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# Interceptor

DECEMBER 1976

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CANBERRAS TO EUROPE... see page 8





# Interceptor

FOR THE MEN AND WOMEN RESPONSIBLE FOR AEROSPACE DEFENSE

VOL 18  
NO 12

*Aerospace Defense Command*  
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*Commander in Chief*

*Published by the Chief of Safety*  
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## SPOTLIGHT

Democracy is the only system that persists in asking the Powers That Be whether they are the powers that ought to be.

Sydney J. Harris

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## OUR COVER

Recently some ADCOM B-57s deployed to Europe. See page 8.

## Season's Greetings

from the INTERCEPTOR Staff



*“No time to let down.”*

**A**ccident prevention is a business wrought with intangibles. For that reason, two very critical elements of any safety program are continual self-evaluation of safety programs and frequent recognition of accomplishment based on that evaluation.

If we play the numbers game, we can point to a reduced ADCOM major accident rate thus far in 1976. This is not cause for resting on laurels! This year we have had at least five serious incidents which were only a hair's breadth away from disaster. Had it not been for the professional airmanship demonstrated by our aircrews and quick response by maintenance and support personnel, our number of accidents could have easily been doubled!

Now is no time to “let down”! Commanders should use these “almosts,” as well as applicable accidents, to cast a critical eye toward their unit's safety programs. Now is a good time for evaluation of the performance and results of 1976 mishap prevention efforts with a goal of continually strengthening programs. Emphasize the “close ones” as food for thought at safety meetings and in combating the possibility of complacency due to relative improvement in accident statistics.

Now is the appropriate time to prepare for recognition of the year's accomplishments. The safety awards program provides an effective management tool for reward and recognition of outstanding performance by units and individuals. Commanders should submit deserving organizations and personnel for ADCOM or USAF awards, as appropriate. Last year, ADCOM received a majority of the USAF safety awards for which nominations were submitted — let's keep the momentum going and look forward to an even safer '77.

COLONEL ALFRED E. LANG  
Chief of Safety



# HOT LINE

**JOB OPPORTUNITY.** INTERCEPTOR magazine is now accepting applications from officers with F-101/F-102/F-106 experience for an editorial position and assignment here at ADCOM Headquarters in the near future. A background in safety and/or journalism is desirable but not mandatory. If you're interested, apply to the Editor by sending 300 words on why you'd like the job. Send it to:

Editor, INTERCEPTOR Magazine  
HQ ADCOM/SEOD  
Peterson AFB CO 80914

For further information, call GP AUTOVON 692-3186, or SAGE 530-3186.

**T-37 NICAD BATTERIES AND THERMAL RUNAWAY.** Thermal runaway in nicad batteries is not a frequent problem but the seriousness of this malfunction makes it worth discussing. If allowed to continue, thermal runaway will result in a fire or explosion in the battery compartment. A B-57 was lost last year due to thermal runaway. What is thermal runaway? The various formulas involved are not much use to the pilot. Basically, charging a battery generates heat. A hot battery has a lower voltage which demands more charging. A defective voltage regulator or battery may also draw too much voltage — which creates heat — which draws more voltage — which creates more heat — which causes further breakdown of the battery — etc — a vicious cycle. Getting a thermal runaway started is not very difficult. Take a battery in a T-37 on the ramp, on a hot, sunny day. If the ambient temperature is 100° F, the temperature in the battery compartment will be much higher. Add to this a faulty voltage regulator or a low charge in the battery, and all you need is a little time to get the battery up to 150° F, the temperature at which runaway will begin in an older battery. ATC has had five thermal runaways and twenty-two voltage regulator failures this year. FEAR NOT! A new battery with permion insulators between the cells is on the way. This battery is not as susceptible to progressive internal failure as our present one. It will be awhile before each aircraft has one of these batteries. They are being purchased as permion

becomes available and will be changed on an attrition basis. There also will be a new regulator with over-voltage protection sometime next year. Until these gadgets find their way onto the flight line, the pilot is the only thermal runaway protection installed in the aircraft. Use of the Dash One checklist high loadmeter procedure requires the battery switch to be turned off, thus eliminating the source of electricity and breaking the cycle. The Dash One requires loadmeter checks immediately after takeoff and every 15 minutes thereafter. This is a minimum. If you have ever seen what's left of a battery after an unchecked thermal runaway, you probably check the loads more often.

**TRICHLOROTRIFLUORETHANE.** A recent fatality involving the use of trichlorotrifluoroethane (freon) FED-BB-F 1421 type 113 indicates some using personnel are unaware of the hazardous nature of the vapor from this degreasing solvent. The fatality may have resulted from oxygen displacement by the solvent vapors in a confined area. As stated in T.O. 42C-1-20, Table 6-1, under Health Hazards Due to Inhalation for Trichlorotrifluoroethane, the following caution is provided. The hazard is "low for both chronic and acute exposures. NOTE: Vapor pressure of this solvent is extremely high. In confined areas, solvent vapors can easily displace oxygen and cause asphyxiation." The same table also states, "The extreme volatility of this solvent requires increased precautions to prevent hazards. Containers must be kept closed. Good ventilation must be provided particularly with any elevation of temperature." This high evaporation rate with resultant oxygen displacement is the most significant hazard of this solvent in confined spaces. Take heed, sport fans.

**START PLANNING AHEAD.** The 30th anniversary of the North Dakota Air National Guard (119th Fighter Interceptor Group) will be held 18-19 June 1977. The unit is known as the Happy Hooligans. All former members are invited to attend. Contact is Major Stan Gifford, NDANG, Hector Field, Fargo ND 58102. Telephone (701) 237-6030.



# the THREAT

by Capt David V. Froehlich • ADCOM/SEOD



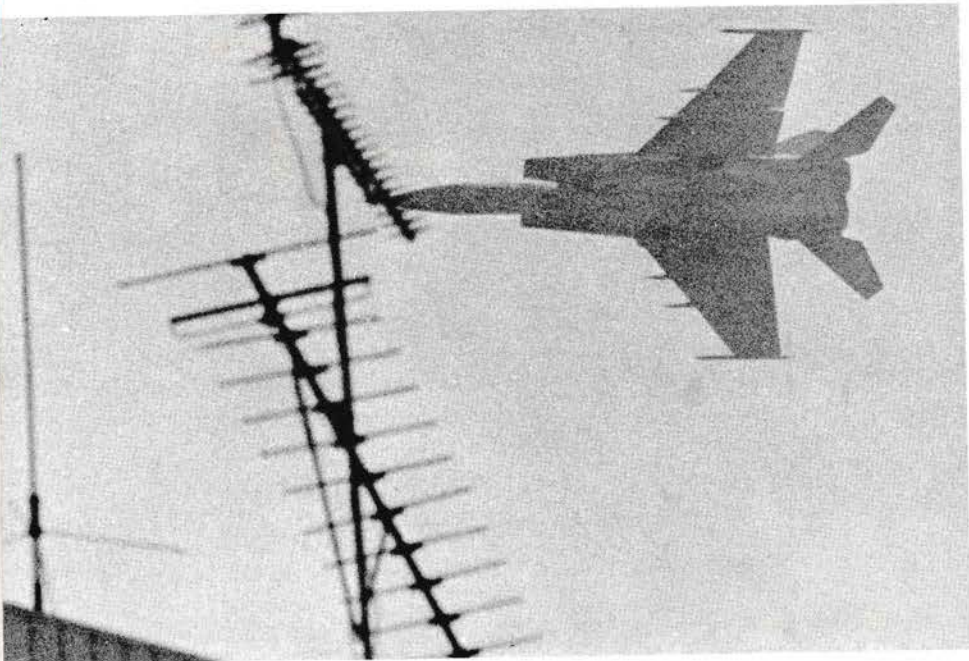
*Ed Note: With the recent MIG-25 "visit" to Japan, there is a new wealth of information and conjecture about the aircraft and its capabilities. We will attempt to consolidate and present as many sources as possible. Further analysis of the aircraft will no doubt reveal changes to the information presented in this article.*

**T**he MIG-25 was originally designed as the Soviet answer to the apparent threat posed by the U.S. B-70 high-altitude strategic bomber which was developed in the late 1950s. The first appearance or release of information about the FOXBAT came in early 1965 (roughly six months after the first test flight of the B-

70). At that time, the Soviets laid claim to setting a new 1000 km closed-circuit speed record in aircraft designated as an E-266. This aircraft was subsequently identified as the MIG-25 and designated "FOXBAT."

For over ten years, the FOXBAT was shrouded in mystery, but considered to be a highly ad-





MIG-25 pilot lands Fighter at Hakodate.



The FOXBAT is **not** a small Fighter.

vanced aircraft. In 1973, Secretary of the Air Force Seamans called the MIG-25 "probably the best interceptor in production in the world today." The MIG-25 set numerous speed and time-to-climb-with-payload records, some of which still stand. An E-266M aircraft (suspect a more powerful MIG-25) recaptured two time-to-height records which the F-15 had originally taken away from the FOXBAT. The battle for records appears to continue between the F-15 and the MIG-25.

It's estimated that over 400 MIG-25s have been produced to date. These are in three versions: FOXBAT "A" (basic interceptor), FOXBAT "B" (reconnaissance version), and the FOXBAT "C" or MIG-25U (two-seat trainer version).

The basic aircraft has high fuselage-mounted swept wings with low-aspect ratio. The two large engine inlets are rectangular appearing and are located slightly aft and below the cockpit. Large and sturdy appearing main gear fold forward and inward into the base of the intakes. The aircraft is powered by two large afterburner-equipped turbojet engines rated at over 24,000 pounds of thrust each. The exhaust nozzles each have a diameter of about five feet and appear to have a relatively large retractable airbrake mounted directly underneath. Study of the Japan "visitor" revealed that the aircraft is made primarily of heavy steel with only the wing leading edges being fabricated of a lighter titanium material. This fact is one which has led many experts to recently refer to the MIG-25 as having somewhat less sophisticated technology and design than previously suspected. The aircraft carries a maximum fuel load of almost 31,000 pounds which, combined with the heavy aircraft, gives an almost 65,000-pound fully loaded weight.

The fuel load permits a 600-700 N.M. range depending on use of afterburners. The maximum speed was previously thought to be about Mach 3.2 but the machmeter of the aircraft in Japan was limited to 2.8. Experts still estimate that the clean reconnaissance version can reach safe speeds in excess of Mach 3.0. The single-seat, ejection seat-equipped cockpit is covered by a side-hinged, single-piece canopy.

The FOXBAT "A" interceptor version has four underwing pylons which are used to carry air-to-air missiles. (No missiles were fitted on the aircraft landed in Japan although the pylons were present.)

The FOXBAT "B" reconnaissance version has no pylons, but is modified with numerous camera windows in the nose which is somewhat smaller than the "A".

The two-seat trainer or FOXBAT "C" was only first seen in photos in late 1975. The major modification is a replacement nose which includes an additional canopy and cockpit below and in front of the standard cockpit.

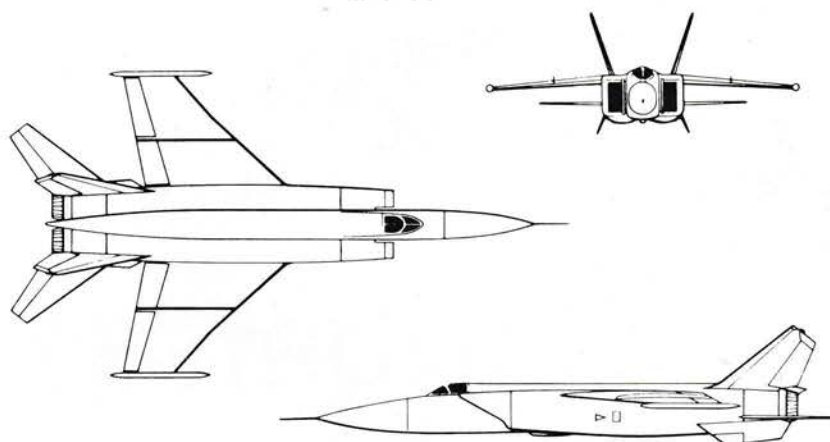
The appearance of the MIG-25 in Japan represents one of the first, if not the only instance, that

the interceptor version has been seen outside the Soviet Union. Numerous overflights by MIG-25 reconnaissance aircraft have been carried out over Israel and Iran during the past several years, and, at times, Israeli F-4s were launched to intercept without success.

Much of the cloud of secrecy and many of the myths about the FOXBAT have now been laid to rest. It appears not to be the "highly sophisticated" superplane we once suspected, but definitely does possess a tremen-

dous speed and altitude interceptor capability. The avionics of the machine have apparently not been completely analyzed, but early reports indicate a lack of any surprises in "ultra" systems. A formidable foe in performance already, the FOXBAT could indeed be a "super-ceptor" with advanced radar and ECM packages. It will be interesting to watch further developments as the reports of the analysis of the MIG-25 filter in. It is definitely a member of the hierarchy of "THE THREAT."

## FOXBAT MIG-25



A/C INFO	MCDONNELL F-4E	GENERAL DYNAMICS F-111	MCDONNELL F-15	MIKOYAN MIG-17	MIKOYAN MIG-19	MIKOYAN MIG-21	MIKOYAN MIG-23	MIKOYAN MIG-25
DESIG	PHANTOM		EAGLE	FRESCO	FARMER	FISHBED	FLOGGER	FOXBAT
WING SPAN	38'	62' (32')	42'	31	36	24'	50(26)	41
LENGTH	62'	72'	63'	36	44	52'	58	69
SPEED	M 2.27 40,000'	M 2.2+	M 2.5+	M .98 35,000	M 1.3 33,000	M 2.1 36,000	M 2.3 39,000	M 3.2 39,000
RANGE	1300+	4000+	2800+	1200	850	1200	1400	700
GROSS WT.	58,000	91,500	40,000	16,000	22,000	21,000	30,000	64,000
CEILING	60,000'+		67,000	57,00	60,000	60,000	59,000	80,000
CREW	2	2	1	1	1	1	1	1



# Canberras to Europe

By 1/Lt NORMAN B. HUTCHERSON  
17DES Information Officer



A 17DES crew going to work

On 7 October 1976, the last members of a 53-member detachment from the 17DSES, Malmstrom AFB, MT, returned home from their recent deployment to Europe. During the deployment they had participated in four NATO exercises; Oksboel 76, Coldfire 76, Reforger 76, and Teamwork 76; had flown 153 out of the 162 scheduled sorties without a maintenance cancellation; had used the EB-57 ferry tank for the first time in a major 17DSES deployment; and had amassed 409.8 hours of incident-free flying.

The deployment began on 18 August when five EB-57 Canberras and two C-141 Starlifters headed for points east passing through Plattsburg AFB, Goose Bay Air Base, and Keflavik Naval Air Station on their way to Spangdahlem AB, Germany. The effect of jet lag which is normally

felt on such a deployment was lessened by two weather delays enroute; one at Goose Bay and the other at Keflavik. In place by 21 August, the detachment, under the command of Lt Col Lynn M. John, Asst Operations Officer of the 17th DSES, set about to do business safely as usual.

On 25 and 26 August, the pilots were given local orientation flights by the 52nd Tactical Fighter Wing (TFW) at Spangdahlem. Then, from 30 August to 3 September, two of the Canberras deployed to Denmark to participate in Oksboel 76, a tactical exercise in which Royal Danish Army and Navy units and U. S. Navy and Air Force units participated. This exercise, which featured 17DSES personnel planning, briefing, and participating side-by-side with the Danish military personnel, had Danish Viggens and F-104's, plus U. S.

INTERCEPTOR



Navy and Air Force aircraft.

While these two aircraft were deployed to Oksboel, the other three Canberras were conducting normal Mixmaster-type sorties, but with a slight twist. These sorties were being provided to support the allied Air Forces — central Europe (AAFCE) but, in addition, they also allowed them to continue and enhance the exchange started by the visit to Glons, Belgium. These sorties allowed them to match wits with USAF F-4's, German F-4's and F-104's, and Belgium Mirages and F-104's.

From 7 to 16 September, the deployed EB-57's participated in two major NATO Army air defense unit exercises. From the 7th to the 10th, they participated in Gordian Shield (Coldfire 76) in central Germany. Then, from the 11th to the 16th, they participated in Lares Team, a sub-part of Reforger 76, in the southeastern portion of Germany. In both of these exercises they worked NIKE, HAWK, and SHORAD sites. Without a break the detachment deployed on 17 September to Gardermoen Air Station, Norway. Once in place they participated in Teamwork 76 — a maritime exercise involving NATO member Navies and amphibious landing forces off the western coastal regions of Norway. During this exercise several crew members participated in a mission aboard the Norwegian ECM aircraft, the Falcon. They were equally impressed with the aircraft and the Norwegian aircrews who flew them. Another aircraft which impressed the detachment was their sister ship, the British Canberra. Ten of these aircraft had deployed to Gardermoen from England to participate in the exercise.

On 29 and 30 September, the first two Canberras amassed 26.7 hours during 10 sorties on the

long trip home to Malmstrom. Then, on 6 October after required engine inspections, the last three Canberras and one C-141 Starlifter began the long trip home. During that day the EB-57's two-hopped from Gardermoen to Goose Bay, the crews averaging just under 7 air hours in the

“poopie suit.” On 7 October, they again two-hopped, this time without poopie suits, home to Malmstrom, to friends, to family, and jet lag — the enemy they had previously avoided so well. A safe and successful deployment due to the professional efforts of all concerned! ★



An early morning launch at Spangdahlem



Crack maintenance is a critical element of a successful deployment operation

# T-BIRD SWEEPSTAKES



BY Lt. Col. William H. Rees

**B**rigadier General Mervin M. Taylor, Commander, 23rd Air Division, directed establishment of a quarterly "Support Aircraft Competition," to begin in May 1976. The purpose of the competition was to recognize and emphasize the importance to the division mission of the T-33s, the personnel who maintain them, and the crews who fly them. Further, it was expected that by stimulating the inherent American competitive spirit, the overall standards of T-33 maintenance and operations would be enhanced. Each flying unit within the division would enter one T-33 aircraft, pilot, and crew chief in each competition. Operational commitments caused delays until 29 October 1976, when the first competition was conducted at Duluth IAP, Minnesota.

Competition scoring was divided into four categories: pilot exam, aircrew general (grooming, clothing, and flight equipment), aircraft appearance, and aircraft quality control inspection. A possible 100 points could be awarded in each category except the Q.C. Inspection. On the theory that an aircraft in superb condition is the first essential for safe flight operations, a possible 200 points were allowed for the Q.C. In-

spection. This was the heart of the T-33 competition. The total possible score was 500 points per aircraft and crew.

There were a couple of kickers. First, each competing pilot and crew chief had to fly a mission and recover their aircraft at the host base by the 1100 in-place time. If the bird was out of commission, it had to be fixed by 1315 or be disqualified. By the rules, the host base would provide all normal assistance to fix a broken bird, but if it couldn't be fixed, tough luck. Secondly, a red-X discrepancy discovered during the Q.C. Inspection was disqualifying, although the inspection and scoring would continue.

Overall, the competition was a very gentlemanly operation. The crew chief was allowed an hour to turn his bird, during which time the pilots were tested. One bird landed code 3, but it was quickly fixed, and all competitors proceeded to a leisurely lunch.

The only people that really had a hard afternoon's work were the Q.C. Inspectors. These professional people were guests, invited from the Minnesota Air National Guard on the other side of the airfield. In this first trial competition, the three guest inspectors from the 148th Tactical

Reconnaissance Group (TAC), MSGT Kenneth R. Johnson, MSGT James W. Greenfield, and TSGT Lynn Gressman, impressed every observer with their truly professional performance.

The Q.C. Inspection was conducted IAW inspection criteria as outlined in AFM 66-1, Chapter 3, for a BPO QVI (Quality Verification inspection). Basic Post-flight Workcards, IT-33A-6WC-1, dated 30 April 1976, cards B-001 thru B-015, were used.

Discrepancies were recorded on AFTO Form 781A. The discrepancies were identified as to category and points assessed accordingly by major and minor discrepancy, as follows:

Categories I, II, III, V and VI with major discrepancies (Red X) were assessed five points each.

Categories I, II and III with minor discrepancies were assessed three points each.

Categories V and VI minor discrepancies were assessed one point each.

The aircraft appearance competition was a very detailed one. Each inspector awarded up to eleven points to each aircraft for general appearance and cleanliness in each



of the three following areas: cockpits, interior areas (gun bays, wheel wells, speed brake wells, plenum chamber, and flap walls), and external airframe surface.

Two Command Pilots from Division Headquarters judged the aircrew beauty contest. Each evaluator pilot awarded up to five points to each competing pilot and crew chief for such things as haircuts and bootshines, condition and adequacy of flying clothing (decorations were not a factor) and personal equipment. Since Life Support evaluators were not available, the pilot evaluators confined their personal equipment inspections to the five mandatory items, and to the aircrews knowledge of where these items were located. Any equipment shortage or basic lack of knowledge on the part of the crew chief was naturally charged against the pilot who should have insured that his passenger had what he needed, and knew what he had.

During competition planning, there were serious questions as to where the point value emphasis should be placed. Because of the inter-relationship of all factors involved in a safe flying operation, there were no easy answers. Therefore, the point weights were somewhat arbitrary for this test competition. Regardless of scoring questions, enough useful lessons were learned to make the whole exercise very worthwhile.

The basic impression of all observers and inspectors, was that these were really beautiful airplanes. It was obvious, as the aircraft arrived, that they had received a lot of tender loving care. The discrepancies that were recorded attested more to the professional competence of the inspectors than to significant problems on the part of the competing units.

The competition was tough, as the final scores attest. The winner scored 462 points of a possible 500. The other competitors scored 426 and 423 points, respectively.

The winner was the 191st Fighter Interceptor Group (Michigan ANG) of Selfridge ANGB, Michigan. The winning crew was 1Lt Jerry Fedirko and TSgt Clifford Dunlap. A revolving

trophy and individual certificates will be presented during the next unit training assembly.

Are there other T-33s of a quality comparable to those aircraft already seen, still lurking within the division? The rule is: a unit cannot use the same

airplane or crew twice in a row. You can be sure of one thing though, the word will get around, and the competition will get even tougher, which means that the birds and the guys that fix and fly them will get better and better. ★



Winning crew and aircraft. 1Lt Jerry Fedirko, pilot; TSgt Clifford Dunlap, crew chief.



QC Inspection



**W**inter is here, the miniskirts and hot pants have RON'd farther south and man's fancy has long since turned to football — collegiate and professional — TV type.

The Saturday, Sunday and Monday games have been with us for some time but we'll ignore the last if you wives will lend an ear and accept some rules of behavior during this most important period in your husband's year — BOWL TIME!

As a matter of fact, you may be at an advantage during the time that your flying "crewman" has his eyes locked onto the "boobtube." Keep your marriage and flying-type husband safe by following these fall safety rules.

Rule 1: Do suggest that your spouse buy a portable TV set so that he can take it to any part of the house to watch the game(s). You will have the main living-room area and the console TV for

yourself to enjoy.

Rule 2: On Sunday attend an early church service, if it is your desire, so he won't get restless in church when kickoff time is near and the sermon is still in progress. You may save the price of a fine for a speeding ticket also.

Rule 3: Remind him what time and channel the football game is on (check the Saturday or Sunday newspaper). He will already know the time, but he will get the idea that you are interested in his pleasures and he will make it a point to be interested in yours.

Rule 4: Serve him a snack during the game. Be sure it's a small one — don't contribute to the midriff bulge. If he insists on seconds remind him of that coming session with the flight surgeon.

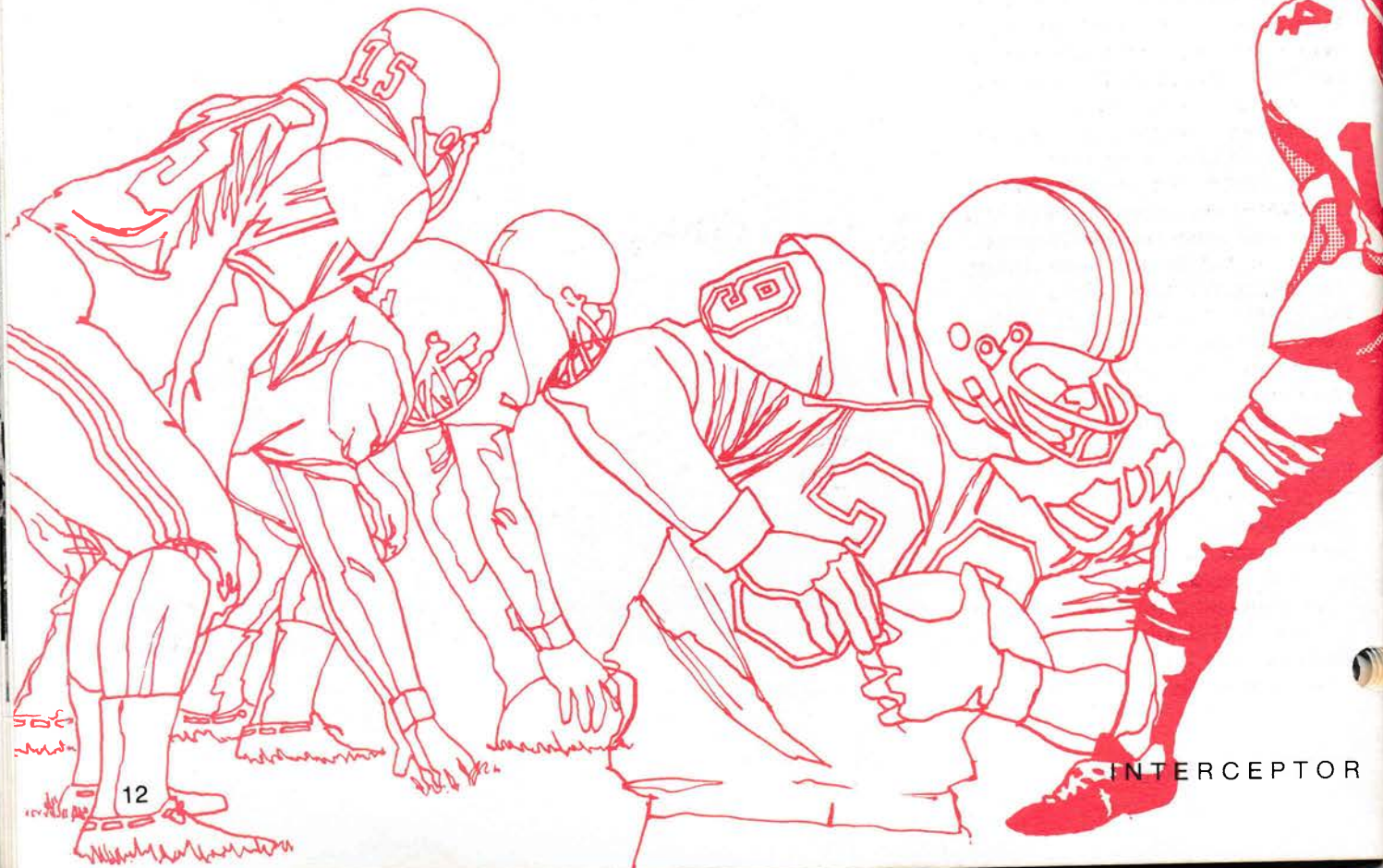
Rule 5: Plan dinner to begin after the games are completed.

Rule 6: After the games ask him who won. You could care less, but he will enjoy telling you all about who did what. If you really want to gain points, remember the name of the quarterback for one of the teams, any one, and ask "old tired eyes" how the player performed.

## Wives' Bowl Game Safety Rules

by **Sergeant First Class Herbert Denmark, USA**

Air Traffic Control Management ● Airfield Support Group  
U.S. Army Aviation Center Ft. Rucker, Alabama





Rule 7: Give your mate 30 minutes to settle his nerves after the final gun. He can get quite involved in a close game and really be pooped afterwards.

Rule 8: Watch the games with him. Try it, you may like it.

Rule 9: Don't ask him to go for milk, bread or other nonemergency items during the game.

Rule 10: Don't let the children play their rock and roll records close to where dad is watching the game. After all, they have five days a week to rock — dad has only weekends for football.

Rule 11: Don't try to talk about family problems with hubby during the game. If you have something important to discuss, this certainly isn't the time for a conference.

Rule 12: Don't call him outside to stop the children's quarrels. The Bears may be on the Packers' one yard line with fourth down coming up. If he has to miss this play, the children may really get an unfair settlement imposed upon them.

Rule 13: Don't ask silly (to him) questions like, "Why are they

playing in the rain?" "You said there were two minutes left to play in the game ten minutes ago. What happened?"

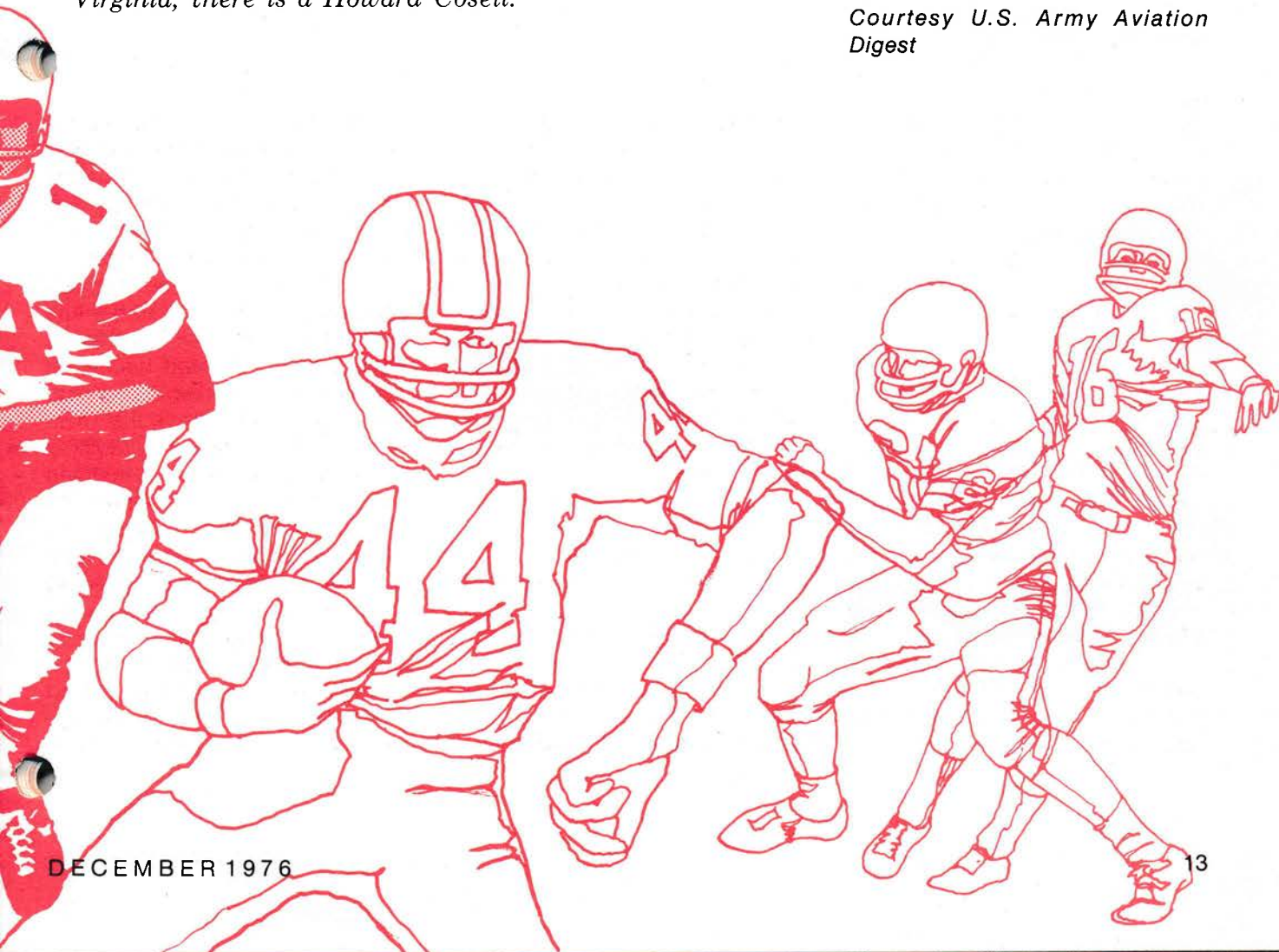
Rule 14: If you must talk wait for a commercial. Then tell him you love him.

Rule 15: Don't put on your sexy minidress and try to lure him away from the game. *Please don't ask*, "What is more important, the game or me?" You know that you are his most prized possession so don't bug him now.

All week long he has worked in an accident prone environment but very few accidents can happen to him while he is sitting in his home watching a football game. Make sure you follow the safety rules and keep your flying husband in a safe and relaxed environment on the weekends and holidays. ★

*Courtesy U.S. Army Aviation Digest*

*In the belief that domestic tranquility promotes safety, INTERCEPTOR presents some watch (and listen) words that may make your holiday football viewing more pleasant. Any other use of these rules without the express consent of the guy who bought the TV is forbidden. Yes, Virginia, there is a Howard Cosell.*





# FLIGHT FLAK

## “ALMOSTS”

By Flight Safety

**T**his month's Memo refers to some "Close ones" and their potential value as food for thought. A brief review of these mishaps shows that some of our aircrews have been provided a test of their ability and demonstrated above average "stick sense."

Assume that you are fortunate enough to be flying a F-106 on a clear night — you start a combat descent to attack a low altitude target and suddenly the dart seems to get a mind of its own! A severe left yaw accompanied by rapid uncommanded left roll and the first thought that crosses your mind is ? If you said, "Speedbrakes in," before you experience secondary hydraulic failure or an out-of-control condition — you win the free trip to beautiful, exotic Callaway Bayou for good

thinking! Two of our pilots have recently experienced the loss of one speedbrake. Good shows by the jocks!

In both cases the left speedbrake was lost because the left-hand lower hinge failed. When the speedbrakes were opened, the left speedbrake rotated outward and upwards tearing loose from the hydraulic actuator. The 1F-106A-3 installation and maintenance procedures are being revised.

Exceptional airmanship was also demonstrated during events following the inability of a T-33 and, in a separate occurrence, a F-106, to get all the rollers in a down and locked condition. Both aircraft had one main up with the other two down. The Lockheed Racer was landed on a main and an ECM pod. Result — no damage

to the plane! The six wasn't quite as lucky but the pilot still handled a multiple emergency situation expertly and limited the damage to minor classification. Both could have been a lot worse!

The T-bird failure was attributed to a piece of rubber line on the left main gear door retract hose coming off and becoming lodged in the restrictor. You guessed it, flow from the main gear door actuator was blocked resulting in the gear remaining up. Food for thought: While you cannot agree with success, the dash one states, "A wheels-up landing is preferable to a landing with one main gear retracted." Obviously, consideration must be given to terrain adjacent to the runway, weather, fuel remaining (foaming time), and pilot experience. The F-106 landing gear

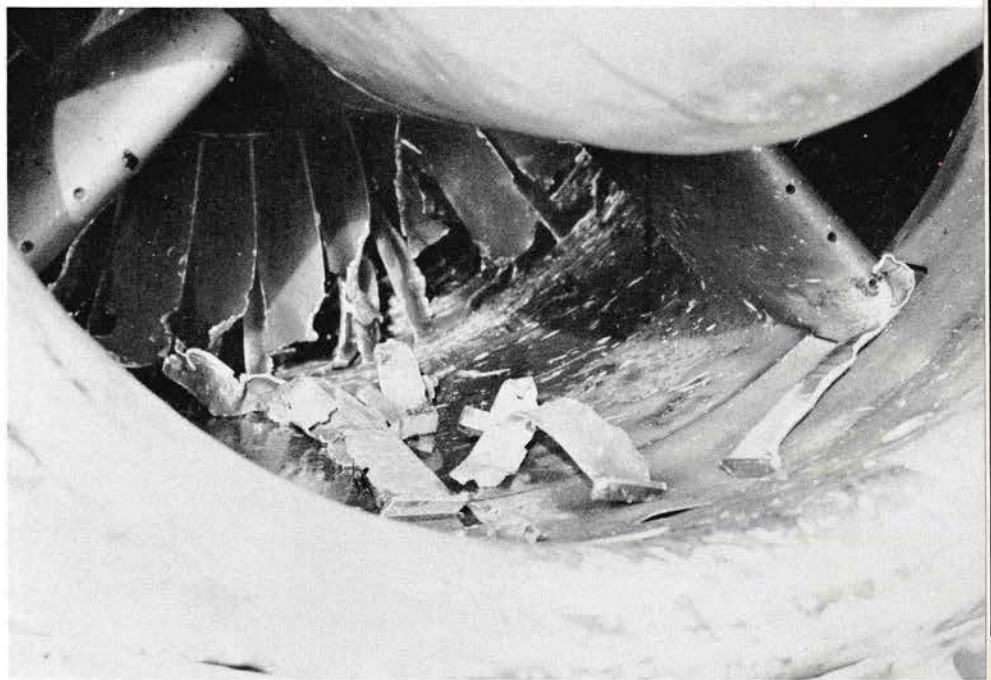
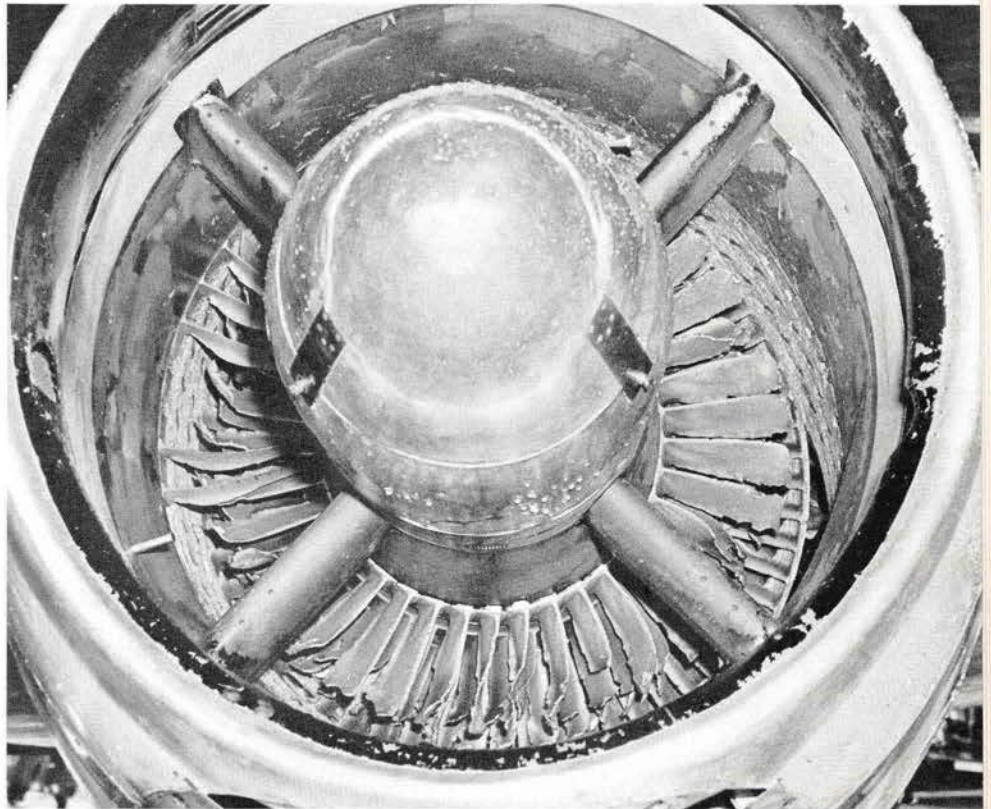


problem is discussed in the "We Point With Pride" article in the November issue of the INTERCEPTOR.

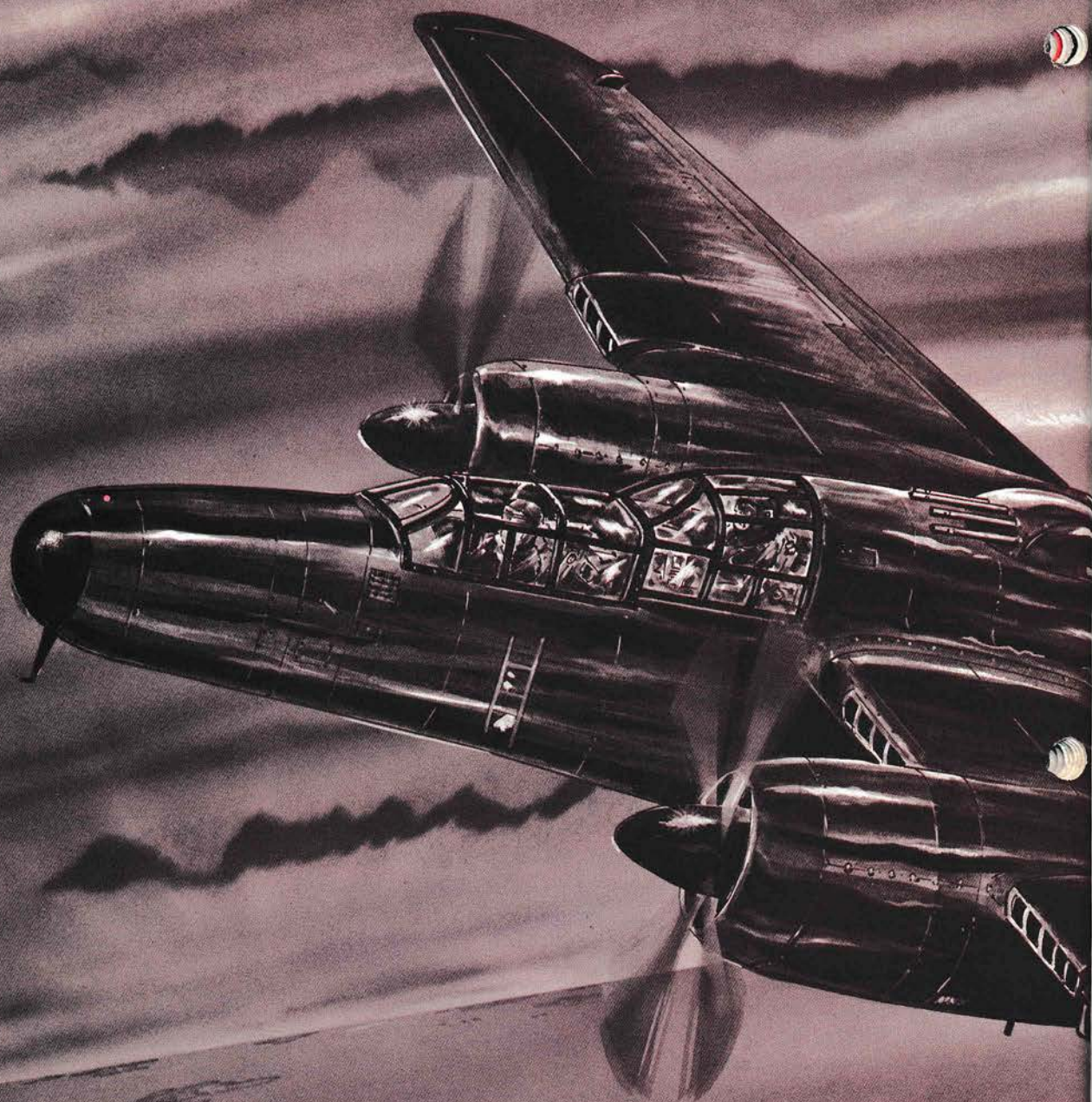
"That'll teach 'em to ask for single engines!" Not entirely true — it's happening to the multi-engine crowd too. Imagine a B-57 on a cold Alaskan day, add lotsa thrust from full mil power way out there on the wings somewhere, and — what the — are Eskimos using 57mm?!! Your engine successfully liberates major portions of its insides from whatever was holding them. You now have lotsa thrust from full mil power way out there on **one** wing and smokin' holes in the other, and in the tail, and the horizontal stab — etc. A heavy-weight, single-engine landing for real isn't much fun under the best of circumstances. A wet, slippery runway compounds the hazard. Again, a good job by the crew!

The B-57 J-65 engine essentially consumed itself and spit out a few nasty parts that punctured the airframe in various places. The technical reason for the failure was a broken compressor rotor blade retainer aft tab. This failure allowed the blade to move forward into the inlet guide vanes, demolishing them. The inlet guide vanes then passed through and battered the remainder of the compressor. This particular engine failure did generate some aggressive TCTO action that has identified some 40 engines with compressor defects.

"Food for thought" — Sure. "No sweat, that's what I'd have done" — me too. "Close ones" — no doubt about it! Our crews are making some great saves and it's "no time to let down."







**NORTHROP P-61 BLACK WIDOW** The P-61 pioneered the field of aerial combat at night, being the first airplane designed exclusively for night fighting. The XP-61 was first flown May 21, 1942, and production P-61As began appearing in October 1943. On July 7, 1944, the Black Widows recorded their first kill in the South Pacific. The plane carried radar in the nose, enabling it to seek out the enemy at night. An unusual feature of the P-61 was the then radically new spoiler-type aileron which permitted the use of near full-span flaps, resulting in the ability to operate from small fields. The P-61B carried a crew of three; a pilot, radar operator, and an aft gunner. It was powered by two 2,250 hp Pratt and Whitney R-2800-65 Double Wasp eighteen-cylinder radial air-cooled engines. It had a maximum speed of 366 mph at 20,000 ft, maximum range of 1,900 miles with maximum external fuel and a service ceiling of 33,100 ft. Wing span was 66 ft, length 48 ft 11 in, weight 21,282 lbs empty, and 29,700 lbs with normal load. Armament consisted of four 20mm cannon and four 0.5-in guns in a remotely-controlled dorsal turret. In addition, the slightly larger wing of the P-61B was strengthened to take four bomb shackles for loads up to two-ton. Either bombs or external fuel tanks could be carried on these shackles.





*James G. Thompson*



# GHOST WRITERS

IN DISGUISE



Ghost Writers is dedicated to bringing *your* anonymously shared experience, close call, war story, etc., to our readers. We encourage each of you — pilots, crew chiefs, specialists, everyone — to share your true learning experiences with us. We'll do the writing job for you. Just send a letter, a tape or make a phone call to **INTERCEPTOR Magazine/Ghost Writers, CINCAD/SED, Ent AFB, CO, 80912; GPA 692-3186, SAGE 530-3186**. You need not give your name and we guarantee *complete anonymity!*

## PRACTICE DYING

**A**fter finishing a typically tough day at my desk last week, I cheated death on the roadway and arrived home safely. Just as I'd stretched out on the sofa to peruse the evening paper, my beautiful wife (BW) passed through the area and established contact:

BW: "Your son hit a truck this morning during his driving class."

Me: No verbal response. Inside — mild panic. Blood pressure: 190/140 and rising. Respiration rate: zero. Palms: clammy and cooling. Knuckles: bony white. Diagnosis: clanked.

BW: "He was in the simulator and the teacher programmed a camper pickup backing out a driveway into his lane. Mark was going too fast to stop and the machine recorded the collision as 'substantial — probable injury producing.' He thinks he was tricked into going the legal speed limit by what looked like a clear road, then having a truck back into him out of a 'dumb driveway.'"

Me: Long sigh. No verbal response, but breathing restored. Mental pictures of hospital rooms, car repair

bills, uninsured motorists, and insurance policy premiums transitioned slowly back to reality, my wrinkled newspaper and an interest in the weekend's football lineups.

For a second — somehow it seemed longer — I'd been caught up in the make-believe world of simulators again. This time it was ground-based, and in a secondary manner, but it got me to thinking about the cokes I used to win from a group of young flyers who lacked humility. They viewed simulators as DOD creations for reducing technician unemployment



— with **ab-so-lute** minimum benefits for them what already knew all there was about flying.

Their songsheets had the same tunes — you can't do things in a simulator you can in an airplane; the feel is different; there's no realistic motion; cockpits don't look the same; switches are in the wrong places; instruments are different, or located differently, or respond differently. The less articulate said something like, "I hate those #@%\$\$\* things."

You say you never said anything like that? Really? Well, I really didn't think so.

But they did. At first, anyway. Until we played the "game."

The bet: A coke, saying that "Ace" couldn't safely complete a prebriefed simulator mission with me at the console. If he managed to make it without committing at least one major error — you can do that sometimes and get away with it — the ante became a milk shake of his choice. If the accident was fatality-type, I got the milk shake. Usually, though, the mission was a practice crash and we stayed mainly with cokes.

Ground rules would be agreed upon: No catastrophic system failures that guaranteed crashing. No "simulated" tornadoes. No WOXOF'ing the destination airport *and* the alternate. No make-believe sabotage. No simulated mid-air. Just a routine, active air-type simulator mission, with known IRF conditions enroute and at destination and with some realistic systems malfunctions thrown in. Questionable inputs or results were to be resolved through binding arbitration by an agreed upon third party.

It was a motivating atmosphere — console vs cockpit — and I never failed to learn something every time about people, aircraft, psychology . . . and accidents. It's hard to believe how many of those guys busted their bets with little or no help (?) from me.

One of my favorite situations in-

involved a minimum fuel GCA with the controller saying about halfway down final, "Dum Dum Three Three, tower advises they have lost threshold lighting . . . request you execute missed approach and contact approach control on three-one-eight-four . . . over." Something like four out of five guys would actually start going around before they realized they didn't have enough gas for another try. By then it was too late to continue the original approach.

Unrealistic? Man, I've been there. I was with a guy on a weather GCA after a diversion into El Paso. He had the power coming to mil after a transmission almost identical to that one. We were getting down to a fumes-for-fuel state so I took control and continued the approach — while explaining we could land very well without those lights.

I varied the reasons for the go-arounds — sometimes a SAC tanker wanted to take the runway for a timed takeoff; sometimes it was a failure alarm signal in the tower for some remote navigational aid — I think I could have said the GCA troops wanted to take a coffee break and some guys would have gone around.

Flameouts for poor — or no — fuel management were common. Many seemed to think that simulators had perpetually full tanks. Some gamely asked for IFR vectors to a high key position for an IFR flameout pattern attempt. Sporty but not recommended.

Before zero-zero capability, I won a few milk shakes from guys that wound up ejecting too late — too low.

Confusion and collision with the you-know-what caused the downfall of many who made enroute descents, then lost radio down in the toolies. I'd always given them radio out procedures prior to their starting down, but few would remember them well enough, or soon enough.

Mix an aircraft malfunction with a clearance change, or adverse weather

trends, or pilot saturation, or marginal communications, or conflicting instructions — or just the frustration factor of knowing "Fate" was snickering at the console as the situation grew blacker and you can see why I lost very few cokes. And never a milk shake. Arbitration was never required either.

Most of them lost — but it was a simulated loss. Those who realized that usually became believers. For the more cocky ones, I sometimes suggested we simulate next-of-kin notification. They said that was sick. I suggested that dying was sort of sick too.

In the end, I think we all got to be better aviators — seeing how simple mistakes, misjudgments, and misfortunes can combine to bite you in the/your end.

Some of those troops are still around. Some have joined the new crowd in bemoaning increased simulator requirements — and further increases coming as the "real flying" gets more and more costly. Hopefully, some of the pain will be eased by more realistic simulation, better instrumentation, improved attitudes, and "imaginative consoling."

Personally, I don't think my son's driving instructor tried to "trick" him at all — just emphasized that what's legal isn't always what's safe; that there's more limitations to a situation than can be indicated on a road sign.

The "dumb driveway" didn't rise up maliciously and bite him either. He might not have liked it at the time, but I think he knows he'll be a better driver because of that simulated accident. He's seen — I hope — that "practice dying" in the simulator can help prevent the real thing.

But you already knew that didn't you?

You didn't? You mean you don't?

Who do you like in the ball games this weekend? And by the way . . . are you thirsty? I feel like having a milk shake.

# 1976

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# INSPECTOR'S VIEWPOINT

## OPERATIONAL READINESS INSPECTIONS

BY LT COL DICK DUFFY

**A**s most of you know by now, the ADCOM inspection philosophy has undergone substantial changes. These changes have been generated by past problems identified during ORIs. Some of the primary problem areas were:

- Inspections were event oriented, lacked realism, and were not conducted under high stress/sustained operating conditions.
- Command and control facilities were not evaluated concurrently.
- Unit capability to perform its wartime mission was not tested.
- Units trained to ORI criteria.
- Management and utilization of resources were not adequately evaluated.
- Decision making process was often preempted.

Although not all inclusive, there were six salient points considered when the new philosophy and concept were developed:

- Promote the theme of constant readiness to meet peacetime through wartime mission requirements.
- Use existing directives and OPlans as criteria to evaluate unit capability.
- Evaluate the capability of the unit to perform its assigned mission(s), emphasizing resource management under high stress/sustained operating conditions.
- Apply realism to ORI scenarios to the maximum extent possible considering peacetime constraints.

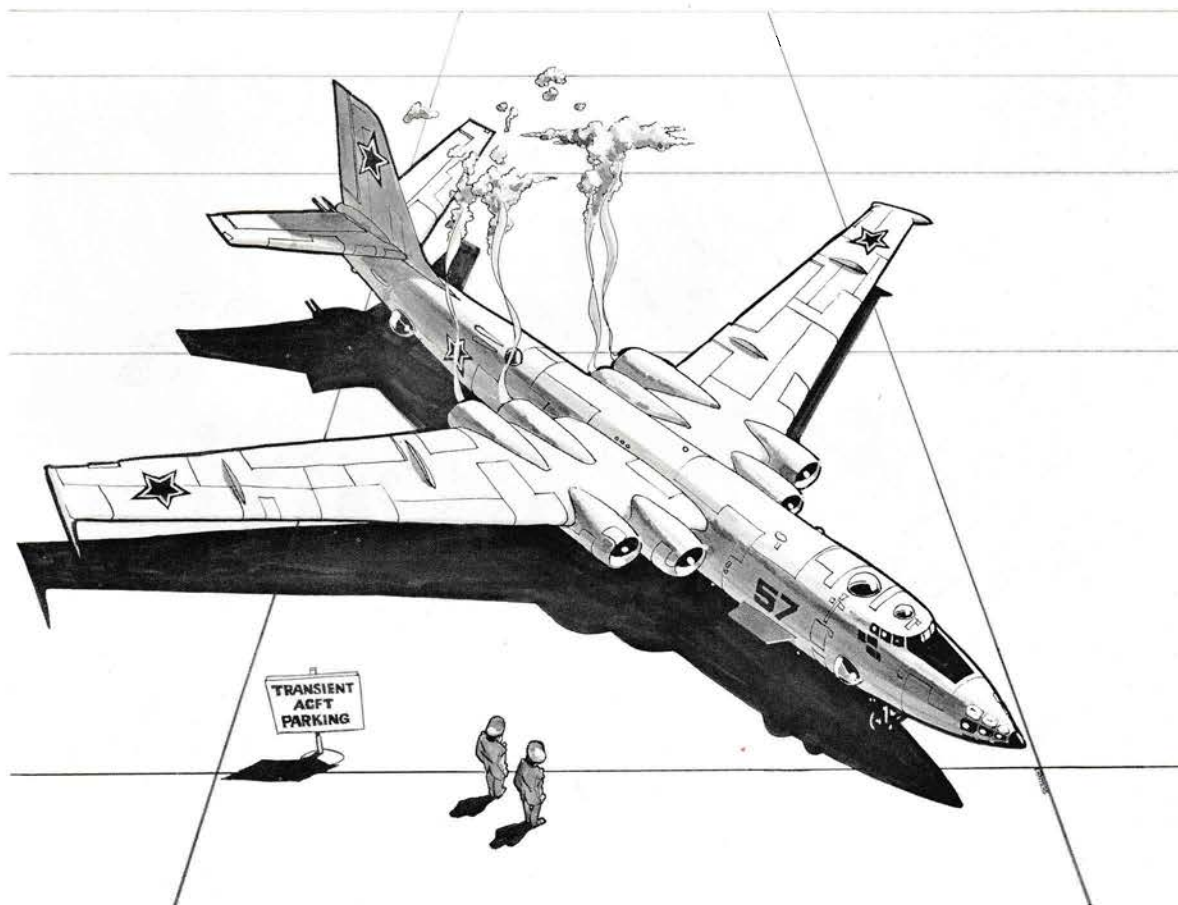
- Train as we might be expected to fight.
- Realistically report unit capability to meet designed operational capability (DOC) requirements.

Under existing directives and OPlans, units are tasked for wartime and contingency requirements. In the future, these requirements will be evaluated and separate ORI criteria will not be established when it is not required. Also, as in any wartime environment, unit capability will be evaluated emphasizing resource management and utilization. Training then should meet peacetime through wartime mission tasking. Statements of designed operational capability will be accurately reflected and reported.

The Air Force philosophy for operational readiness of its forces will be implemented in the new ADCOMR 123-6. This regulation will provide guidance for conduct of ORIs, integrate NCI requirements, where appropriate, and revise the previous policy of conducting management effectiveness inspections (MEIs) concurrent with ORIs. In the future, MEIs will be conducted after termination of the ORI, if required.

In the new ADCOMR 123-6, the general activities or functional areas will be evaluated as they affect direct mission accomplishment. Academic test results will be used to determine the state and depth of training of unit personnel. The broad spectrum of functional areas, to include subfunctional areas, will be rated. Pass/fail criteria will be applied to these areas as they affect unit performance of its assigned





"Wait a minute . . . aren't our stars in a circle with bars."

mission. The phases of the inspection follow logically from peacetime through wartime and include contingency mission tasking. Since these phases flow generally in order, the inspection process will be one continuous evaluation with many interrelated activities rather than event oriented as in the past.

The activities to be evaluated in a combat unit ORI will be divided into four phases:

#### **Phase I, The Peacetime Mission**

The unit's alert force will be tested on its capability to perform the air sovereignty role under peacetime through transition to wartime rules. Peacetime identification and escort procedures will be evaluated. Rules of engagement problems will be presented and aircraft will be allowed to engage when and if appropriate.

#### **Phase II, Force Generation**

The unit's capability to generate its forces to support wartime mission tasking will be evaluated.

#### **Phase III, Employment**

This phase will test the total unit capability to

accomplish its assigned mission as an integrated unit. Resource management and utilization under stress and sustained operating conditions will be evaluated. Wartime planning factors tempered to exercise conditions will be used for sortie generation. System effectiveness to put the weapon on the target will be heavily weighed. Regeneration of aircraft and weapons loading will be evaluated as well as unit capability to operate within the command and control system under Level 1 and Level 5 conditions.

#### **Phase IV, Mobility**

Both wartime and contingency mission tasking will be evaluated. Contingency mission tasking, such as that required under OPLAN 3333, will be separated from OPLAN 3000 activities and evaluated separately. This area was discussed in a previous article.

The test will be tough; however, if your unit meets its peacetime through wartime tasking, and your reported UCMS capability is verified, YOU PASS THE ORI!





# check points

✓ Temperature up-gear up-aircraft down. A fighter pilot received burn injuries because his aircraft slid over about one mile of runway, grass, etc., and caught fire. The sliding stop happened because he retracted the gear early, and the aircraft settled back to the runway with the gear up. he retracted the gear early because he wasn't used to taking off in high temperature (hence, low density altitude) conditions and he didn't insure a positive climb before gear retraction.

Hot weather is still with us in some areas. Remember, aircraft acceleration and climb performance will be more sluggish. That "positive climb/safely airborne" point in your takeoff with occur later than it did during your take off from a colder climate.

For those of you stationed "up nawth," be especially cautious on takeoffs from those cross-country stops where the sands blow and the palm trees grow. (ATC/SEOD)

✓ It's cold up there. As the T-37 was being leveled at FL 230, altitude excursion caused the instructor to attempt to settle the aircraft. As he was accomplishing this, he noticed that the trim input was ineffective and that the control stick was binding in position. Suddenly the trim took effect and the aircraft nosed down. The pilot noticed that if the stick was kept in motion, minimal binding occurred. An immediate descent was begun and the problem ceased below 15,000 ft MSL (freezing level). After the aircraft landed, water was found pooled in the left stick well. The water was removed.

If T.O. 1T-37B-6WC-1, Preflight, Card Number 1-003, Item Number 10, CONTROL STICK WELLS FOR PRESENCE OF WATER, had been accomplished, maybe the pilot would not have had this problem. Ed. Note: This is an applicable problem to many ADCOM aircraft as well. Check with your experts! (ATC/SEOD)



Phantom Philips LID. At the completion of the before-takeoff checks, the Phantom's canopies were closed, and the aircrews checked for "lights out and stripes aligned." As the F-4s were on takeoff roll at 160 knots, lead's canopy departed his aircraft. Takeoff was aborted, and lead engaged the departure-end BAK-9.

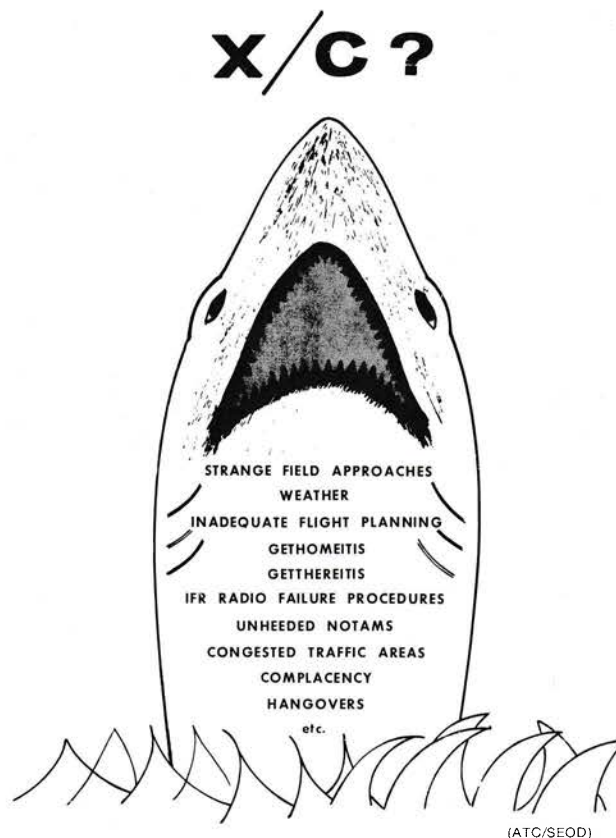
Six days prior to this incident, the same aircraft's canopy had been written up for closing in 10 seconds. Normal canopy closing time from full open to locked, lock-out is 4 to 9 seconds. The write-up was not corrected at this time. The aircraft had flown two missions between the write-up and the canopy loss. Investigation revealed that the canopy seal pressure regulator was found to be out of tolerance after the incident. This allowed the canopy seal to inflate prior to canopy locking. Additionally, the left aft/overcenter link was out of adjustment and would not allow the roller/overcenter lock combination to mechanically lock the canopy. The canopy unlock light microswitch was out of adjustment which allowed the canopy unlock light to extinguish even though the overcenter link was not locked. The only thing that was holding the canopy closed was the pressure on the canopy actuator. During rotation, the aerodynamic forces overcame the actuator pressure and the canopy departed the aircraft.

One important facet of this incident is the fact that maintenance corrective action was not taken on the original canopy write-up. Had the canopy abnormality been thoroughly investigated, Uncle Sam would have saved \$6,575. All canopy malfunctions should be investigated prior to the aircraft's next flight. It can prevent a lost canopy, a lot of money, and possible aircraft loss. (TAC/SEOD)

The function of a Safety Officer. As nearly everyone knows, a Safety Officer has practically nothing to do except . . .

- Decide what should be done; try to get somebody to do it; listen to all the reasons why it should not be done, or should be done differently, or should be done by somebody else.

- Follow up to see if the thing has been done; discover that it has not; inquire why; listen to excuses from the person who should have done it.
- Follow up again to see if the thing has been done; and conclude that, as long as it has not been done, perhaps it should be left as it is.
- Wonder if the time hasn't come to identify the person who cannot do a thing right; reflect that he probably has a wife and a large family; speculate that his successor would likely be just as bad — and maybe worse.
- Consider how much simpler it would have been and how much better the thing would have been done if one had done it oneself in the first place.
- Reflect, sadly, that one could have done it right in 20 minutes, and yet, as things worked out, one has had to spend three days investigating why it has taken three weeks for someone else to do it wrong. (TIG Brief)



# 'Twas the night ...



*'Twas the night before Christmas and all through the barn  
Not a creature was stirring, they were waiting the horn.  
The Dart was nestled all snug in its bed  
While my Wingman and I were asleep like the dead.  
When out in the lounge there came such a call  
That I sprang from my bunk and ran into the wall.  
I recovered my senses and asked, "Why the heck  
Is a fuss being raised, with the clouds on the deck?"  
"We've picked up a stranger just south of Goose Bay,  
And it looks like he's lost 'cause he's squawking 'May Day.'"*

*We ran to our birds and took off, post haste,  
We knew that there wasn't a second to waste.  
Soon, Joe had a contact and I thought I would die  
When I spotted this guy, with a sled, in the sky!  
We called him on guard and he answered us quick,  
We knew right away that this must be Saint Nick.*

*"My problem's not bad," he said between "Ho's,"  
"I've shut down three reindeer and lost Rudolph's nose."*

*"Don't sweat it, ole buddy, or lose all your cool,  
We'll lead you back home for a real ADCOM Yule."*

*He tacked on my wing and tucked it in tight  
As we circled for home in the darkness of night.*

*We rolled out on final and I called GCA,  
"I'll take it around, full stop for the sleigh."*

*He touched down too hot and his drag chute just streamed,  
But thanks to the barrier, his "bird" wasn't "creamed."*

*Our troops were astonished, but soon started to get  
The reindeer thawed out and the barrier re-set.  
It wasn't too long till he was ready to go  
And continue his mission despite all the snow.  
He thanked us all quickly and sprang to his sleigh,  
Then whistled his steeds and went on his way.*

*We've not told this story of the man or his team  
Because we weren't sure that it wasn't a dream.  
But each year at Christmas we wake and we find  
That our barn has been entered by a friend who's most kind.  
Though his schedule is crowded, he's never forgotten  
The night that we helped him in weather so rotten.  
So he still leaves us presents and a big Christmas tree,  
With the lights and baubles, it's something to see.  
And he's always heard calling 'fore he passes from sight —  
"Merry Christmas to all . . . and to all a good night!"*

*By Lt Col "Woody" Bays*



# THE WAY THE BALL Bounces

## ON TOP OF THE HEAP

### ACCIDENT RATE

	ADC	ANG
1 Jan - 31 Oct 76	3.6	5.1

MO	ADC	MO	ANG	MO	ANG
65	318 FIS McChord	63	144 FIG Fresno	32	102 FIG Otis
51	84 FIS Castle	46	142 FIG Portland	29	120 FIG Great Falls
45	57 FIS Keflavik	43	119 FIG Hector	28	177 FIG Atlantic City
34	48 FIS Langley	39	107 FIG Niagara Falls	16	191 FIG Selfridge

**ACCIDENT FREE**

### CUMULATIVE RATE

ACCIDENTS FOR OCT	CUM TOTAL
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### BOX SCORE

RATE — MAJOR ACCIDENTS PER 100,000 FLYING HOURS

ALL RATES ESTIMATED

MINOR ACCIDENTS THIS PERIOD — 1

MINOR ACCIDENTS CUMULATIVE — 2

JET	ADC ANG		ACCIDENTS FOR OCT						ADWC	AFI	46	ANG
	ADC	ANG	20 AD	21 AD	23 AD	24 AD	25 AD	26 AD				
CONV	0	0										
F-101	32.8	0							1			
F-106	2.9	4.3				1						1
F-4	0											
T-33	3.6	11.7							1			1
T-37	0											
B-57	0	16.4										1
EC-121	0											
OTHER	0	0										



MAINTENANCE  
ENGINEERING  
HQ ADCOM



## Bolts From The Blue



### DRAG CHUTE FAILURES

by CMSGT T. C. Mitchell and SMSGT R. L. Nicholas

**D**uring the past couple years HQ ADCOM has become deeply concerned over F-106 drag chute failures. We are aware that the drag chute plays a very important part in aircraft landing, especially in an emergency situation. Personnel involved in maintaining drag chutes and drag chute systems should be made acutely aware of this and insure that all packing, adjustments, and installation procedures are in accordance with published tech data.

The F-106 drag chute system is a relatively simple system, yet we continue to have incidents of drag chute failures. Most incidents are attributed to either maintenance, installation, or packing.

During maintenance on the drag chute system, unless each and every instruction in the tech data is followed to the letter, you are asking for a failure incident.

Proper training of personnel in correct drag chute maintenance

procedures is the key to successful deployments. In this area your Air Force Engineering and Technical Services personnel can play an important role. Classes should be set up to cover your needs, and the supervisor should insure that personnel attend these classes prior to performing any work on the drag chute system. This training not only insures personnel are taught the correct procedures in maintaining the system but it also establishes standardization.

From 6 January 1976 — 30 September 1976, ADCOM has recorded fifty (50) drag chute failures. Twenty-two (22) of those failures have been attributed to the pilot chute. At this juncture it is pertinent to discuss "why pilot chutes fail." T.O. 14D1-3-112 is the technical manual which covers the maintenance instructions for the A28A-1, F-106 deceleration parachute. Paragraph 2-13 is very explicit on

what is to be inspected on the pilot chute. However, as we know, this inspection is a somewhat subjective evaluation as to whether the pilot chute is serviceable for another flight. Some of the failures have been attributed to weak pilot chute springs. The test requirement is 30 pounds when compressed just below bottom of top cone hole. So watch this one — if in doubt — replace it. The same applies to damaged pilot chutes. Determine repairs to be done, but also determine if the repairs could cause a failure because of location of the repair. For example, repairs made where the pilot chute canopy material is placed on top of the inertia plate should be tried 2 or 3 times in the pilot chute compartment. This will insure the repaired area does not interfere with pilot chute deployment. Another critical area is the packing of the pilot chute in the pilot chute compartment. Paragraph 4-31 covers



this procedure. The first thing you see on page 4-7 is a "warning," which states: "Instructions for packing pilot chute must be strictly followed. Failure to comply with these instructions may result in malfunction of pilot chute and cause serious injury to personnel and damage to equipment."

It might be a good idea to post this where all personnel in the drag chute section can see it. Paragraph 4-7 is very important. Some of the highlights are: Be sure fabric of vanes, cone and canopy is free of spring; fold and position pilot chute material on top of inertia plate; placing grommet on the top flap (flap opposite lacing cord) over the cone first, and insure pilot chute

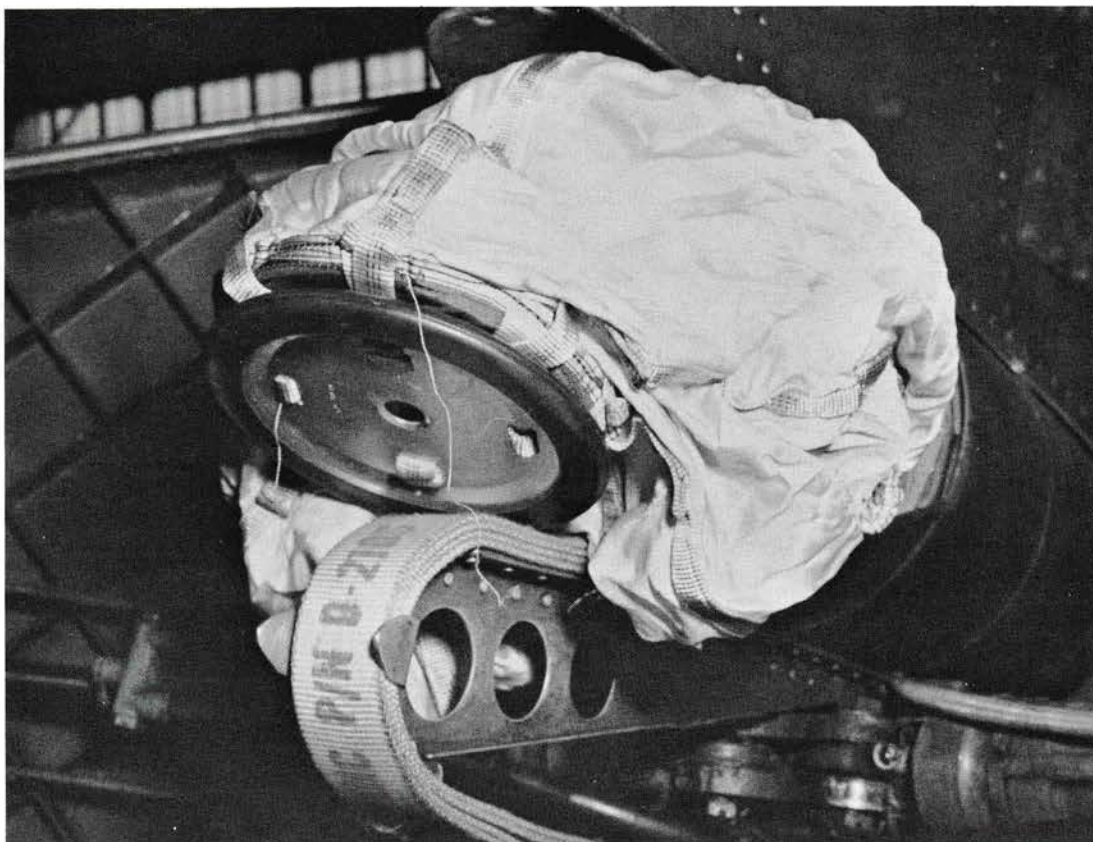
compartment has a definite "doughnut" shape. Proper training in these areas is a must. The important thing is to have a well-packed, serviceable pilot chute. Further improvements to the pilot chute can be made and recommendations have been submitted to the depot. So in the meantime, "if in doubt, replace it."

Installation of the drag chute is not a demanding task, although, if all steps are not completed, it will fail. Instructions contained in the current tech data explain in detail how to install the chute. T.O. 1F-106A-2-2CL-2 contains a checklist for installation of the drag chute and T.O. 1F-106A/B-2-7-2-1 contains the detailed instructions for installation. The

crew chief plus the inspector must be thoroughly familiar with both manuals.


Quality control also plays an important part in eliminating drag chute failures. By their continued surveillance of all phases of drag chute maintenance, they can insure all procedures are standardized.

Whenever you have a chute failure, it is Quality Control's job to investigate why. They must insure that the problem causing the failure is identified and that proper corrective action is taken. Without a thorough investigation and identification of the problem we have not gained anything towards eliminating drag chute failures.



This picture shows a typical bumper ring and riser hang-up. Note no tackings to secure bumper ring to inertia plate as required by T.O.





Cold, crisp winds, freezing temperatures and lots of snow can make December a thing of beauty and a joy forever. They can also change a pleasant flight or car ride into a chilling experience. Make sure that you are dressed for the part should you have to slip quickly over the side or walk a few miles for a can of gasoline. This will be my last appearance as Miss INTERCEPTOR and I can't tell you how much I have enjoyed sharing a monthly safety message with you. You will meet the new Miss INTERCEPTORS starting next month and I'm sure they will enjoy working with you as much as I have. Keep up the good work and . . . fly safe.

Rhonda