled left and the R.I.O. verified a split flap condition. The flow equalizer appeared to have operated normally, and only allowed a gradual lowering of the right flap. The flap switch was returned to the up position, and after several activations the right flap slowly retracted. A successful no flap landing was made without further incident. This mishap occurred when the outboard pick-up roller did not properly engage the uplock fork. The pick-up roller rolled beneath the fork instead of rolling into the slot. The inboard pick-up roller functioned normally. In this malposition the normal sequencing for lowering the flaps could not be followed since the lock could not be released. Consequently, when the actuator attempted to extend it sheared its mounting pins.

DIMPLED VOODOO. While climbing out in weather as number four in a flight of five, the pilot was suddenly surprised to see a "handful of baseballs" smash into him. He immediately noted the windshield cracked. Of course the baseballs were hail. None of the other aircraft were affected. The hail also claimed the IR head, some damage to the radome, and damage to three vent lines.

FUEL PROBLEMS — F-101. After two intercepts during a night exercise, the aircraft was approximately 130 miles out with 4500 lbs fuel on all tanks selection. Tanks were checked singly and #1 tank had stopped feeding with 2000 lbs remaining. Prior to this, tanks had been monitored and were feeding normal. "All pumps" were selected but tank #1 still did not feed. The external tank was jettisoned over Lake Huron and at 50 miles out a minimum fuel descent was begun for a straight in landing. One mile on final, #2 tank was 400 lbs and #3 empty. After landing, #1 tank fed dry. All relays and pumps were checked and were okay. It sounds as though a one-way valve became an "O" way valve and the landing shook it loose.

F-101 GEAR DOWN. After takeoff pilot could not retract gear, the gear handle required more than normal force and would not move to the up position. Aircraft was flown gear down and fuel burned out for landing. Left drop tank fed slow and right drop would not feed. Inspection of the aircraft revealed a malfunction of the Control Handle Lock Release Solenoid. Pilot's decision to not override the gear handle lock release solenoid was sterling. When they're glued down . . . leave 'em down. Fuel and heavy weight could have added to the problem.

NO SPEED BRAKES, F-102. During descent and on final approach, pilot realized his speed brakes were not available. A circuit breaker was checked in and cycled several times to no avail. A precautionary, straight-in landing was made. The speed brakes opened with normal drag chute deployment. Maintenance personnel found the wire to the speed brake switch broken at the base of the throttle.

F-101 INADVERTENT PUSHER. Pusher inadvertently engaged during climbout after takeoff. Pilot disengaged it with the paddle switch and then turned the pusher switch off. There was no further difficulty. The angle of attack transmitter potentiometer was breaking contact at various positions.

safety officers'

FIELD REPORTS

(continued)

HYDRAULIC LINE BROKEN (F-106). The secondary hydraulic return line located in the forward left missile bay separated at a union. The break appeared to be from fatigue. The pilot experienced flight control oscillations with intermittent secondary pressure of zero to 250 lbs. Emergency gear extension and drag chute deployment was accomplished and landing without further incident.

FLIGHT CONTROLS (F-106). Fifteen minutes after engine start and awaiting a quick fix of a hung computer, stick was moved full aft to check TSD and when it was released, it stuck back momentarily, and then returned to neutral very erratically. Further investigation revealed movements of elevons very erratic with stick movement and a feedback was felt in the stick. When stick released, it searched for neutral before movement stopped. Engine shut down and with hydraulic power supplied by mule, no discrepancy was found after prolonged run. Aircraft started up again and finally malfunction duplicated. After engine removal, a malfunctioning HEP valve on left side was cause of erratic flight controls. HEP valve had an internal hydraulic leak in it. Mixer assembly cover was found to be binding slightly also. Pilot stated that if airborne and this malfunction occurred, it is doubtful if the aircraft could have been controlled.

HOT COCKPIT (T-33). Just after takeoff the pilot noted the cockpit begin to fill with smoke. Cockpit smoke removal check list was followed and electrical switches were turned off with no apparent results. Cabin heat went to full hot, but there was no evidence of fire from inside cockpit or from a check by mobile control. Pilot remained in the immediate vicinity of the field and burned down his fuel. Landing was completed without further incident. Investigation revealed the turbine cooler had failed and it was replaced.

LAST CHANCE INSPECTION. One of our Voodoo units logged no precautionary landings for this month. This trend has been continuing since the "Last Chance" cursory inspections were instituted last year. The primary benefit of this inspection is the detection of leaks which normally wouldn't be spotted immediately after engine start. Of three starter bleed line failures, two were discovered during the "Last Chance" inspection just before takeoff. Had the aircraft been allowed to takeoff, a serious fire could have resulted. In such a failure, low pressure fuel is continually pumped into the engine bay until the master switch is closed at the end of the mission. Surely, we will have precautionary landings in the future, but we are expending all efforts to assure they will be a rarity. ED. NOTE: An article pertaining to "Last Chance" inspections appeared in September 1965 issue of INTERCEPTOR Magazine.

NO ANTI-SKID F-101. After landing from a functional check flight, pilot attempted to cycle the anti-skid, left anti-skid did not function, and a bald spot was worn on the left tire; the tire did not fail. The wire bundle coming from the anti-skid transmitter was broken; it was apparently rigged excessively long and caught on some projection in gear well when the gear was retracted; when the gear was extended, the wires broke.

LOST SPEED BRAKES (F-106). During a dusk intercept training mission over the Atlantic in WA-107, approximately 15 minutes after takeoff, the pilot was making a left descending turn. At 350 KIAS he extended his speed brakes and heard what sounded like an explosion, which jarred the aircraft. He declared an emergency and turned toward home. Checking his instruments, he found all indications normal, and requested the target pilot check him visually. The target pilot advised him that both speed brakes and the drag chute were missing from the aircraft. The speed brake switch was checked in neutral and no loss of hydraulic fluid was noted. The pilot lowered his gear, burned down his excess fuel, and landed without further incident. Investigation revealed that the speed brakes, speed brake actuators, drag chute, and drag chute canister had been torn from the aircraft due to a faulty limit switch and they are being replaced.

THE WAY THE BALL Bounces

ACCIDENT RATE

1 JAN. THRU 31 AUG. 1966

	ADC	ANG
Thru August 1966	6	3

MAJOR — ALL AIRCRAFT

ON TOP OF THE HEAP

MO	ADC	MO	ADC	MO	ANG
55	456 FIS	29	343 Ftr Gp	63	119 Ftr Gp
45	445 FIS	28	48 FIS	43	162 Ftr Gp
44	57 FIS	26	4600 AB Wg	31	112 Ftr Gp
35	62 FIS	26	87 FIS	31	132 Ftr Gp

ACCIDENT FREE

BOX SCORE

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

MINOR ACCIDENTS THIS PERIOD — 1

CUMULATIVE RATE

1 JAN. THRU 31 AUG. 1966

	ADC	ANG
JET	8	3
CONVENTIONAL	1	0

BY AIRCRAFT

	ADC	ANG
T-33	3	
F-89		6
F-100	45	
F-101	6	
F TF-102	12	4
F-104	27	
F-106	13	
B-57	28	
EC-121	0	

RATE = MAJOR ACCIDENTS PER 100,000 FLYING HOURS

we point with PRIDE

Captain Kaye M. Harden
4758 DSES
Holloman AFB, NMex

Captain James C. Warren, Jr.
4758 DSES
Holloman AFB, NMex

STUBBORN NOSE GEAR

Captain James C. Warren, pilot, and Captain Kaye M. Harden, EWO, had completed a successful ECM mission in an EB-57A. During their final traffic pattern at their home station, Holloman AFB, the nose gear failed to come down when the gear was extended. The gear operation had been normal during a previous low approach.

Captain Warren recycled the gear a couple of times, but he still had his nose gear up and locked with the main gear down. He notified tower of his problem and made a fly-by. They confirmed that the nose gear was up. He declared an emergency and broke out of traffic to go through the emergency procedures.

Hoping to aid the hydraulic system, Captain Warren insured the star valve was closed and tried to use the emergency hydraulic hand pump. The handle would not fit all the way into the pump socket, but he was able to use the pump successfully. During this time the nose gear suddenly went into an intermediate position.

Captain Harden installed his seat pin, unstrapped from the back seat, and crawled forward to help with the pumping operation. By using both hands, he was able to pump more pressure, but the nose gear would not go down. The handle was in the top portion of the socket and eventually broke the side of the socket. He returned to his seat.

Captain Warren tried to shake the nose gear down by porpoising the aircraft to no avail. He tried making touch and go landings, hoping this would jar the nose gear down. The Mobile Control officer advised that the gear had moved, but was obviously not down and locked.

The fuel level was now down to 900 lbs and Captain Warren decided that he had to land. The runway was foamed and emergency equipment was standing by. A straight-in approach was set up and touchdown was made on the two main gears. He held the nose off until about 80 kts and then lowered the nose to the runway. The aircraft came to a stop on the runway with very minor damage.

Investigation confirmed that there was no way they could have lowered the gear completely.

Captain Warren's fine judgment and Captain Harden's valuable assistance combined with both their calm reactions and knowledge of their aircraft enabled them to overcome a potentially disastrous situation. This earns them the ADC "We Point with Pride" award.

AFTER BURNING

Address your letters to: The Editor, INTERCEPTOR, Box 46, Ent AFB 12, Colo., 80912
To be published, your letters must be signed,
but names will be withheld upon request.

Making It Legal

From time to time I have had the opportunity to swap lies with the PACAF flying safety people, and invariably manage to cadge a copy or two or some of the latest good dope published by the various Air Force major command headquarters.

Having been accused of malicious abscontion (?) to Air Force property, I am facing the dire consequence of being cut off from my source of fresh and new information for keeping the Navy informed on what's going on in the other parts of the safety world.

I realize that in all probability your budget is fairly restrictive. However, if possible, I would appreciate your including this command on your mailing list for INTERCEPTOR (1 copy) if at all manageable.

Thanks, and my best wishes for safety,

I. J. Rimson, LCDR, USN
Aviation Safety Officer
Patrol Sq Twenty-Two
FPO San Francisco 96601

*As we've said many times, "Always happy to teach the Navy something about flying." Are 5 copies enough?

ADCPI Driving Training

This is to express appreciation to you for the publication ADCPI 62-10, "Basic Physics of Automobile Movement."

The additional copies of the other program texts were likewise appreciated.

It seems to me that you have organized a most interesting and provocative course of study. It is a real contribution to the field of driver education.

Robert S. Lewis
Acting Supervisor
Driver Instruction
Los Angeles City School Districts
Los Angeles, California

*Your kind words are appreciated.

82 FIS Cross Ocean

I would appreciate, if possible, one or more April '66 issues of INTERCEPTOR sent to me because of shortage of such here.

Thank you.

A2/C Stephen G. Lewis
82 FIS, Box 79A
APO San Francisco 96235

*For some reason the 82nd has special need for this issue.

Gettysburg's Seat Belt Program

I wish to commend you on the fine article published in the August issue entitled "Buckle-In."

As a Radar Squadron Commander, one of my greatest fears is a fatal accident resulting from someone sitting on their belts. Here at the 903d we have initiated a program that might be of interest to other units.

During the course of the month, members of the ground safety council stop cars of military members both on base and off. If they are wearing their belts and can answer questions correctly on South Dakota traffic laws, their names are placed in a container for drawing at Commander's Call. Those not wearing belts also have their names in another container.

At Commander's Call a name is drawn from each container. The lucky one who is wearing belts wins a steak dinner for himself and his wife or girl friend, whichever the case may be, at a local restaurant in Gettysburg. The other individual, not wearing his seat belt, must give a 3 minute dissertation to the rest of the squadron on the importance of wearing seat belts.

From the start of this program in May of this year, our seat belt utilization has increased from roughly 25% to approximately 75% and climbing. The steaks are good and the word is spreading.

Incidentally, the money for the dinner is provided by the Officers and NCO Open Mess. The cost is very insignificant compared to human life.

Major Ronald L. Gillings
Commander
903 Radar Sq (SAGE)
Gettysburg AFS, SDak
(Ex ADC Tac Evaler)

*Your program is sound. It is amazing what an effective gimmick can do.

Safety At Detachment 1

I would like to obtain assistance from you in placing 6 each INTERCEPTOR Magazines on automatic distribution to my office, monthly.

In the past, my parent organization has furnished this unit with two copies. Unfortunately, we have difficulty at times trying to locate these copies.

Whatever you can do would be well appreciated. Please advise.

I have a genuine interest in Accident Prevention and have been in the concept for three months. I'm a Life Support man, also (92270B). I now have the whole nine yards in Safety here at Detachment 1. I like it!

SSgt Richard A. Bingaman
Dep 1, 95 FIS
Atlantic City Muni Aprt NJ

*Keep the fire going. Your mags are on the way.

★★★★★★★★★★★★

Notice—68 FTR SQ

The Fourth Reunion of the 68th Fighter Squadron was held at San Antonio on 22-23 July 1966. The next reunion will be in Las Vegas the last weekend of July 1968. Let's all plan to make the next one.

Captain Ole Johnson
Hq ATC (ATCIG)
Randolph AFB, Tex.

★★★★★★★★★★★★★★

the Cold Hard Facts..

EACH FALL WE MUST WINTERIZE OUR FLYING TECHNIQUE. HERE ARE SOME POINTS WHICH WILL HELP DO THIS.

Due to increased drag with accumulated snow and ice, takeoff distances and climbout performance can be seriously affected. The ice and snow must be removed before flight is attempted.

At all temperatures, excess thrust is available at idle RPM, and at lower temperatures this condition is further intensified, resulting in dangerously high taxi speed unless controlled by brakes or an idle thrust control system, if available.

Landing rolls increase when a runway becomes snow-covered and icy. Be aware of runway conditions and compute rollout distances for current RCR values. Use optimum aerodynamic drag technique and plan each landing for a drag chute failure.

If strong crosswinds are encountered on landing, use normal crosswind landing technique and be prepared to jettison the drag chute if airplane direction cannot be controlled by nose-wheel steering and brakes.

WINTERIZE YOUR FLYING