

FLY SIM

Interceptor



MARCH • APRIL 1965

"REMEMBER THE ALAMO" ... see page 20

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spotlight

Wings, like parachutes, function best when open.

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OUR COVER

A formation of three "Devils" from the 149th Fighter Group, 182 Fighter Interceptor Squadron, Kelly Air National Guard, graces our cover as they "Remember the Alamo." See page 20.

memo

from the CHIEF OF SAFETY

AN OPS OFFICER IN EVERY COCKPIT

From an operations point of view, it would be ideal to have only the best qualified and experience-tempered aircrews flying our bread and butter fighters. Steady-eyed and confident, they could be trusted to attack mission objectives with unrecovering professionalism. And, more important, with a minimum of supervision and guidance. Think of the savings that would be realized in checklists alone.

Well, there's no denying that every Commander harbors a secret desire for a complete set of experts. The burden of command is so much lighter if you are surrounded by throttle jockeys who have a minimum of ten years command experience, at least 1000 hours in the ramp seat, and a determined desire to return home to the wife and kids after every mission. Gentlemen, the facts of life frequently dictate terms which are not to our liking. Manpower distribution is no exception. Until it is possible for our training organizations to produce an Ops Officer for every cockpit, we have no recourse but to apply our managerial abilities toward creating a totally disciplined, highly qualified defense force. It takes time and considerable effort. There are no instant experts.

Recently, we have received a large influx of UPTs, back seat combat returnees, and others with no ADC experience. This presents a motivation and training problem. It's a motivation problem because of the difficulty in getting across the urgency of a deterrent mission while there's a shooting war going on in another part of the world. It's a training problem because of the necessity to fill unit vacancies as quickly as possible in order to meet operational commitments. The obstacles are large, but not insurmountable by any means. The situation requires constant, vigilant assessment and reaction at squadron level. Maximum support and cooperation from headquarters at all levels is a must. Safety should not be compromised indiscriminately for obvious reasons. Fear of making an honest mistake should not deter supervisors from exercising their hard-earned judgment in a tense situation.

Some of us have seen expertise wax and wane over the course of twenty or more years. In some cases, the wax was handled badly and disaster followed. In the majority of cases, however, redoubled efforts and a determined press on attitude produced a remarkable tradition of fighter squadrons; a tradition of which we can be justly proud. At the heart of success could be found leadership qualities and a training program second to none.

Let's build some more Ops Officers.

COL. H. C. GIBSON

HOT LINE



RUBBER RUNWAYS

The following letter from Headquarters USAF gives guidance on a subject which is considered critical for fighter operations:

"For a number of years the accumulation of rubber on airfield pavements has been a matter of great concern to this headquarters.

"In the later part of 1965 it became known that a product on the market would remove the rubber deposits from pavements. In early 1966 field tests were conducted on this product with satisfactory results. It was then discovered that other commercially available materials possessed the same basic properties and performed equally as well.

"During the test application it was also discovered that a material listed in the Federal Supply Catalog as a carbon re-oxidizing compound was similar in composition to the other materials previously used. This material is listed under Federal Stock No. 6850-385-4324, and identified as MIL-C-25107A USAF.

"A guide specification will be prepared at an early date specifying the above mentioned Military Specification and will give details on method of application. Until such time as the guide specification is published the following guidelines are furnished. The basic material will be mixed at a ratio of one gallon of compound to three gallons of water. The four gallon mixture will normally cover one hundred square feet. Under normal conditions with ambient temperature ranging between 60°F to 75°F the material should be allowed to set for approximately thirty minutes. The time may vary according to the rubber buildup. It may be necessary to broom the area to loosen the rubber prior to flushing with water.

"Experience has shown that rubber removal is adaptable to in-house operation. The material can be secured through Air Force supply channels. The overall cost will be reduced considerably when the rubber

removal is accomplished by in-house effort."

The procedure has been used at Beale AFB for two and a half years.

T-33 BUCKET FAILURE

There are indications that the failure rate of the T-33 Waspaky turbine buckets is on the increase. We agree with those who believe that the primary cause is the extreme thermal shock encountered during engine starts. It is not uncommon for the temperature of the turbine wheel to go from ambient to 800 degrees or more in approximately 15 seconds. As far as we can determine, the T-33 has the highest allowable starting temperature of any aircraft in our inventory. Add that worthless bit of information to the suspicion that some pilots don't bother to write up overtemp conditions and, voila, buckets begin to fail.

For those who haven't thumbed through the Dash One lately, here's a refresher on the overtemp limits:

Condition	EGT	Time	Action
Starting All conditions	900°C	Anytime	Inspect turbine wheels and buckets in accordance with T.O. 11-23A6
Except starting All conditions	718°-800°C; 900°-950°C	20 seconds 3 seconds or more	
Buckets	1000°C	Anytime	

P.S. If charts confuse you; this one says that the engine should be shut down, written up, and inspected anytime the starting temperature reaches 900°C.

T-33 CONFERENCE

A conference was conducted 24-25 February 1969 at SAAMA to discuss an improved parachute and egress system for the T-33 aircraft. The possibility of remodeling or modifying the T-33 seat to give more room was discussed and is presently being evaluated by SAAMA Engineering.



a salute

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

Over 6 Years

162 Ftr Gp, Tucson

Over 5 Years

112 Ftr Gp, Greater Pitt

141 Ftr Gp, Spokane

414 Ftr Gp, Oxnard

Over 4 Years

48 FIS, Langley

114 Ftr Gp, Joe Foss

148 Ftr Gp, Duluth

Over 3 Years

4677 DSES, Hill

Over 2 Years

1 Ftr Wg, Selfridge

5 FIS, Minot

75 FIS, Wurtsmith

103 Ftr Gp, Bradley

147 Ftr Gp, Ellington

169 Ftr Gp, McEntire

4603 AB Gp, Stewart

Over 1 Year

49 FIS, Griffiss

123 Ftr Gp, Jacksonville

343 Ftr Gp, Duluth

52 Ftr Gp, Suffolk

142 Ftr Gp, Portland

551 AEW&C, Otis

119 Ftr Gp, Hector

158 Ftr Gp, Burlington

4713 DSES, Stewart

124 Ftr Gp, Boise

4758 DSES, Holloman

as of 31 January 1969



**OPERATIONAL
READINESS
INSPECTION TEAM
HQ, ADC**

THE RULES OF THE GAME

Colonel Brilliant, Commander of the 66th Fighter Group, Ogishonk AFB, sat pondering a Blue Book. This Blue Book said that his Fighter Group had been given an overall rating of Unsatisfactory on their recent ORI. The Group was rated unsatisfactory for two main reasons. The Weapons System Program Verification Test (WSVPT) failed to meet the criteria outlined in ADCM 50-8 and the OR rate was below 71 percent. The maintenance turnaround and repair times were excessive. What had happened?

Lt Col Flash, Squadron Commander of the 908th Fighter-Interceptor Squadron, breathed a sigh of relief as he sat watching Colonel Brilliant. His pilots had done a good job, even with the Weapons Control System problems they had encountered.

Lt Col Wrench, the Chief of Maintenance, could not understand what had gone wrong. He had insisted on maximum daily utilization of evaluators and his debriefers had assured him that the success rate was good. They had been having some detection, lock-on, and tracking problems with their Weapons Control Systems, but the pilots had usually overcome them.

His previous monthly OR rates had been good and his senior controller told him that, at the end of the ORI computation period, the OR rate was 80 percent above the minimum.

He could explain the turnaround times. The flight line crews had to wait for evaluators to be loaded, and the fuel trucks had all run out of fuel right in the middle of the peak recovery period. The lengthy repair times, well, some of the malfunctions had been sticky.

Everyone thought they had done a pretty good job. What, then, had really gone wrong?

Lt Col Flash and his pilots had worked hard preparing for the ORI. They flew their required missions and fixed evaluators for the maintenance people whenever they could. But did they follow up to find out what the evaluator results were when fixed? Yes, sometimes. Anyway that was the Chief of Maintenance's business.

Lt Col Wrench's "back/trail" program was in good shape prior to the ORI. He had flown enough evaluators to bring everything up-to-date. Three or four aircraft were troubleshooters and had to be refloren a few times to get good results, but they had made it. Had he been checking on the pilots' MAs and MRs? Not really. That was the Fighter Squadron Commander's problem.

What do the rules call for? ADC Ops Plan 6-67 (soon to be 6-70) defines an airborne weapons system as, "The entire airborne interceptor system including the aircrew, electronics, Airborne Weapons Control System (AWCS), Airborne Weapons Launch System (AWLS), airframe, and engine." It also defines a successful Air Weapons System (AWS) verification as, "An AWS verification which produces a WSEM tape or MSR film, with all signals present in accordance with appropriate T.O.s and ADC letters, and a NADAR or Airborne Attack Recorder (AAR) film with an assessed MA in accordance with applicable ADC 51-series manuals. All AWS verifications which do not meet the above criteria will be unsuccessful." Then, a pretty good job done separately by both Operations and Maintenance was not good.



enough when combined and evaluated as a weapons system. Of what value to Colonel Brilliant was a WS that would not reliably fire weapons or a WS that was not pointed at the target when it did fire?

Did Colonel Brilliant, Lt Col Flash and Lt Col Wrench really know the capability of their unit or how it would fare during an evaluation? No, because they did not fully understand the rules.

Why was Lt Col Wrench deceived into thinking his OR rate was highly acceptable? Again, what are the rules? "Aircraft OR rate will be reported in accordance with existing directives and normally be computed from the time of DELTA status until six hours after SNOW MAN/FADE OUT." The average OR rate is what is used, not the OR rate at any point in time. You had to and his senior controller misinterpreted the rules.

What about the maintenance turnaround times? These really aren't any special rules to understand, and a little good judgment and sound management will keep you out of trouble. What then happened to Lt Col Wrench? His maintenance people had four or five evaluators awaiting checkout while they were repairing one. Because of this, his flight line people had to shuffle the available evaluators which caused undue delays. What should they have done? Evaluators should have been checked as soon as possible so that the good ones could have been returned to the flight line for immediate use. Repair actions should have been delayed until all checkouts had been completed. A little better management of releasing vehicles would have precluded all of them going dry the same time. During slack periods, why not fill

or top off some of the trucks even though they have some fuel left in them?

What about the lengthy maintenance repair times? When SNOW MAN/FADE OUT was declared, all the maintenance troops heaved a sigh of relief and relaxed. "It is finally over." They had never received the word that the rules say, "... until six hours after SNOW MAN/FADE OUT."

Consequently, Sergeant Good Joe, the Line Chief, and Sergeant Sparks, the Avionics Chief, let some of their key men go home for a well deserved rest. Haven't they been there for over 18 hours already? As a result, a lack of adequate supervision caused seemingly simple maintenance jobs to degenerate into major maintenance operations. This greatly extended the repair times, and when the average OR rate was computed, lo and behold, it was below 71 percent.

As a famous T.V. show would say, "The story you have just read is true. Only the names have been changed to protect the innocent." This is not the story of one unit. It is a composite of many units. These are only a few of the slips, goofs, misunderstandings or whatever you want to call them that have been observed during evaluations.

How does your unit compare with the 69th Fighter Group and the 66th Fighter-Interceptor Squadron? Remember, it is not enough for you alone to know the rules. Every man in your organization must be made aware of the rules and understand them fully.

TOM WILLIE, Colonel, USAF
Team Captain, ADC ORN Team

EYEWASH



In some ways, the accident rate in MCMLXVIII was a bitter pill to swallow. From a statistical point of view, 5.5 isn't bad for a fighter command which underwent the stresses of a heavy changeover in personnel, the loss of expertise, aging equipment, and increased operational commitments. However, the disappointment rests in the fact that the previous year was highly successful and the first nine months of 1968 promised an even better safety performance, with expectations for a reduction in the rate to 3 point something or other.

We ripped our knickers in October, November, and December. Up to that last quarter, seven aircraft had been destroyed and four received major damage. During those last three months, airplanes were making like moles or submarines with unbelievable regularity with the effectiveness of a sabotage plot. We put nine in the junk pile and mangled two others for a lop-sided finale.

Thankfully, aircrew fatalities were down from 21 to 12, but only because a snow-carrier didn't sugar in as was the case in 1967. When you exclude the 15 men lost in an EC-121 in '67, jet aircraft fatalities in 1968 were up from 6 to 12. Three crewmembers were lost in T-birds and the other nine in fighters. Five of these were crews who didn't attempt ejection because they didn't know that they were about to crash. Six ejected beyond the capabilities of the equipment and one was incapacitated during ejection. A fatality count, no matter how small, is always a matter for concern, because it's the gain evidence that either some crews aren't familiar with procedures or there's some equipment with deficiencies lying around. The potential for greater losses is present. Last year we were lucky in a number of cases, both during successful ejections and emergencies which got on the ground safely. The common scare factor

was the same old delayed decision to eject. Too many jocks rode horse down to the point where everything hadn't been perfect, they would have been knocking on the Pearly Gates. They played it too close to the vest and were lucky one time. If the bird won't start by 5000 feet, why keep trying till 500 feet?

With the exception of three accidents which were undetermined, there was nothing new or different about the cause factors which resulted in the destruction of 18 aircraft and major damage to 8. There never is. Figure 1 gives the breakout and comparison with 1967. A little farther down the road we'll take a brief look at each accident and try to gather up all the marbles. But in the meantime, there are some observations which should be made with honesty. They are based on listening post data.

First, a word about hallowed accident rates. When you turn to Bill Brounce's page and examine

statistics, what are they really telling you about performance? Rates are determined by multiplying the number of accidents times 100,000 (the baseline figure) and dividing by the number of hours actually flown. Without getting into specifics, you already know that the unit which logs the most flying time will be in the most favorable position, other things being equal. An exaggerated example will show why. Each of two squadrons have three aircraft. One squadron flies 10,000 hours of multiengine time and has one prang for a rate of 30.0. The other squadron flies 1,000 hours of single engine time and has one prang for a rate of 100.0. Judging by the rate, you would never guess that both units lost 31-1/3% of their inventory. Furthermore, it would appear that the squadron which flew 10,000 hours had ten times the exposure. But historically, the takeoff and landing phase of flight has proven to be the most

critical in terms of exposure. In other words, the inputs used for determining a rate are so limited that it's not quite clear how it can be meaningful as a performance or comparison factor.

During these tight-belt days, anything above a zero accident rate waters the eyes. The reason is obvious. We aren't getting replacements. With every aircraft we ding in an accident, the mission becomes that much more difficult to accomplish. For instance, we destroyed six F-101s in 1968. That represents a little over 4% of the Voodoo fleet. If replacements aren't pulled out of the boneyard, that's 4% less to work with in '69, no matter how you slice it. Using a round figure of 25 hours per month per aircraft, we come up short some 1500 hours for this year. With 101 pilot experience at its lowest level in many years, the last thing Voodoo drivers need is a reduction in sorties.

Sure, by applying a little extra

effort here and there, we can still back it, but you can't keep doing that sort of thing indefinitely, because eventually something will give. When pressure, from whatever the source, becomes too great, an accident trend sets in with a head of steam that is difficult, if not impossible, to check until it runs its course in its own good time. Preventive measures which are normally effective fail to hold up under invisible stress. The attack seems to come from all sides and no one is really sure where the next weak spot will develop and yield another crunch job. Supervisors, blow their black hearts, thrash around as though they were conducting a Chinese fire drill, trying to put out one brush fire after another. Some get burned in the process. Then, suddenly, as if by magic, the dust settles. When the shouting is over and there's time to think, a period of analysis begins; analysis of what started it all and, equally important, what stopped it all.

It's not an easy task to sit down and try to figure out why a rash of accidents occurred in widely scattered areas with almost precise timing. The usual analysis methods will turn up an educated guess which may or may not prevent the same thing from happening again. Individual cause factors are concrete and can be dealt with on an individual basis. But the common factor is intangible. It's the moving force which plants the concrete factors in the most unlikely places. We believe the common factor can be summed up in one word: pressure. It takes many forms, such as night exercises, a 15-hour work day, DOB operations, overhead flying, pooppy-suit alert, weekend PCF, target support, parts pickups, etc. In other words, maintaining a C-1 posture

ADC MAJOR AIRCRAFT ACCIDENT CAUSE FACTORS

Cause Factors	F-101	F-102	F-104	F-106	T-33	Other	Total
Pilot Error	67	3			1	1	5
	68	2	1		1	2	6
Supervisory	67						
	68						
Material Failure	67	1	1	2	4		10
	68	1	1	1		1	4
Maintenance Error	67						
	68	2			1		3
Undetermined	67		1		1		3
	68	1			2		3
Other	67	2					2
	68	3			4		6
Total	67	6	2	2	5	3	20
	68	9	2	1	3	6	22

FIGURE 1

People get fed up. Mental boredom and physical fatigue set in. Complacency impairs judgment. Loyalty, integrity, and professionalism lose their meaning. Some individuals with enviable records suddenly go nuts and do things that are unbelievable. And no one can explain why. But send a troubled unit on a three month TDY to work in an autonomous environment away from all the clutter, and a miraculous change takes place. The mission is pursued with enthusiasm and decisions are made without fear of being wrong. Flexibility returns and so do flight commanders. The only change in pressure is the type; and it's manageable because it's self-imposed.

To suggest that every unit be sent on a three month TDY to spark up morale and create a sense of mission urgency is out of the question for many reasons. However, it's not impossible to duplicate the TDY environment without ever leaving the main gate. This can be accomplished in part by eliminating unreasonable, non-productive commitments which bite into essential mission requirements; by identifying and throwing away oppressive, obsolete, safety-oriented restrictions which curtail realistic training and take the challenge out of the mission. One case in point is the restriction on low level intercepts in an ECM environment. To keep it short, there are many other ways and all can be found by examining what puts the "get serious" into a TDY operation.

We've all heard the expression "Safety is paramount" echo through briefing rooms time after time. The grassroots reaction has been to retch and utter a silent "Nuts." Why? Because it suggested that the mission was to be abandoned whenever the going got rough. If that were really meant to be the

case, how come the 101s haven't been grounded for pitchup, or the 102s for compressor stalls, or the 104s for flameouts, or the 106s for throttle quadrants? To put things in proper focus, it should be pointed out that, eyewash aside, the mission is paramount and don't ever forget it. In a peace-like situation, it can become dull and dreary because the same old training thing day after day lacks challenge. That humdrum training thing will take on great importance if and when we are called upon to fly and fight for real. Safety restrictions won't count when there's a low level target to be hit; experience gained during training will. But maybe there are some who don't believe that day could ever come. We hope not, in more ways than one.

And here's where the dilemma begins. How far can you go during training to achieve the maximum in combat-ready status without splattering aircrews and airplanes all over the countryside? It seems that the urgency of the situation dictates the answer. Experience has shown that the vast majority of accidents which occur under Snow Man are nonmission associated. They happen during the so-called "piece of cake" phase of flight; the landing, the takeoff, the extra-curricular buzz job or rat race; in other words, the disarming periods of flight. Intrepid birdmen are at their best when trying for the hack. But just send them on a parts pickup, etc! Another way of looking at the problem is this. Take the challenge out of the mission and the guys who pay the rent get the impression that no one is really serious about the whole thing. Saturate them with eyewash programs and they are convinced of it. Boredom follows and so do judgment disasters.

When the mission is defined and performed in a serious, competent,

and efficient manner, safety is an automatic byproduct. When a pilot is well-trained, disciplined, and knowledgeable, he is safe, even under the most trying conditions. If, for instance, he has been short-changed in training, it's a waste of time sticking posters in his face or slogans in his ear. All the pep talks in the world won't alter the fact that he is not properly qualified. When he fouls up, it's a training problem with severe supervisory undertones, regardless of whether or not he was needed on alert. Safety enters the picture because as a byproduct, it has not materialized. In this sense, the safety function must be that of a watchdog, snooping for potential trouble areas which may have been overlooked, and ready to assist and advise when they are found. The "tail wagging the dog" act has not been successful.

Keeping in mind the points covered here, the following resume of major accidents in 1968 is presented with a view toward achieving a better understanding of the influence of that evasive common factor in accident history.

JANUARY

None.

FEBRUARY

• F-102 (Major). The pilot was recovering from a night mission using GCI/GCA. Although the runway was sighted at 4 to 5 miles, GCA was continued to minimum and a normal landing made. Touchdown was approximately 1000 feet down a 10,000 foot runway. The drag chute failed and the pilot experienced difficulty in stopping the airplane. He shut the engine down and the airplane continued onto the overrun where it travelled 620 feet and down a two-foot embankment. The primary cause was determined to be pilot factor in that he failed



to maintain control of his aircraft. However, in view of the fact that this was his first experience with a no-chute landing, there were strong undertones of supervisory factor. Training was considered a contributing cause since the pilot had never performed a no-chute landing and had not received a demonstration or practice of maximum aerodynamic braking. (Down &

Out, September 1968).

MARCH

• F-101 (Destroyed). After fire signal was received, a standard breakaway maneuver was initiated at 1.2 mach. At about 20° of bank, some unknown force drove the control stick full forward. Under considerable negative 'Gs', the pilot was unable to reach the paddle

switch and the aircraft entered pitchup. Normal recovery procedures had no effect and the aircraft entered a steady state spin. Both crewmembers ejected at 15,000 feet. Primary cause was determined to be an unknown malfunction of the pitch control system. (Down & Out, April 1968)

• F-101 (Destroyed). Returning from an intercept mission, the air-

craft was handed over to the traffic control center and a descent to 15,000 feet was directed. RAPCON took control at that altitude with the aircraft approximately over the AF10 fix. RAPCON cleared the pilot for penetration and gave the altimeter setting. Both instructions were acknowledged by the pilot. Shortly afterwards, RAPCON asked if the pilot intended to make a full stop landing. He replied in the affirmative. During the next 31 seconds the aircraft is presumed to have impacted with the water. There were no survivors. The primary cause of the accident was undetermined, but it is felt the aircrew did penetrate through the level-off altitude and unknowingly allow the aircraft to strike the water, two possibly relevant factors for this were discussed. The first was spatial disorientation associated with the weather conditions prevalent at the time of the accident. The second was aircrew fatigue. (Down & Out, June 1968)

• F-102 (Destroyed). After level-off and approximately 130 miles from home base, the pilot noticed that the oil pressure light began to flash intermittently and the oil pressure gauge was fluctuating between 20 and 40 psi. He turned for home and after about 10 minutes elapsed, four loud compressor stalls occurred whereupon the RPM went to zero. The pilot ejected at 3,000 feet. It was determined that the primary cause of this accident was material failure of the number four bearing assembly from unknown causes. (Down & Out, May 1968)

APHIL

• T-33 (Destroyed). On return from a cross-country, the pilots of a T-33 experienced what they thought to be gear failure. During penetration in mountainous terrain, the traffic control center gave

heading instructions which caused the aircraft to impact on a mountainside, resulting in two fatalities. The aircraft had been misidentified by a ground controller prior to penetration. The primary cause factor was judged to be Air Route Traffic Control personnel. (Down & Out, October 1968)

MAV

• F-100 (Major). A flight of four F-100s were participating in an air show. During a high speed pass and pull-up, the number two aircraft got an unsafe gear light and warning horn. After repeated attempts to lower the left main landing gear, the pilot decided to make an approach and barrier engagement. He flew a normal approach, landing in the first few feet of the runway. The left wing struck the runway almost immediately, but the tailhook engaged the cable. The cable failed on the right side and whipped around the left wing. The aircraft veered left and departed the runway, shearing the nose gear and right main gear. The pilot escaped uninjured. The primary cause was maintenance factor. Control circuitry wiring to the left main gear up switch was defective. (Down & Out, February 1969)

JUNE

• F-100 (Destroyed). A student in CGTS was returning from a radar qualification mission. He was handed over to RAPCON and given heading direction and a descent to 3,000 feet. Shortly after departing 5,000 feet, RAPCON lost radio and radar contact with the aircraft. It had impacted the water approximately one minute and fifteen seconds after the pilot's last transmission. The primary cause of the accident was unknown. The most probable cause was consid-

ered pilot factor in that, through preoccupation with operating the aircraft radar system, he neglected his flight instruments to the extent that he descended to a position over the water where recovery was impossible. (Down & Out, November 1968)

JULY

• C-54 (Major). Flight was performed to a remote, 3,200 foot runway of basic sand construction. The pilot flew a final approach designed for a short field landing. A sharp jolt and loud noise occurred at or near touchdown. The landing roll was completed and the aircraft parked. A preflight inspection revealed no damage and the aircraft was later flown back to home base without incident. The following day, maintenance personnel discovered overhead damage to the number three engine nacelle. The primary cause was pilot factor in that the pilot landed the aircraft at an excessive rate of descent.

AUGUST

• F-101 (Major). The pilot aborted a night target mission because the left afterburner nozzle stuck open. At approximately one mile on final approach, he transitioned from ILS and VASI to VFR for the landing and touchdown phase. Although he planned to land 500-1,000 feet down the runway, the aircraft touched down in the overrun 216 feet short of the runway. The main landing gear failed and the aircraft became airborne again for an instant. The aircraft veered left and skidded off the runway 3,300 feet down the runway. A continuous path of fire travelled with the aircraft to the point where it came to rest. Both crewmembers experienced difficulty in separating from their survival kits, but were able to e-

on the right side. The 80 received minor burns. The primary cause was pilot error in that he misjudged a night landing, allowing the aircraft to land short of the runway and with sufficient force to cause failure of the main landing gear. Contributing causes were pilot fatigue and supervisory error. The pilot was not provided sufficient cross rest prior to the mission.

• F-104 (Destroyed). Returning from a cross-country flight, the pilot called initial approach for landing. After the break, he called gear checked. About five seconds later the tower observed a ground explosion about two miles from the runway. The most logical sequence of events seems to have been the following: After turning downwind, the pilot lowered gear and when it showed down and safe, selected land flaps and began turning base while the flaps were still travelling down. After approxi-

mately 30° of turn, the asymmetry detector stopped the trailing edge flaps with 6° of asymmetry. This prevented the pilot with an uncontrollable aircraft. In an attempt to correct the situation, he introduced sufficient pitch correction to induce a low energy pitchup which resulted in ground impact in a stalled condition. Under these circumstances, successful bailout was impossible with the installed egress system. The primary cause was material failure of the trailing edge flap system.

SEPTEMBER

• T-33 (Destroyed). Approximately 46 seconds after takeoff, the pilot advised the tower that he thought he had thrown a bucket and was returning to land. He continued straight ahead and 21 seconds after declaring an emergency, he jettisoned his tip tanks. Approximately 26 seconds after tank jetti-

son, he stated he was going to bail out. Witnesses observed the aircraft's nose lower momentarily to straight and level flight, the canopy separate, and the aircraft immediately nose over abruptly to an almost vertical dive to impact. The pilot did not eject. Investigation revealed a failure of one turbine bucket approximately $\frac{1}{2}$ to 1 inch above the bucket platform. The missing portion was found 5,800 feet down the runway. (Down & Out, December 1968)

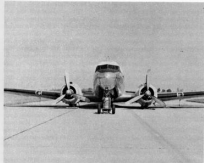
OCTOBER

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• F-101 (Destroyed). After completing a low level intercept mission, a flight of two aircraft joined in formation. After approximately 10 minutes, the wingman went into trail formation for confidence maneuvers. The lead aircraft began a barrel roll to the left. An aggressive pull-up to about 43° pitch attitude resulted in rapid airspeed bleed-off. The pilot decided to discontinue the maneuver. He began a rapid roll while still in heavy buffet and the aircraft pitched up. Because of suspected malfunction, the pusher, CSI, and MCSL had been turned off. Since the aircraft was below 15,000 feet, both crewmembers ejected safely. The primary cause was pilot factor. (Down & Out, Special Edition, January 1969)

• F-103 (Destroyed). Shortly after level-off, the pilot observed a utility hydraulic system light illuminate on the instrument panel. A check of the pressure gauge did not indicate difficulty, but a decision was made to return and land. During descent control problems were experienced and an emergency declared. Apparently about 270° of a turn had been completed when the aircraft suddenly made a steep bank to the right. This was probably the point at which utility





pressure was completely lost. Unknown to the aircrew, primary hydraulic lines to the right aileron were crossed and when utility pressure was lost, the aileron was locked in the full up position. The pilot checked the pressure gauges and found the utility at 0 and the primary at 2,000 pounds. A low primary pressure is to be expected in a crossed line situation. The pilot recovered the aircraft with aileron and rudder and continued descent to a final approach. While on final approach the aircraft again went into an uncontrollable bank to the right. Due to the heavy weight of the aircraft and the low approach airspeed, the rudder was not effective enough to regain control. The aircrew ejected at an extremely low altitude. The primary cause was maintenance error.

• F-108 (Destroyed). During an Air Combat Tactics mission, an element leader selected afterburners, began a level right turn, and then began a diving turn to accelerate.

At a time when the wingman thought they should be pulling out, the leader rolled under to the right, and rolled out in a steep 60 to 70 degree dive. He then made a one-quarter turn right, barely hesitated, made a hard one-quarter turn left, and straddled out in a dive. When the wingman observed wing tip vapor trails, he checked his instruments and saw 10,000 feet and mach 1.1. He immediately began a dive recovery and told the leader to pull out. He observed the lead aircraft disappear into scattered cloud tops. The two occupants attempted ejection, but unsuccessfully. The primary cause factor is undetermined. It is unknown whether a flight control malfunction, aircrew error, or some other factor was responsible for the accident.

• C-47 (Major). The pilot experienced gear problems and made a precautionary touch and go landing without incident prior to the final landing. While turning off the

runway, the main gear collapsed. The primary cause was judged to be pilot error in that he used poor judgment in the use of excessive power and excessive brakes during the landing roll, the turn off, and bringing the aircraft to a halt. Inexperience of the pilot, copilot, and flight mechanic contributed to their failure to recognize and correct an out-of-sequence operation of the landing gear system.

NOVEMBER

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• T-33 (Destroyed). Three flights had been accomplished during a target deployment before the aircraft commander decided to allow the back seat pilot, who was not T-33 qualified, to fly the front seat. On the previous flight, a binding in the control stick was noticed; however, subsequent missions were flown since the binding did not appear to get worse. During a night takeoff for the last leg

to home base, the pilot applied back pressure on the stick and again encountered the binding. Further pressure was applied as the aircraft accelerated and it became airborne prematurely at a low airspeed (115K) in a nose high attitude.

The aircraft commander, flying in the rear seat, took control and attempted to recover, but to no avail. The aircraft rolled, bounced, and flew alternately off the right side of the runway. The gear was raised and the aircraft skidded and bounced along the ground until it finally came to a halt 475 feet beyond the end of an 11,100 foot runway and 75 feet from the right edge of the overrun. Both pilots exited rapidly. The primary cause was pilot factor in that the aircraft commander was unable to recover from an airborne situation, caused by allowing an unqualified pilot in the front seat to attempt a night takeoff with a known aircraft flt.

control malfunction.

• **F-101 (Destroyed)**. During attempted takeoff, the aircraft appeared to lift off normally, but immediately entered a nose high attitude and appeared to be out of control. Both crew members ejected unsuccessfully. The aircraft was totally destroyed. The primary cause was maintenance error, in that the job inspector failed to detect incomplete installation of the stabilator rate sensor. Contributing cause factors were the job supervisor did not observe or discover omission of cotter pin installation in upper or lower rate sensor bolts. The specialist performing work omitted installing upper and lower mounting bolt cotter pins. The flight line chief maintenance expediter allowed installation of panel #53 without insuring job completion to include required inspection.

DECEMBER

• **F-101 (Destroyed)**. Aircraft disappeared from the RAPCON scope while over water on final

approach to home base. Pilot stated that approximately 14 miles out at 4,000 to 5,000 feet altitude, he experienced a bright white flash in the cockpit together with what he described as a loud explosion. Pilot observed the airspeed indicator increasing extremely rapidly from 250 KIAS to about 700 KIAS, attitude indicator tumbling, and other instruments spinning. Aircraft was in clouds at the time and pilot ordered immediate bailout. Pilot sustained minor injuries and was in life raft when rescued. The RR's arm was broken, apparently when he ejected rendering him unconscious. He was found in his parachute harness downed. The life raft was not inflated. The primary cause was weather factor. A discharge of lightning blinded the pilot during a critical phase of flight.

• **T-33 (3 Destroyed)**. The accident involved three T-33 aircraft. Aircraft were in the process of being ferried from the 21 to an overseas unit under the operational control of non-ADC aircraft de-

livery group. The three aircraft had passed the point of safe return when they were informed by a DUCK BUTT that weather at destination was below minimums. The aircraft arrived at the destination TACAN with one hour of holding fuel and were cleared to flight level 20,000 feet. The #1 and #2 aircraft attempted a formation radar approach which was unsuccessful due to communication difficulties. They climbed and elected to eject at 14,000 feet due to low fuel. The #3 aircraft also attempted a radar controlled approach but communications difficulties prevented him from receiving enough information to perform a successful approach. He ejected a few minutes after the #1 and #2 aircraft from an altitude of 2,500 feet. The fuel gauge was reading 10 gallons. Of the four pilots involved, two of the three front seat pilots experienced minor injuries to their knees on ejection. One pilot received major injuries. The primary cause was radar recovery system limitations and deficiencies precluded recovery of the flight of T-33 aircraft.

• **F-101 (Major)**. Aircraft was enroute to home station returning from cross-country and was diverted to an alternate base due to reported bad weather at home station. During landing phase the aircraft touched down on the hard surface overrun approximately 700 feet short of runway. The nose gear collapsed almost immediately after touchdown. Aircraft stopped on the runway 8,700 feet from approach end. There were no injuries to personnel. The primary cause was supervisory factors, in that normal flying operations were allowed without restriction, even though required visual air navigation facilities were obscured by snow and ice to the point of being unusable and misleading. ■



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS AIRCRAFT DESIGN COMMAND
300 AIR FORCE BLDG. WASHINGTON 25, D.C.



When Flight Clothing and Survival Equipment

to All ADC Aircrews and Life Support Program Managers

Several recent accidents have shown that aircrews could have lost their lives because they failed to don and properly use essential survival equipment. In most of these accidents sufficient equipment and clothing were available and aircrews required their wear and use.

The Air Force has spent millions of dollars developing and procuring the best equipment possible for your protection and survival in an emergency. Admittedly, some of this equipment is uncomfortable, bulky and cumbersome; however, the Life Support SPO is making considerable progress in the development of new and improved equipment to alleviate these problems in the near future.

When I first started flying military aircraft, we put on our helmets, goggles, jackets, shoes and took off. The environment has changed radically. We now fly literally all over the world, and in one single day of flying we are exposed to almost any kind of weather and terrain. Our aircraft and our flying skills represent an enormous investment by the Air Force, and this investment leaves a correspondingly heavy responsibility on every aircrew member regardless of rank or experience. Analysis of recent accidents indicates that this responsibility is not being fully understood or accepted.

The ADC Life Support Program is sound. We no longer expect to lose a certain percentage of aircrews when abandoning their aircraft. In the past we lost over 50% of all aircrews who ejected and landed in the water. Today it is rare to have even an injury on water bailouts. This change is due to improved equipment and thorough training; however, we still have some aircrews failing to acquire and use proper survival equipment. For example: a T-33 pilot abandoned but did not wear his LPO life preserver while accomplishing a 2 * 14 over-water flight. He placed it on the cockpit floor and there it remained during ejection. Two other pilots on the same mission did not check out or take life preservers. Fortunately, their ejections occurred over land.

Another glaring lack of preflight preparation was noted when a senior officer and experienced pilot donned his C-47/D-1/P anti-exposure suit with ignoring whom inside his MD-1 boots. Consequently, his skies did not have adequate support. He was fortunate not to have broken an ankle on ground impact.

Of course, it's easy to criticize unilaterally the crew member, but he's not in the life support business alone. While a good job is being done, there are still areas of improvement that can be achieved by our technicians, both supply and maintenance. For instance, a C-47/D-1/P anti-exposure suit was not available to an aircrew member who was going to the Arctic. This same crew member flew to the Arctic with a Improvised Survival Kit. Then, there's the story about misinterpretation of technical orders and ratings which left the aircrew member without a Personal Locator or RT-12 radio. Fortunately, this ejection was in a populated area and in proximity to another aircraft. I could go on, but by now I'm sure that you have got my point - that life support maintenance, supply and - above all - aircrew discipline are a deadly serious business. I am sure you respect your aircraft thoroughly to insure it is safe for flight. Are you equally careful to insure that you are safe for flight?

Never again must we risk the loss of an aircrew member because of the lack of self-discipline in getting and using life support equipment. As your commander, I will fight to insure that you have the best possible equipment, clothing and training available. In return, you insure the best possible use of that training and equipment so that your worth is preserved. You haven't the right to be on the receiving end of too much enemy fire and I was forced to bail out. I assure you, however, that I reached the ground I was prepared to continue that fight with all my equipment. I made it. I expect to lose of you.


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



HUMANUM RELIABILITUM



by **LT COL MARVIN C. FRIEDMAN** Chief, *Mid/Nav Branch* ■ By **ADG (ADCSAG)**

The setting is a Roman Army Camp on the Eastern Frontier. The date is 50 B.C. As we look in on the scene, Gensario Maximus Rex, Commander of the XX Catapult Squadron, Very Heavy, enters the tent of his commander, Tribuanus Ferruus Posterious. The colonel returns the captain's salute and at the same time asks, "What's up Max?"

"I got a problem," responds the younger man.

"I figured you did when I noticed you were lighting the filter end of your cigarette. Still worried about that next promotion board? I told you, don't sweat it. You have better than L-I, chance, and you've only been in grade XVI years."

"No, Sir, it's not that. I'm worried about that new man, Sud Sac-

rus, we have on duty on unit XIII. You know, the outfit that has the new Super Weapon. As you are aware, the S. W. packs more sock power in one heave than all the rocks thrown in the entire Second Punic War. Now I realize the tremendous destructive power of the S. W. and the problems of being on occupational duty on the frontier during this period of the H

Peace, but I just can't help worrying that even with all our safety precautions, we might get an accidental catapult."

"Well," the colonel replied, "what's been done so far?"

"We've done everything to the system we could to make it safe enough to handle and still have it go when we want it to go. The Nodule Weapons Safety Study Gang looked the weapon over quite closely before it came into the field; and as a result of their studies, we have the Main Thrust Beam Cross Lock Shaft Environmental Sensor Armed-Safe Probe Release Safety Pin. Then the NWSWG recommended that the pin be tied in place and sealed with wax. I have the only sealing ring; it is engraved with the Great Seal of the Empire, and I keep it secure all the time. No sir, I think we've done all the physical things we can. Our weak area is the man whose hand can pull the pin, trip the release, and fling rocks. The Duo-Humans Conceptium helps quite a bit to prevent an accident in that one soldier won't be on duty alone, but — well, let's face it, Sarcus didn't want to come here to begin with. He gets those letters from his wife back in Rome telling him how her brother-in-law in the cavalry got himself transferred to Paris and took her sister with him. The natives bug him, and I think he's been jacking it up a bit, although he insists his purple feet are due to athlete's foot medicine. He is depressed most of the time and feels everyone is down on him. I'd feel better if we had him on a less sensitive job. I don't feel that he is reliable and stable."

"You have a good point, Centurio," the commander said. "I'll get you a replacement for Sarcus while we figure out what to do. Contact the Legatus up at Le-

gion and see what he says."

The next scene takes place at Legion Headquarters where the Legatus is having a meeting of his staff. He has just explained the problem he received from his field commander and is summing up. "So you see the problem, gentlemen, is simple. How are we going to assure that only those who are stable, dependable, and reliable will have access to the emperor's Super Weapon? The question is simple — the answer may not be. Since we are dealing with people, I will make Personnel the *Officium Respectus*, Flesh Peddler, what say you?"

"Well, Sir," the colonel began, "the first thing we will do as OPR is to write a manual. Let's see, the last one we wrote was XXXV-XXVIII. This one will be XXXV-XXIX. We'll set up a system to screen applicants into the Super Weapon career field and try to filter out the men who we think might not be reliable. We'll monitor them during training, and then when they get to their unit, we'll have their commanders check over their records and brief them. Then they will be observed by their supervisors. However, our supervisors in the field may not know enough about the human behavior aspects of medicine to determine whether a man should stay in the career field. We'll need some expert advice."

"Well," said the Surgeon, putting down the latest issue of *Popular Ogy* he was reading, "you can have your commanders refer their problem troops to the surgeon for a professional evaluation. We may recommend taking the man off the job for a while until he gets squared away, or we may have to transfer him to a different job."

"Very good," the Legatus said. "How about security?"

"Well, Sir," began Brutus Fax-

nia, "we will continue to require security clearances to work around the S.W.'s, but we will investigate the backgrounds of those men who have critical positions."

"Very good," the Chief observed. "Now, I want Safety to monitor the whole program and make sure that we are, for a fact, keeping unreliable people away from the Super Weapon."

"Yes, Sir," replied Cautious Marcellus, the Chief of Safety. "I'll try to get the safety monitors in the field to stop worrying about the increase in chariot accidents long enough to give this a good go."

"Fine, and you, Magnus Finkis, will insure that when your inspectors go out into the field, they observe the program and make certain it is being done according to XXXV-XXIX."

"Well, that's about it," the Legatus said, rising and automatically bringing his staff to their feet. "I want to get over to the Lion's Club Arena for the matinee. I understand they are featuring a commander and his safety officer this afternoon — something to do with a Super Weapon incident" ★

The author, Lt Col Friedman of our Missile Safety shop, has allowed this article in its previously printed in A&F's "Missile Crew" and USAF's "Aircraft" 410.



REMEMBER THE ALAMO



Once it was Crockett, Travis, and Bowie . . . today it's Tomasi, Goodman, and Bentley, Masters of Air Defense . . . the dedication is the same.

The 149th Fighter Group of the Texas Air National Guard, located near the Alamo at Kelly Field, are proud descendants of the 330th Fighter Squadron. They reorganized in 1947 as the 182nd Fighter and received Federal recognition on 6 October of that year.

Since that time the unit, and when we say unit we're talking about the 149th Group and the 182nd Squadron collectively because they're one and the same, really—one outstanding Aerospace Defense force unit that not only remembers the Alamo as proud citizens living near that great monument to America's freedom, but also in flying, fighting, modern defenders of the skies over that monument.

How many of us today remember what happened at the Alamo? If the crumbling old walls could talk, they could tell you a story

ery—one hundred and eighty-two brave Americans gave their lives fighting for their country. They died defending the Alamo against the impossible twelve to one odds of the invading Mexican Army under General Santa Anna. The men of the Alamo are now legend—they are not, strangely enough, Texans, or Oklahans, or Bostonians — they were Americans with names like Jim Bowie from Georgia, Davy Crockett and Colonel Travis from Tennessee, and James Bonham, a Texas.

Thousands of Mexican troops again and again charged the pitiful little band of Americans until finally, after thirteen days, they were overwhelmed. Santa Anna won the Alamo, but he lost the war. The American defenders were buying time for Sam Houston's Army—and they bought this time of their own free will. Santa Anna's huge army was annihilated at San Jacinto on the 21st of April, 1836, by Houston. The remaining Mexicans were routed, killed, or captured, and driven back into Mexico and Santa Anna was forced to give Texas its independence from Mexico.

What does this have to do with the 149th Fighter Group of the Texas Air National Guard? Well, the 149th as part of the Aerospace Defense Command is still defending American Freedom and the Alamo against any aggressor. They are a small but important part of ADC's "wireless team" of radars, picket ships, fighter squadrons, and missile sites that are still preserving the freedom for every one of us on the North American Continent, 24 hours a day, seven days a week. The Alamo, for the 149th, just happens to be in their particular mission coverage — and how well they have accomplished their



... both in and fire up. San Antonians' enjoy noiseless engine run-up, thanks to . . .



Major Blackhear, the 149th Fighter Group's ingenious Civil Engineer



Colonel Charles A. Quinn leads today's defenders of the Alamo.



This beautiful headquarters was \$200,000.00 less than normal cost, thanks to ANG ingenuity.



Part of the defense team . . . you bet! Sharp gaze in weapons storage area controlling vegetation and eliminating other fire hazards such as combustion lawnmowers. Sounds easy, but it works and it's cheap!

mission is now like the Alamo—history and legend.

The 182nd Squadron of the 148th Group was the first ANG outfit to reach combat and down a MIG-15 in the Korean War. They hold the distinction of being the first unit to use inflight refueling techniques under combat conditions. They flew the "Fifty-One" and later the "F-80," and in 1958 the "F-86D." In 1960 the 182nd went super sonic in the F-102 and one year later

won second place honors at "William Tell."

They won the "Toony" Spaatz Trophy (outstanding flying unit) in 1964, and in the same year the National Guard Outstanding Unit award; in 1968, the Missile Safety award, and in 1967 the ADC "A" award. The Air Force Outstanding Unit award for exceptionally meritorious service from 1 January 1967 to 15 June 1968, was presented to the unit on 11 January 1969 at

148 hours by General Greenfield.

There's not much more we can say about the 148th Fighter Group and the 182nd Fighter Interceptor Squadron except—when you think of freedom, your freedom and where you live, remember the Alamo. And when you remember the Alamo, remember the Aerospace Defense Command and the 148th Fighter Group. They are on alert, preserving your freedom right now. ■



"From Cribbitt to rocket — national defense"



"Professional eyes provide power in the skies." ■



COOLSTONE GAGS A BUZZARD

It was the end of his second target mission and of course it was 4 A.M. Coolstone was faced only with the beddown, landing, debriefing, a large drink, and bed (solo). He was tired and not just a little upset. Exercises were always late late late. With the new scheduling flexibility, the Rack was sure that some fool would put in a military suggestion to refuel and run target missions the whole night without a landing. Fifteen dollars worth of rubber could be saved with fewer landings — UHF and TACAN sets would be saved because there is a failure almost every flight, and there wouldn't be so many flights. The guy could probably get five hundred dollars for such a suggestion if he submitted it through supply channels.

But this bird was in great shape — not even a comma failure. Fuel was fat, over three grand. Weather outstanding, scattered and six. And he was starting down the chute.

"Coolstone from Radar Final Controller, have you eight miles. Read you five square."

"Radar from Coolstone. Five square here."

"Roger, Coolstone. This will be a stop landing to Runway One

Nine. If you do not have the runway in sight at minimums, climb to 1600 feet on the zero one three degree radial and contact approach control. No further acknowledgment is required."

"Roger on the missed approach, Radar."

The Rack settled down for a simple GCA which he always enjoyed running, for two reasons—he was pretty good, and one time a GCA controller had commented on his rare abilities to back the glide slope and heading. It had been a VFR run. He had waited patiently for another such comment.

On another part of the base a conversation was taking place that Coolstone would have found very interesting!

"Weather from Tower. Are you going to bring the viz down?"

"Yeah, it's about three miles, now. We don't have any criteria until it goes below that."

"Weather from Tower. I can just barely see the three quarter mark on One Nine. I can't see the end of the runway at all."

"Tower from Weather. Are you kidding?"

"Nope, I'm not kidding. I can't see the rotating beacon and it's

less than a mile."

There was a silence for a moment, and then—

"Tower from Weather. You're right — I've got to check that out. You know we are sitting behind the fire station, and I can't see good that direction from the windows."

"Ah, Roger, boy."

"Radar from Tower. The fog just moved in. I can't see the approach end of One Nine and I have the lights up on 4."

"Ah, Roger, Tower, I am running a recovery right now. I will call you later."

Coolstone was congratulating himself on his excellent GCA. The glide slope wired 20 feet high, heading killed 4 degrees off. Airspeed right on the money, 3 knots high. He glanced up ahead of him as the controller told him 4 miles and gave him a 2 degree heading change. Black black black. It looked like he was starting into some stuff. In fact he knew he was in something. If he hadn't known it was practically clear and six miles, he would have sworn it was fog. As his crosscheck went by his altimeter he saw minimums coming up. He then painted the canopy with his eyeballs trying to pick up the runway. The controller began to complain about his heading and that he was above the glidepath. The Rack had nothing up ahead but black, and now his landing lights were beginning to halo with what had to be fog.

"Coolstone from GCA. If the runway is not in sight climb immediately, you're too far right."

"Look, GCA, what's your weather down there anyway? What happened to that scattered and six?"

"Tower to Radar. He came right over the tower. I couldn't see him, but I saw heard him."

"Coolstone from Approach Control. Ah, ah, we're going to change

the runway to Zero One. It will take about 15 minutes to get GCA set up. The weather is — ah - ah - partial obscuration with one mile in ground fog. Can you hold?"

"Negative, Approach Control. I can't hang around for 15 minutes. What's the weather at my alternate?"

"Stand by one," said Approach Control.

Boy, Coolstone thought. If I hang around here any longer, she would be zero zero while I'm waiting for them to get that GCA swapped around.

He had an alternate about fifty miles away that had been suggested at the briefing, should anything unexpected happen at home plate. He started to figure a heading and estimate fuel while at the same time gradually climbing.

"Coolstone from Approach Control. Fighter Ops advises you to forget that alternate you were briefed on. They have a better one now. The center is being contacted for a clearance. Your new alternate weather is 1200 scattered, high thin overcast, six miles. Heading two seven zero and contact center."

Let's see, thought the Rock. I have 125 miles to go. Now I've got about 2,000 pounds. I'm sure to be at minimum fuel or lower, but 1200 scattered and six, no problem. On the other hand, that's what home plate was to be, 1200 and six.

He set up the center frequency and gave them a call. No answer. He called again. No answer, also no side tone. He tried another frequency. No answer. Time was going by and so was his fuel.

He followed the TACAN and attempted to pick up a beacon. The radio really bugged him — everytime you needed it had had bad. It wasn't there. Fuel was going to

be short if he didn't get some help from somebody's radar. He was down to twelve hundred pounds. As he thought over his problems it suddenly occurred to him that he was in deep trouble. He fished out the letdown plate for his new alternate, found the frequency for approach control, set it up, and tried again.

"Hello, Approach Control. This is Coolstone One, Coolstone One, do you read?"

Still no answer. He tried again and was unable to raise anyone again including the side tone. He cycled the set and tuned in the alternate approach control frequency and was absolutely amazed to get an answer on the first try.

"Coolstone One from Approach Control. Go ahead."

"Roger, Approach Control. I am declaring an emergency. My radios are going bad, I have minimum fuel, and I want an immediate approach to the field."

"Tomstone One, squawk code seven seven. What is your altitude?"

"Roger, I'm at flight level two zero zero, and that's Coolstone One, not Tomstone."

"Roger, Tom - ah - Coolstone, have radar contact. Fly two five zero; the weather is 1200 scattered, 6 miles."

"Roger, Roger, Approach Control, I believe I have a field in sight — I think. Is the runway zero seven? And I am starting a let-down in the clear."

"Runway zero seven is correct, Coolstone. OK, descending VFB and you have the field in sight?"

"Roger, Roger, boy, I've got something in sight" and he relaxed to right.

At this point another conversation took place which Coolstone would also have found very interesting.

"Tower from Approach Control. Got one for you. An emergency."

"OK," said the tower. "What's wrong with him? OK, Coolstone One is an F-108. He's about 10 miles north of you now and, just a minute, let me see what all he has got wrong with him."

"Coolstone One from Approach Control. What is your emergency status, other than your radios and your minimum fuel?"

Coolstone didn't answer for a minute because he thought that radios and minimum fuel were quite enough, but he looked around the cockpit quickly, feeling he was coming up short somehow — nothing.

"Ah, ah, Approach Control, that's it, I guess, radios and fuel. Am I still pointed at the airfield? I don't think I have it any more. I see what looks like a swamp up front."

"You may be looking at the wrong field, Tomstone — ah, no, that's that, Coolstone that is. How about that, Coolstone that is. How's your fuel now?"

"I'm down to minimums, like I said."

"Tower from Approach Control. Coolstone's emergency is just that — his radios are bad and minimum fuel."

"Well," said the tower. "Minimum fuel doesn't constitute an emergency."

The Cold Rock saw under him what looked like the ocean. No runway there! Where were those vectors! "Approach Control from Coolstone One. I still don't know if I have the field in sight. I am out over the water. What way is it?"

"Coolstone One, the field is in your nine o'clock position about 7 miles. You are crossing a river. You are not out over the ocean."

"Roger," said the Rock, with some relief. "Thanks." He made a sharp 90° turn — still no run-

"Coolstone from Approach Control. Contact tower now and receive your landing instructions from them."

Coolstone had a great reluctance to change channels. If he lost the radio now, he'd had it. "Roger, boy," said the Rock weakly.

"Tower from Approach Control. I am sending him over to you now."

"OK, Approach Control. If I have good radios with him, he's got no problem."

"Tower, this is Coolstone One. Coolstone One. Do you read?"

"Roger, Coolstone One, loud and clear. Go ahead."

"Tower from Coolstone One. As soon as - ah - ah - I can find the field, I'd like to get on the ground here."

"Say your present position, Coolstone."

"Ah - I'm about six miles - ah - west, I think."

"Roger. I will turn up the runway lights. You see me now?"

"Negative, negative. I show three miles west, now."

"Roger, Coolstone. Report initial for zero seven, wind two one zero at six. Altitude three zero zero zero and do you have me now?"

Coolstone looked down and to his right he saw what could be a runway, very fuzzy. As he looked closer he saw that he was about in the middle of some field and lined up really too far down for the kind of break that he'd like to make at a strange field — but this must be the place.

"I've got you now, Tower. I'm on a short initial - ah - pitching out right here to the left, OK?"

"Roger on the left break. Report bear with wheels. You're cleared to land. I've got you in sight."

The Rock glanced at his fuel. He saw about 800 pounds, but no sweat. He glanced back at the field to line up his downwind. It wasn't there! He looked down and then saw where the field had gone and why he had difficulty finding it in the first place. He was 800 on top and there was no trace of the runway. He started to take it out of traffic and, as he added power, he glanced again at his fuel — 700 pounds. He pulled the power back. Let's see, he thought, if I hold my heading, then turn base, then the reciprocal, I'm bound to run into the runway again. He checked his heading real close, tried to mentally calculate a reciprocal head-

ing. He found it hard to think with the sweat in his eyes, but he finally figured it out, it was the runway heading.

"Approach Control from Tower. I've got Coolstone. Landing is assured and he should be on the ground in about one minute."

"OK," said Approach Control. "Not much of an emergency, was it?"

"Nah," the tower operator said, definitely disappointed.

When the Coolrock was sitting, it was a little more tense. He turned base, still on top, searching frantically for the runway, any runway. He had to carry lots of power — with 600 pounds now, still no runway in sight.

"Tombstone from Tower. Are you having any trouble and is your gear down?"

As the tower transmitted, Coolstone got a glimpse of the runway — almost 90 degrees to his position. He had overbent the final badly, but was not about to let it get away from him now.

"Ah - um - wheels down," he said.

-He then did a spectacular zig, an equally remarkable zag, and was lined up about 2,000 feet down the runway. As he leveled his wings, he saw that his sink rate was enough to gag a buzzard. He added full power, pulled back on the stick, and landed — aspirator first. Hard hard hard.

Much to his surprise, the gear remained in the proper configuration. He could tell, however, that he was going to have to write up a hard landing by the position of his shorts, which were now somewhere around his knees.

"Tower from Tombstone One. You have much low broken around the field. In fact, the base leg is solid and - ah - I would like to park close to the maintenance hangar." ★



✓ POINTS

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

✓ **T-33 PLOTS . . .** If the TACAN 28 volt DC circuit breaker in the front cockpit pops out, all the TACAN capability will be lost, and control of the VOR/ILS will revert to the rear cockpit. It is recommended that pilots, flying solo or with a passenger, set up a destination VOR station in the rear cockpit. (T.O. 11-33A-1, 16 April 1968)

✓ Most of the explosives accidents/incidents within ADC are caused by personnel error. Mainly the errors result from noncompliance with technical orders, such as failure to install safety pins or improper installation of safety pins. Compliance with procedures contained in technical orders is mandatory. Therefore, deviations or shortcuts are forbidden. Commanders are solely responsible for the safety of their establishments and should make this a matter of personal concern. They should require that frequent checks be made at all explosive areas by their explosives safety officers and explosives safety NCOs to assure technical order compliance and the highest standard of explosive safety discipline. (ADMHE-DC)

✓ When a crew member arrives at an overseas base without having received original or refresher physiological training, as required by AFR 50-27, 24 January 1966, it places a hardship on the gaining organization and the individual since valuable time and money are lost in TDY travel to a training facility. Commanders should insure that all crew members who are processed for overseas PCS have received:

- Original physiological training (para 1a, AFR 50-27).
- Refresher physiological training within the 12-month period before departing PCS for overseas duty (para 1c, AFR 50-27). (TIG Brief)

✓ The coldest temperature ever recorded in the United States was -76°F at Tanana, Alaska, in January 1886; in the contiguous United States, at Rogers Pass, Montana, was -70°F on 20 January 1954. In North America, the coldest temperature recorded was -81°F on 3 February 1947 at Snag, Yukon; in the world, it was -127°F on 24 August 1960 at Vostok, Antarctica. (4/W)

Another Command recently experienced a serious Life Support training incident involving **parasailing**. A student was launched, rose a few feet, and was dashed to the ground. This occurrence is not too unusual and can be caused by a variety of circumstances. A second launch was attempted, but with similar results. Fortunately, the student was not injured. A member of the school staff then attempted the next launch using the same parasail. The staff member was much lighter than the student, and rose to a higher altitude (approximately 35 feet) before the canopy turned over and he was dropped to the ground. He received multiple cuts and bruises. An inspection of the subject parasail revealed that the canopy had asymmetrical slatting. It had four slots on one side and two on the other. The organization has recommended that all Life Support training units using parasails inspect new parasails and compare them to a serviceable item before using them for a launch.

(ADCSA)

The highest wind speed ever recorded in the United States was 231 miles per hour at Mount Washington, New Hampshire on 12 April 1934. (4WW)

Why DHIF when taking "cold" pills? Because the sedating effect on the brain, as demonstrated on the electroencephalogram can be the same as that produced by a sleeping pill. This is in addition to the effects of the cold itself on the middle ears, respiratory system, and mental process such as judgment.

(ADCSG)

That old bugaboo, T-33 inadvertent tip tank release, has reared its ugly head again. In the not-too-distant past, several incidents of this nature proved to be aircrew or passenger error, but one T-33 user Command recently experienced two incidents that indicate wiring or switch malfunctions. In the first case, when the Auto Drop switch was moved from the OFF position to the Auto Drop position, the tip tanks dropped off. In the second case, when the Auto Drop switch was placed from Auto Drop to the OFF position, the tip tanks departed the aircraft and struck and badly damaged another aircraft that was flying in-trail. (ADCSA)

BLUE ZOO



WHEN I HOD MY HEAD,
RELEASE BRAKES AND STAY IN THERE.

safety officers'

FIELD REPORTS

F-106B, STUCK THROTTLE. After initial level-off at 40,000, the throttle would not retard beyond the 92-93% rpm position. After a few minutes of advancing and retarding the throttle, it moved freely. Landing was uneventful; the throttle operation was normal. An instrument console light knob was found behind the left cockpit bulkhead, rear cockpit. The knob had been binding on the throttle reflex cable. The pilots noted a form entry, prior to flight, to the effect that the knob was missing. Since this occurrence, all aircrew and maintenance personnel have been briefed that loose items in the cockpit, known or suspected, ground the aircraft until the item is either discovered, or proved not in the cockpit area.

T-33, AIRSPEED AND FUMES. During climbout, the pilot noticed the airspeed was indicating low and the altimeter and vertical velocity were in error. After about one hour of flight to burn off fuel, strong fumes entered the cockpit. An uneventful wing approach and landing were made. Investigation revealed the following: (1) After maintenance, the wrong type fitting had been installed on the static port of the rear cockpit airspeed indicator. This allowed the canopy upstop striker plate to break the fitting when the canopy was closed, causing cockpit pressurization to enter the static system. (2) The upper fuel inlet line and the main fuel quick disconnect in the engine bay were both leaking. This fuel was picked up by the compressor and the fumes carried to the cockpit through the pressurization lines.

F-106A, OSCILLATIONS. As the pilot retracted the gear on the go-around from a low approach, the aircraft rolled rapidly about 30 degrees from one side to the other, with zero secondary hydraulic pressure and 1350 psi primary. After the gear handle was placed down, the oscillations subsided and the hydraulic pressures built back up. Investigation revealed a loose connection in the LH Main Landing Gear safety switch which caused intermittent circuit completion during airborne retraction.

T-33A, GEAR PROBLEM. During a go-around from a low approach when landing gear retraction was attempted, the nose gear retracted, but both main gears failed to retract. The gear lever was lowered again which resulted in complete loss of hydraulic pressure. The gear failed to extend. The landing gear was then extended successfully using the emergency gear lowering system. A safe landing was accomplished without further incidents. The primary cause was material failure of the engine driven hydraulic pump.

U1A, DOUBLE ENGINE FAILURE. After two hours and fifteen minutes of flight, number two engine faltered briefly, then ran smoothly. Engine instruments were all normal, with auxiliary tanks selected. This was repeated by number one engine. Main tanks were selected, mixtures and props were adjusted. Several minutes later both engines died simultaneously, then ran smoothly. An emergency was declared and a descent made to land. The plugs in the left engine were fouled to the point where sparking was nil. Right engine plugs were clean, but magnetos were scorched with points completely used up. Left engine magnetos points were burned and scorched. The right mag ground wire on the number one engine burned off. These conditions fully explained the in-flight malfunction.

T-33A, UNSAFE GEAR. During a practice GCA it was noted that the right main landing gear was unsafe (Barber pole). When the gear was recycled it came up normally, but when they were put down, the right main stayed up and locked. The cockpit indications were left gear down, nose gear down, and right gear up. At this point there is a disagreement between the two pilots as to whether or not the red warning light was on. One maintains that the red warning light was on at that point and the other one feels that it was off and only came on momentarily as the emergency gear pump was used. However they both agree that the red warning light was off after the emergency system was used. A chase plane and mobile control officer confirmed that the right main gear appeared down, but it still indicated up in both cockpits. The aircraft was landed safely. A stud on the right main landing gear inboard door mechanism had failed. This failure caused the gear to jam in the up position and caused the erroneous cockpit indicators after the emergency system was used.

we point with



Captain Mikhail Karpis
4781 Combat Crew Training
Squadron
Ft. Worth AFB, Texas

PRIDE

F-102, OIL LOSS

Captain Karpis had just completed a low approach in an F-102 at his TDY station in Korea when he received indications of AC power failure. There was not sufficient runway remaining to make a safe landing, so he continued a go-around. As the emergency procedures for the electrical malfunction were being accomplished, the oil pressure low light illuminated and the oil pressure gauge indicated zero. The pilot continued his climb and selected afterburner to expedite reaching a low key position.

On reaching low key, Captain Karpis terminated afterburner, extended the gear, and began the final stages of a precautionary landing. Broken clouds obscured most of the runway and positioning in the pattern was maintained by using landmarks visible through the breaks in the undercast. Speed brakes were opened when the landing was assured and the throttle was stop-cocked just prior to touchdown. With the drag chute deployed and the barrier hook extended, a successful BAK-12 barrier engagement was made with no damage to the air-

craft.

Investigation revealed an engine oil leak had depleted the oil supply. Severe overheating had followed, and complete engine failure would have occurred within minutes had continued operation been attempted.

Captain Karpis's accurate analysis of a serious malfunction and his immediate response to the situation, though under adverse conditions, enabled him to save a valuable fighter aircraft. To his accomplishments "We Point with Pride."

AFTER BURNING

Address your letters to The Editor, INTERCEPTOR, Rm 40C (SECCLAB) Box 478 CO 80513

To be published, your letters must be signed,
but names will be withheld upon request.

OUR UNWEARABLE HEROES

Please place our Deposition on the mailing list for eight copies of INTERCEPTOR each month. We are the "WOODCOCK" drivers of T-4C and with our fleet of F-105s and F-104s we find the information from INTERCEPTOR interesting and helpful.

A special thank you to Colonel H. C. Gibson for his Memo in the October INTERCEPTOR entitled "For Want of a Word." The solid criticism of our nation on the unhealed losses of our time.

Capt William A. Fisher
Flying Safety Officer
4414 CDr Ing St
Shaw AFB SC

And we thank you.

STATE AERONAUTICS

We, in the California Department of Aeronautics, would request that we be placed on your mailing list to receive the INTERCEPTOR.

I, as an ex-ACC type man involved in general aviation, find that the excellent information contained in your publication to be an applicable view as while flying with the USAF.

Your copy be covered that the INTERCEPTOR will be widely read by our staff.

Don E. McTaggart
Aviation Consultant
California Dept of Aeronautics
Municipal Airport
Sacramento, California

"As long as flying safety is concerned, you're on."

A SAFETY-MINDED DEBACANT

In October 1968 INTERCEPTOR Magazine, page 27, one article points out the long-recognized problem of finger injuries by wearing of stags, with or without gloves. This is a good article. Yet, in the article "Hot Line" on page 20 of the same magazine a flag is shown installing the seat-man's center guide in the cockpit of an F-105

operation near the control yoke, while wearing rings and a watch. As mechanics and electricians are particularly susceptible to finger loss, I thought I would point out that in the flag may not be aware that a finger injury may be the result if he continues to wear rings during his work. AFM 107-101 specifically states that rings will not be worn.

Your magazine is well received and read at this station.

1 Sgt Henry O. Person
WOCRC, Office of Safety
John AFB, Oregon

"You're perfectly right, however, in the interest of Quality Control we recommend that you never work on aircraft, since the pictures referred to depict installation of 1.25 mm gear trigger pins, not an F-105. Is your man separate. Naughty! Naughty!"

"MA" BILL

We have been reading your magazine somewhat cursorily for some time. In a recent conversation with "Bog" Bolgers, editor of the C-E Digest, he urged me to drop you a line requesting that we be added to your official mailing list.

As you know, we in the telephone industry provide a very large portion of the land-line communications required to operate a Combat Alert Center. To be effective, we must be responsive to the needs of the fighter operators. Your magazine renders us a tremendous asset in interpreting the sometimes complex tactical communications requests from the people at all levels of command.

Therefore we should appreciate it if we could be added to your distribution list.

John E. Morris
Defense Accounts Manager
Defense Communications Coordinator
Pacific Northwest Bell
1915 Terry Ave — Room 728
Seattle, Washington

"We support 'Ma' Bill all the way."

SG LONG, JOHN

"What next, motherhood? I am shocked and appalled that a responsible Senior Officer in the service of his country could identify an innovative, irresponsible amateur with the greatest of American heroes, the defender of the Alamo, the savior of the (King) ship, the conqueror of two Alamos and the West, the valiant of such phrases as "A fellow might do what a fellow thinks is right," and "Don't apologize, it's a sign of weakness." John Wayne.

I feel you have done this outstanding American, who has almost single-handedly changed the course of history, a great disservice. From the birth of this nation, John Wayne has time and time again stepped forward to assist us through some of our darkest hours. His latest efforts are directed toward the current implementation in Viet Nam. Who would dare to say where we might be today if it were not for his dedicated and unselfish service to his country throughout the years?

Surely it more appropriate examples of the type of individual you described in your otherwise excellent article, would have been "the Red Baron," an outstanding and decorated aviator in his own right and a favorite target of "Snoopy," the *Carlson* *Hitenbacker*; "The Baron," I'm afraid, although master of the *Fokker* *Tiger*, and the terror of the *West-coast* *Fokker*, would have problems coping with the modern day aerospace vehicle. Without much doubt he would eventually join that growing fraternity of ex-fighter pilots who have gone West.

If the post conditions and concepts of a legendary American like John Wayne can be tossed off with the flaccid of a pen, then I have this to say to you: So long, ACC.

11 Col Donald L. Lynch
Commander
90 Tactical Fighter Squadron
APO New York 09761

"Yes, John Wayne!



A PENCIL PUSHER'S LAMENT

*As I sit here in this mile-high town
In a building painted white—
I wonder why some stupid guys
Can't ever do things right.*

*We lost a bird the other day—
The cause was a missing bolt.
The guy who thinks it was put in right
Must be a stupider dolt!*

*A Voodoo hushed some weeks ago
... Hydraulics hooked up wrong.
"I didn't really use the book,"
Was the streamer's wad, wad song.*

*Another Voodoo hit the ground
When some aceo they did try;
The pilot thought he did not need
The systems we did buy.*

*A Bird didn't get shot down
By his wingman, friend and foe.
He really did not realize
That his WSEMs were not blue.*



*A T-bird crashed a hard-ware day
And flamed out on the ground.
The pilot passed good afterwards;
His thinking? ... Not too sound.*

*We even had a Gooney Bird
With gear that did retract;
The crew had tried to put it down,
But not with the proper act.*

*A T-bird didn't make it off;
Instead, it crashed and burned.
The accident had happened
Before a wheel had turned.*

*I doubt if I will ever see
This story to its end;
'Cause men will always loose it up
When regs and books they bend.*

*We do not meet professionals,
For directives they do heed,
The ratings and certifications
Are things they do not need.*

*But the guys that really burn me
And make me pull my hair ...
Are the guys who just don't give a damn
While I manly a chair.*

