

TAC ATTACK

JUNE 1972



DELAY EN ROUTE...Pg 16

ANDERSON

for efficient tactical air power

TAC ATTACK

JUNE 1972

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Tactical Air Command

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CURRENT INTEREST

CALL SIGNS	Pg 4
THE TREE	Pg 7
COULD IT HAPPEN TO YOU?	Pg 8
IS THE CREW CHIEF DEAD?	Pg 12
DELAY EN ROUTE	Pg 16
PMDS HAS ARRIVED	Pg 24
HE WAS A GOOD WORKER	Pg 28

DEPARTMENTS

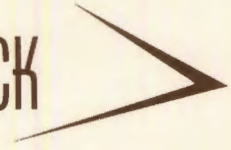
Angle of Attack	Pg 3
Chock Talk	Pg 10
TAC Men of the Month	Pg 15
TAC Tips	Pg 20
SPOs Corner	Pg 22
Weapons Words	Pg 26
Aircrewman of Distinction	Pg 27
Letters	Pg 30
TAC Tally	Pg 31

TACRP 127-1

Articles, accident briefs, and associated material in this magazine are non-directive in nature. All suggestions and recommendations are intended to remain within the scope of existing directives. Information used to brief accidents and incidents does not identify the persons, places, or units involved and may not be construed as incriminating under Article 31 of the Uniform Code of Military Justice. Names, dates, and places used in conjunction with accident stories are fictitious. Air Force units are encouraged to republish the material contained herein; however, contents are not for public release. Written permission must be obtained from HQ TAC before material may be republished by other than Department of Defense organizations.

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Angle of ATTACK



LET'S PUT IT TOGETHER

April was tough and May was no better. Far too many aircraft and lives have been lost in preventable accidents. Four years ago a valued friend, Colonel H. B. Smith, wrote on this page:

"Now all of a sudden we've had a rash of avoidable accidents. A large percentage of these are shaping up as pilot and instructor pilot error. This indicates that either we're beginning to get careless or we're training students with unqualified IPs. . . . The TAC pilot today has considerably more responsibility than his World War I or II counterparts. Every aircrewmember must recognize this and react accordingly.

"Our training must be realistic and tough. But when we continue to have accidents because someone can't seem to stay ahead of the aircraft, then something has to be done. This can only lead to a diluting of our combat readiness training with a resulting loss in quality to the combat aircrew."

Those words still apply today. When we run off dry runways, collide in a square gunnery pattern, land gear up, lose control on takeoff, attempt unauthorized maneuvers, fly into mountains, or delay getting out of a stricken airplane, the answer is not complex. We can stop those losses without TCTOs or new regulations. Operational commanders, supervisors, instructor pilots, line pilots and training aircrews each have their part of the answer. Let's put it all together — now!

GERALD J. BEISNER, Colonel, USAF
Chief of Safety

"Washington Center, Foot 34, flight level two-zero-zero."

"Roger Fool 34, ident."

"Foot 34 identifying, and Washington, that's Foot... Foot 34."

"Radar contact Fool 34... do you have a request?"

"Negative on the request, Washington; my call sign is Foot 34, copy? FOOT 34."

"Roger, FOOL 34, contact Washington Center on 253.1."

"NEGATIVE ON THE FOOL ... MY CALL SIGN IS FOOT ... I SPELL ... FOSCAR-OXTROT-OXTROT-TANGO ... uh I mean ... uh ... (Pause) ... Understand Center on 253.1."

CALL SIGNS

"United 721, you're cleared to land, runway 21 right."

"Unite ... (garbled)" (Pause).

"Uh ... tower; understand Unite 21 cleared to land 21 right; turning a short base."

"Neg ... (garbled)."

"Uh ... tower, what are the intentions of the airliner on about a three mile final?"

"Unite 21, you are not cleared to land; break out of traffic and reenter. United 721, cleared to land."

"United 721, understand, breaking out of traffic."

"Tower ... who is... ah... Unite 21 breaking out of traffic; be advised tower, I'm submitting a near miss report."

"Roger, United 721, call reentering."

"Tower, that was Unite 21."

"Uh ..."

To the man in the cockpit there are many irritants that sit on the periphery and occasionally inject themselves into the situation, sometimes effectively muddling decisions and ripping away at the logic chain. These barbs of annoyance we'll call "Fuzz Factor," for lack of a better name, simply because they tend to fuzz up the situation. You've all experienced some form of fuzz factor such as the drop of sweat inside the oxygen mask that's tickling the whiskers and driving you straight up a wall, or the incessant buzzing of a poorly tuned UHF radio that makes clear thinking difficult, or a bulge in the seat cushion that's giving you a nagging pain in the posterior. There must be a million of the fuzz factor annoyances, most of them small, but some of them can assume gigantic proportions, such as a hard-to-pronounce, hard-to-understand call sign.

Call signs produce their share of incidents, sometimes amusing and sometimes downright hazardous. The amusing ones we can live with; they make good bar-talk fodder. The hazardous ones are something else.

Many of you may believe that call signs are produced by a group of madmen confined to a padded cell and given their freedom only when they are able to come up with a four or five letter word that defies even the most gifted vocal gymnast. In reality, however, nothing is further from the truth, to which the program managers will certainly agree. Nevertheless, the thought does conjure up some interesting questions such as: Where do aircraft call signs originate? What are static call signs and how and when are they used? How can I get a call sign changed if it is hard to pronounce, hard to understand, conflicts with others, or in some other way either creates or may create a hazard?

WHERE DO AIRCRAFT CALL SIGNS ORIGINATE?

A voice call sign is defined as any combination of characters assembled into pronounceable words used to establish and maintain voice communications. Aircraft call signs cannot exceed five characters and normally precede a two-digit number. The five character limitation is necessary due to FAA's computerized flight following system which allows

only a seven digit call sign. (Example: Horse 52.)

There appears to be a fallacy here. How do the airlines get away with it? In other words, how can United 701 use a call sign composed of nine characters? The limitation is on the ARTC computer data and not on the spoken word. United 701 files as U-701 on his flight plan. The controllers are aware that "U" is an accepted abbreviation for United, just as they know when we file A-45678



CALL SIGNS...

on the DD-175, the spoken call sign is Air Force 45678.

The entire call sign program is administered by HQ USAF (PRCOC) which establishes doctrine and policy for the USAF through AFR 100-26. They, in turn, have tasked the Air Force Cryptological Depot (AFCD) with the responsibility of assigning and maintaining control of USAF voice call signs.

All words used as voice call signs by the Air Force are derived from and authorized by the Joint (Services) Voice Call Sign Book, JANAP 119. From this publication the words are extracted and fed into a computer maintained and operated by AFCD. Each major command submits its requirements, in number of words, to AFCD which, in turn, assigns to each command a series of block and line numbers. The computer then randomly selects and assigns words to the block and line numbers. As the saying goes, "untouched by human hands." After the computer selections are made, the call signs are printed in a confidential document that is published monthly and carries the moniker of AFKAI-1 (USAF Voice Call Sign List - VCSL). Units then extract the appropriate call sign from this document for missions both in and out of the local area.

CHANGING CALL SIGNS

Changing call signs are necessary for security reasons. The movement of combat aircraft outside the local area of any given base is the kind of information that foreign agents obviously relish. It is necessary to change the call signs periodically to prevent the free release of information. Each unit refers to the AFKAI-1 for the appropriate call sign to be used at the appropriate time.

Due to the confidential nature of this document, very few specifics on its use can be listed in this article.

STATIC CALL SIGNS

Static call signs, as the name infers, are assigned call signs which are rarely changed. They are also found in the VCSL and are assigned to specific units to be used only in the local area. The current list of words used in TAC was implemented by message in December 1971 and will be included in the 1 June 1972 edition of the AFKAI-1. Originally, TAC was assigned 1750 words. The list was whittled down to only 940 words by manually removing the worst of the lot. These remaining words were then given to the intermediate commands for unit assignments. Needless to say, many units still found some of the words unpalatable, to which the number of letters and hazard reports received at Hq TAC attest.

Perhaps a small explanation is necessary here. Every unit would like to have TIGER or SHARK or some equally descriptive static call sign as their very own; unfortunately, in most cases, it's not possible to assign such words, simply because TAC doesn't own them. Problems still exist with call signs that are hard to pronounce, hard to understand, or conflict in some way with other users of voice radio. In order to resolve some of the problems with static call signs, the entire list of call signs is put through a procedure called "soundexing."

SOUNDEXING

Soundexing is a computer program which compares the call signs against each other to remove sound alike,

such as Moose and Noose. Also, any words which would be associated with an aircraft in distress, such as Fire, Eject, Help, etc., are removed. Additionally, any words which indicate an aircraft component, such as Flap or Gear are removed.

At the present time, only static call signs are soundexed; however, plans are afoot to use the procedure for all call signs, both static and changing. Undoubtedly this will help, but it's highly unlikely that all poor words will be eliminated, and this is where you can help.

GETTING THE CALL SIGN THROWN OUT

Prior to the expiration of the current month's AFKAI-1, the edition which is to be used for the next month is distributed. Units should review the call signs that are to be used to identify any hard to pronounce, derogatory, or potentially hazardous-use call signs. Should any of the call signs fall into these categories, steps should be taken to notify TAC/DCONF (procedures in TAC Sup 1 to AFR 100-26) in order to have the words replaced. This will reduce the number of tongue twisters and hazard producers. However, it is still possible for a potentially hazardous call sign to slip by and to be put into use. If this occurs, at home base or otherwise and either creates or appears to create a hazard, the individual who uncovers the hazard should contact his unit and explain the problem. The unit can then telephone TAC/DCONF, Autovon 432-2021, to have the problem immediately resolved.

While all of the problems with call signs may never be completely solved, progress is being made. With your help, the fuzz factor caused by call signs can be reduced. If that happens, the men in the padded cells will have to look for work elsewhere. ➤

The Tree

by Mariella W. Andrews
Managing Editor, TAC ATTACK

*AT THE CURVE OF THE ROAD
AN ANCIENT TREE
STOOD STATELY...MAJESTIC
FOR ALL TO SEE.*



*DARK TREE, STILL SAD
WHEN OTHERS' GRIEF IS FLED,
THE ONLY CONSTANT MOURNER
O'ER THE DEAD ! **



*THE ROAD WAS GOING ON AND ON
BEYOND TO REACH SOME OTHER PLACE.
HOW MANY WILL RUN TO GET AWAY?
HOW MANY MORE WITH ME WILL STAY?*

* Lord Byron, *The Giaour*





COULD IT HAPPEN TO

by Maj C. J. Bertrand
Hq TAC/DOV

Could it happen to you? by Maj C. J. Bertrand, Hq TAC/DOV

It has been proven in numerous aircraft mishaps that "Joe Pilot" didn't have his mind on his business or became confused when events didn't happen like the good book says. Too often drivers of "many motored" aircraft become complacent with the old clichés "It could never happen to me" or "I've got beau coup engines out there and lots of time." Granted, this may be true in most cases; however, some of our many motored "air machines" are becoming vintage museum pieces and it is probable that within this next year, the average "Joe Pilot" will encounter an emergency of some type. So on the premise that it COULD happen to

you, let's examine a recent incident, take a few pot shots, and hopefully come away with a lesson.

Recently, a T-29 on a navigator training mission was cruising at 16,000 feet MSL with power set at 34 inches MAP, 2200 rpm, high blower and mixture auto lean. Several small puffs of smoke were observed coming from the left engine augmentors (for fighter types, this means exhaust pipes which provide additional thrust!). At about the same time the left engine backfired once. The mixtures were placed in auto rich but small puffs of smoke continued. A fire watch was established by one of the crew members. The engine instruments indicated normal except

for the oil quantity gauge which indicated high oil consumption. The left oil tank was reserviced from the reserve tank after the quantity had dropped to 12 gallons and as a precautionary measure the pilot decided to divert to the nearest military base. Radar vectors were obtained and an en route descent was initiated. As descent power was established and flaps set at 15 degrees, small puffs of light blue or gray smoke were still prevalent. The appropriate portion of the descent checklist was accomplished at this point. At about 15 miles on final approach the navigator, who was maintaining fire watch, reported that the smoke had increased. No action



was taken at this time. At approximately five miles, the navigator reported heavy, steady smoke and flames coming from the augmentor tubes and nacelle area. At this time, the left fire warning light illuminated. The pilot called for the left prop to be feathered; however, his order was drowned out by simultaneous calls from approach control transmitting on UHF and guard channel. The copilot was unable to understand the order and continued to talk on the radio with approach control. At this point it became imperative that the left prop be feathered and the pilot accomplished that action himself. The fire warning light went out as the

propeller feathered and the pilot called for maximum power on the right engine. As the copilot started advancing the power, he noticed the right engine rpm decreasing. A visual check of the right engine confirmed that the propeller was slowly coming to a stop in the feather position (Oh No!). The navigator estimated that the right propeller feathered approximately 45 seconds after the left propeller. The Convair glider was now within the 3 mile point. The pilot was sure of making the runway from that position, so he called for extension of the landing gear and more flaps. The gear extended to down and locked, but the flaps failed to move from the last selected position of 15 degrees. The pilot attempted to advise the student navigators that they would make the runway, but the interphone was dead. He tried to ring the alarm bell to indicate impending touchdown but it was also inoperative. Assuming electrical failure, the pilot made no further attempts at communication and directed full attention to aircraft control. The aircraft crossed the runway threshold at 160 KIAS and touched down at the 2000 feet point at 130 KIAS. Directional control was maintained with rudder until the aircraft began a slight turn after rolling approximately 2500 feet. Hydraulic brakes were applied but the system pressure was zero. The airbrakes were applied lightly and the slight left turn continued. After approximately 4000 feet from touchdown, it became obvious that the aircraft would go off the runway, so full airbrakes were applied. The airbrakes locked both left wheels and the right inboard wheel but the right outboard continued to rotate. The aircraft stopped approximately 150 feet off the left edge of the runway, 5000 feet from the point of touchdown. Both left tires and right inboard tire blew out during the last 750 feet of aircraft travel.

Fortunately there were no injuries.

Maintenance dug into the airplane and found internal damage to the left engine. The right engine and prop were given the same treatment; however, nothing was found out of whack. So what happened?

At first it was felt that perhaps the pilot had feathered the wrong prop but this was ruled out. The left prop was observed in full feather by all crew members while the right engine was still running. So most probably the copilot, in trying to talk on the radio and seeing the fire light, was caught up in the excitement of the situation and feathered the wrong prop.

There's little doubt that a lack of crew coordination set up the entire sequence of events, but most likely it goes a little deeper than that. Many questions concerning this incident come to mind in this game of "Monday morning quarterbacking." Put yourself in the shoes of the AC and provide your own answers.

When the pilot gave the crew briefing called for in the descent checklist, did he include his anticipated actions in the event the left engine situation deteriorated? Did he brief the copilot properly?

When he called for the left prop to be feathered and got no response due to the copilot's preoccupation with the radios, should he have used the "call" button on the interphone or reached across and jabbed the copilot to bring him back into the picture?

Did the copilot confuse his priorities, thinking that talking on the radio took precedence over the emergency situation?

Why didn't the alarm bell work? Is it possible that it wasn't checked on preflight?

Should the gear have been lowered earlier to reduce speed over the threshold?

Did it get quiet in the cockpit when both props were feathered?

Could it happen to you? ➤

CHOCK TALK

...incidents and incidentals

THE RUB

The F-101 roared down the runway with both burners lit for a planned normal takeoff. At 140 knots the pilot applied back stick pressure to take the weight off the nose gear. As the aircraft accelerated to 155 knots, the pilot applied more back pressure and was surprised that the machine was not responding. He increased the pressure even more and discovered the stick would not move aft. A couple of quick jerks on the stick confirmed that it was frozen; abort procedures were initiated and the airplane was slowed to taxi speed with 2000 feet of runway remaining. While taxiing in, the jock noted the stick to be free. He applied light finger pressure and the stick responded per standard in all axis. (Wouldn't you know it!) The pilot checked all switches and found them in the correct positions.

Once the airplane was back in the chocks, maintenance snatched it up and gave it a thorough going over. Stick movement indicated a rough spot near the mid-point of travel. Further inspection turned up the most probable cause as interference to the left bellcrank in the aft cockpit area caused by a wire bundle to the RLS system. As a fix, the wire bundle was wrapped, reclamped, and moved forward out of the way of the stabilator bellcrank.

THEY DO NOW

This F-100 experienced a utility hydraulic failure shortly after takeoff. After an uneventful emergency landing, it was discovered that a nose gear up line had failed. A closer look revealed that the line had been homemade out of non-standard soft aluminum material. It had been installed at a sister service installation six sorties before the failure occurred. Obviously, it worked well enough to get the bird back home but equally obvious is the fact that it wasn't good enough to last very long. Many units double-check all maintenance done by other bases as a routine matter. I'll bet this one does now! Does yours?

UNWANTED INITIATION

The pilot of the F-100 leaned across the canopy rail to adjust the seat belt before climbing in. He adjusted the left half of the belt then reached across the seat to adjust the right half. The arm rests were down and the free end of the belt was lodged between the console and seat. He pulled on the belt to free it and the canopy remover initiator suddenly fired sending the projectile through the canopy.

It seems that the seat belt webbing had lodged in such a manner that when the pilot gave it a tug, it, in turn, tugged the cable which normally fires the initiator by means of a pilot actuated "T" handle.

Many F-100s have a panel which covers the cable and housing and prevents entry of the seat belt webbing (or anything else) into this tender area. By the same token, a few Huns aren't so equipped.

However, these panels (P/N 223-53231) can be locally manufactured . . . a canopy cannot.

FLIGHT CONTROL FRIGHT

While in a barrel roll attack during practice air-to-air tactics, the aircraft commander of an F-4 discovered that the stick would not move laterally. The aircraft whipped through two full rolls before the pilot brought the machine back to straight and level flight by using full right rudder. The right aileron was noted to be down about four inches and full right rudder plus full right stick were required to hold wings level. The crew went through the necessary checklists to no avail, then performed a controllability check to determine if the airplane could be landed.

They found that with half flaps, right engine idle, full right rudder, and full right stick pressure, they could keep the wings level down to 190 knots. A straight-in approach was flown in this configuration with the AC using both hands on the stick while directing the WSO to make

with a maintenance slant.

power adjustments with the left throttle. Touchdown was slightly left wing low at 190 knots and rollout was uneventful.

Cause?

An intercom dust cap cover of the type found in the left wheel well was found to be binding the left lateral control bell crank assembly.

How did it get there?

Somewhere, somehow, sometime, somebody got careless.

CROSSED WIRES

While climbing through 1200 feet the turbine overheat lights for both number three and number four engines on the Herky came on. The pilot retarded the power on both engines and the lights went out. He then declared an emergency and landed safely at the field from whence he had departed a few minutes earlier.

The maintenance troops dug into the machine and came up with some pretty interesting findings (you might say alarming).

The cause of the turbine overheat on number four was a leak in the turbine casing. The cause of the turbine overheat on number three was number four.

Whadda' he say?

It seems that some wires had been crossed. Some of the wires that should have been connected to number four turbine overheat keyer were connected to number three and vice versa. This mismatch could not be detected during normal preflight since the circuit continuity was complete. However, when the actual overheat occurred on number four, it lit up number three also. (Good Grief, Gertie.)

The unit made a quick one-time inspection and found a similar problem on another aircraft.

How about your outfit?

PLUGS AND BUGS

After having read an account of an incident in TAC ATTACK concerning F-4 flight controls, a former F-4 pilot called in to report an incident that occurred six years ago.

He stated that upon climbing through 15 thousand, it took 15 to 20 pounds of back pressure plus full nose up trim to hold level flight. He aborted the mission and began his RTB. As he descended, the need for nose up trim and excessive back pressure diminished as the altitude lessened. Upon landing maintenance gave the machine a going over but couldn't find the culprit.

This same sequence of events occurred three more times until the crew chief discovered the problem. A grasshopper had wedged itself in the ram air bellows, lousing up the air flow into the artificial "feel" system.

This is a "known" problem to most F-4 drivers and stringent maintenance inspection procedures have reduced the problem potential, but not entirely.

Recently an F-4 crew noted a stiff stick in the pitch axis at approach speeds.

Investigation turned up pieces of a phenolic plug blocking the bellows venturi. The plug, into which the bellows probe is inserted, had been replaced prior to flight to correct an air leak problem. When the tubing was inserted into the plug, small pieces of the phenolic material were inadvertently cut free from the plug and remained in the tubing.

Plugs and bugs have a common name known to us all . . . FOD!!

HOURS AND HOURS OF BOREDOM FOLLOWED BY...

The F-111 pulled up onto downwind following a successful range mission. One can surmise that the crew probably relaxed a little — but not for long! The aircraft rolled violently to the left and the caution panel lit up like a Christmas tree. Yaw damper light, primary heading, CADC, auxiliary attitude, right and left spike, beta probe, fuel distribution, and cowl warning all lit up and it took full right stick to maintain wings level. Maintaining aircraft control, the crew performed a controllability check, then landed successfully.

The culprit was suspected to be materiel failure of a connection in the hot air ducting of the rain removal system. This hot air caused slight damage to the throttle cable retaining brackets and caused 72 circuit breakers to pop.

Investigation into this problem area is continuing.

Editor, TAC ATTACK
HQ TAC/SEPP
Langley AFB VA

1. The attached article is forwarded as a suggested topic in TAC ATTACK. It contains some thoughts which came to mind one morning as I visited Job Control early in our recent conversion to AFM 66-1 Maintenance Management procedures.

2. During the past twenty-one years I have been continuously assigned in the materiel career field and, although rated, I have been primarily concerned with aircraft maintenance and flight test. It has been a rewarding experience for me and I got more personal satisfaction out of being involved in maintaining, repairing, testing and presenting operations with birds that would do everything the good book said they would, than I did out of practicing how to fly them.

3. I feel that there is an important message in my attached random thoughts. Complex weapons systems do require skilled specialists to keep them healthy but sometimes we go overboard into a reactionary backlash at "change" or "improved management." When a crew chief calls for a specialist to range-mark an instrument, change a brake, or zero a vertical velocity indicator, reaction borders on the ridiculous. Likewise, the erroneous statements of pilots who declare "66-1 eliminates crew chief maintenance" are equally ludicrous and often damaging in their effect on attitudes and morale.

4. TAC ATTACK is in an excellent position to do Tactical Air Command and USAF a great service by "accentuating the positive and eliminating the negative" ideas about centralized maintenance management procedures. If you sold pages and I could afford it, I would buy one in every issue for the purpose of boosting maintenance management because I believe there is nothing as important as good aircraft maintenance and the flight crew confidence it generates. In the end, they are mutually supporting.

JAMES S. GERMAN, Lt Col, USAF
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IS THE CREW CHIEF

dead ?



As so often occurs during unit conversions from decentralized to centralized maintenance management systems, some individuals in both operations and maintenance functions make an erroneous assumption that is highly detrimental to efficient maintenance accomplishment and unit morale. Their highly vocal cries of anguish boil down to "The crew chief is dead and our airplanes will certainly go to hell from lack of loving care." Nothing could be farther from the truth and these uninformed spokesmen of doomsday are guilty of seriously hindering the effective accomplishment of the unit mission.

Crew chief responsibilities, as well as those of his supervisors, listed in AFM 66-1, Chapter 11, TAC Supplement 1, leave no doubt that the foundation for on-aircraft maintenance is a crew chief system. The aircraft is his and its maintenance is his responsibility. The entire maintenance management system and all of the assigned material resources are geared, organized, and

tasked to support him. No one has a greater responsibility for the condition of an aircraft or a more direct influence on its operational readiness. He is the keystone, the single most important person involved and the man on the spot.

Unfortunately, the critics of centralized maintenance seem to have more influence than they should and the result is degradation of the crew chief role. This is inevitably followed by a reaction which produces a negative attitude among even basically good maintenance technicians that all maintenance and repair must be accomplished by specialists. The attitude is sometime carried to absurd extremes and even develops into firm beliefs that flight line mechanics are prohibited from accomplishing even simple tasks associated with various aircraft systems. Lost time, wasted resources, pointless arguments, and non-accomplishment often follow.

When all else fails, read the directions; AFM 66-1, paragraph 1-4d, seems to be generally ignored even though it contains the most important and basic principle of the

Is the Crew Chief DEAD?

entire maintenance management system. It says in part, "The intent of the system is that specialists will (be) provided for those maintenance actions which are *beyond the limits of skill, manpower, tools, equipment, or time available to the crew chief*, dock chief, work center supervisor or his counterpart for aerospace vehicles, aerospace ground equipment, training equipment, PME, munitions and ground communications electronic equipment."

Since that statement is so generally misunderstood or ignored, perhaps a line from Chapter 11, titled Flight Line Maintenance, is in order. In paragraph 11-2 we find:

"Specialist assistance will be requested through workload control when maintenance is required *which exceeds the time available or which is beyond the technical capabilities of assigned personnel and their equipment.*"

In the next paragraph, the manual further states:

"Maintenance which is within the flight line capability will not be deferred for later accomplishment in the

docks or Field Maintenance."

Chapter 14 on Field Maintenance clearly establishes the role of this function as basically a shop repair activity with additional capability to assist other activities as a reserve of resources. Since the majority of the specialist technicians are assigned to Field and Avionics Maintenance Squadrons, the following quote from paragraph 14-2 is especially enlightening.

"Specialist support will be provided other maintenance activities when maintenance required lies *beyond the technical capabilities of assigned personnel or available equipment, or which will exceed their available time.*"

There may be some question as to why I have chosen to make an issue of this matter of responsibility and why I presented it in this way. Perhaps it is basic and obvious to the experienced materiel supervisor but the consequences of not getting everyone properly oriented initially, including operations personnel, are not only serious but extremely difficult to overcome. I strongly recommend training, publicity, meetings, and command support be utilized to firmly establish in the minds of all personnel the role of the crew chief and his responsibility for his aircraft under AFM 66-1. By emphasizing his importance and eliminating all impressions that he is limited to routine servicing and inspection duties, we can obtain more timely maintenance actions, better specialist utilization and more efficient operation of the entire maintenance complex. A possible related advantage might be less of the groundless but damaging criticism which often is directed toward AFM 66-1 management.

No matter how you personally feel about AFM 66-1, it clearly establishes the crew chief at the center of the entire maintenance complex. It provides a central control for the sole purpose of supporting him and his aircraft by efficient scheduling of every materiel resource and support activity which he requires to assist him. He has only to evaluate his requirements and request assistance for actions beyond his own capabilities. He is responsible, however, for completing every maintenance action within his capabilities without assistance. Most important, he and he alone is charged with the responsibility of supervising every individual who works on his aircraft, regardless of the worker's specialty.

The crew chief is dead? Not if you read the directions, follow the diagrams, and abide by the rules. Not if the crew chiefs we select are qualified, ambitious, and take pride in accomplishing every action of which they are capable. Not if we, operations and maintenance supervisors alike, acknowledge and support his position as the most important individual in the maintenance management system. No sir, the crew chief is NOT dead.



TACTICAL AIR COMMAND



Maintenance Man Safety Award

Master Sergeant David H. Wilson, 415 Special Operations Training Squadron, Hurlburt Field, Florida, has been selected to receive the TAC Maintenance Man Safety Award for April 1972. Sergeant Wilson will receive a letter of appreciation from the Commander of Tactical Air Command and a Certificate.



MSGT WILSON

TACTICAL AIR COMMAND



Crew Chief Safety Award

Sergeant Steve M. Aoyagi, 48 Tactical Airlift Squadron, Forbes Air Force Base, Kansas, has been selected to receive the TAC Crew Chief Safety Award for April 1972. Sergeant Aoyagi will receive a letter of appreciation from the Commander of Tactical Air Command and a Certificate.



SGT AOYAGI

TACTICAL AIR COMMAND



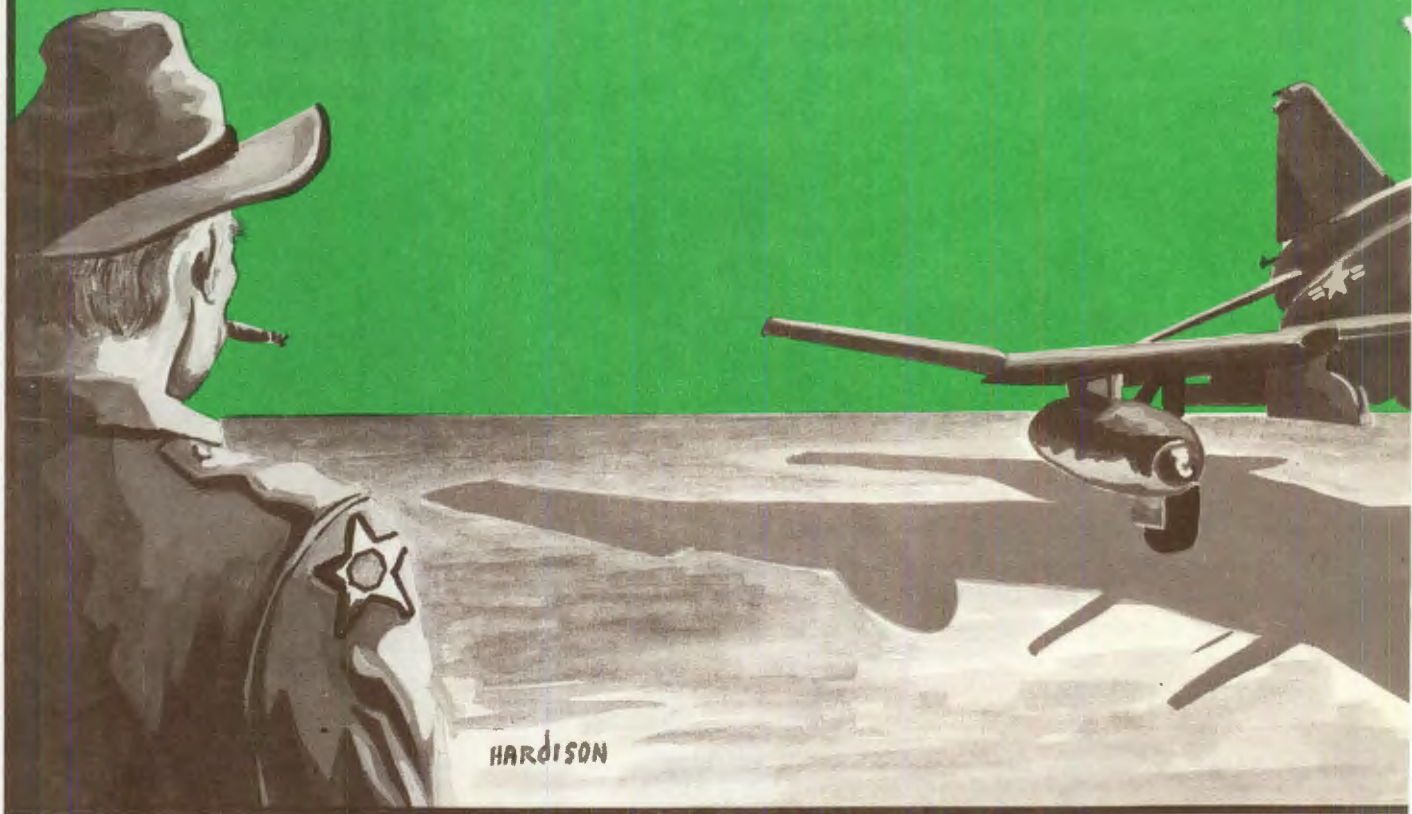
Ground Safety Man of the Month

Master Sergeant Paul A. Usrey, 311 Munitions Maintenance Squadron, Hurlburt Field, Florida, has been selected to receive the TAC Ground Safety Man of the Month Award for April 1972. Sergeant Usrey will receive a letter of appreciation from the Commander of Tactical Air Command and a Certificate.



MSGT USREY

DELAY EN RO



by Capt William H. Wingo

Noon over the great American Southwest. Flight level 370. Clear and visibility unlimited. One-hour-fifteen out of Arizona Air Patch, en route to Fun City on the third day of a long weekend. The aircraft percolates as usual. The Initial Approach Fix is only about twenty minutes away. One TACAN, maybe a couple of GCAs, and a full stop. Concentrate and you can almost taste the prime rib.

The AC is an old head, due to retire in a few months. The GIB is a navigator with about 550 hours (in the F-4). He has no gloves. He had some, but they were stolen from the aircraft at Arizona Air Patch, and he swears he will never

leave them in the radar scope face again. Unfortunately, he did not miss them until already strapped in with the right engine running, by which time it was too late to get his other (winter) pair from the baggage pod. Oh well, he reasons, it's only a two-hour flight; he'll get them out at Fun City and then get some more Nomex gloves at the home base. No big deal.

Time drags. This is primarily a proficiency mission, motoring all around the Southwest; but now the last checkpoint has passed below and they are headed for the barn. Did somebody say (ever so softly) the word, "Complacency"?

Suddenly the AC is very excited, "Hey!" he says, "the



particular emphasis; but fortunately the checklist says where the breakers are.

"Metropolis Center," the AC is saying, "Anonymous 21, request emergency descent and vector to nearest available airport for landing; have fuel problems."

"Roger, Anonymous," replies the Center, "nearest airport Friendly Local Municipal. Say nature of fuel problem and are you declaring an emergency?"

"Roger, declaring emergency. About five minutes indicated fuel remaining. Request clearance direct, and vector." Then, to the GIB: "How long is the runway at Friendly Local?"

What? Well, let's see... the letdown book... no, it doesn't have a letdown... maybe the supplement... Friendly... Friendly... where the...?

How long is the runway? Well, they gave a course in flight pubs, two years ago at Mather; where do you find runway lengths?

By this time the AC has gotten his chart out and determined that Friendly Local Municipal has 5000 feet; long enough. "Did you pull those circuit breakers?" he asked.

"Yessir. How does it look?"

"It's not going down as fast, but it's going to be close. Put Friendly Local in the TACAN."

"Right."

"Anonymous 21," says the Center, "you are cleared present position direct to Friendly Local; bearing approximately two-eight-four, thirty-seven miles. Contact Metropolis Center two-eight-four-point-eight."

"Anonymous 21, Roger."

"Metropolis Center, Anonymous 21."

No answer.

For the first time, the GIB starts thinking about ejecting. If the fuel runs out the engines will stop, hydraulic pressure will be lost, and the aircraft will become uncontrollable. Let's see... tighten mask; lap belt; chin strap; visor down; check leg restraints and survival kit... the metal buckles feel colder than usual and he realizes he has no gloves. Oh, my God. Well, there's no fire (yet) and it's warm down there; it probably won't be too bad, he thinks. Then he remembers that General (Spruance??) who burned his hands so badly with his gloves ON in a T-Bird crash or something. It was in some safety magazine somewhere... remember? The GIB remembers vividly, pictures and all.

"Metropolis Center calling on Guard; if you read, answer on Guard."

Guard. "Roger, Metropolis, Anonymous 21 on Guard."

"Roger, Anonymous. Contact Friendly Local radio on Guard."

"Friendly Local, Anonymous 21."

fuel! We're running out of fuel!"

"What?" says the GIB, reaching for the checklist, which is conveniently located under the en route charts, IFR supplement, and Form 70. "What do you think it is?"

"Looks like reverse transfer to the externals," says the AC. "I've got seven hundred pounds on the totalizer, and it's still going down."

Practically ripping pages from the checklist, the GIB at last locates the procedure: Pull boost pump circuit breakers, Monitor fuel quantity, Land ASAP. Bending almost double, the GIB hunts for the circuit breakers. Since this is a non-boldface item, it has not been given any

delay en route

"Roger, Anonymous, Friendly Local on Guard. Say position."

"Twenty miles southeast."

"Roger, we'll clear the pattern for you. Advise when the field is in sight."

"How's the fuel?" asks the GIB.

"About three hundred and fifty, and still dropping," replies the AC.

Fortunately the weather is clear. Friendly Local is on a river; there's the river, a town . . . where's the airport? Check the TACAN . . . ten o'clock . . . There!

"Over there, sir! Ten-thirty low!"

"Right. Friendly Local, we have the field in sight, entering the pattern."

"Roger, Anonymous, no known traffic."

An angling entry almost directly into the pitch. Downwind. Gear. Flaps. Pressure. On final.

"Two hundred pounds," says the AC. Less than the indicator tolerance. Touchdown. Chute, brakes, slower, slower . . . stopped, with six hundred feet to spare. Elapsed time from the onset of the emergency: about ten minutes.

"Didn't even cycle the anti-skid," says the AC. Then suddenly he starts to swear. It is evident that he has twenty years in the Air Force.

"What's the matter?" asks the GIB.

"The fuel. It just went back up to 4800 pounds."

"You mean it's a gauge malfunction?"

"Looks like it, doesn't it? Rats!" That single word conveys more disgust than the previous profanity.

The GIB can't think of anything to say. Many thoughts run through his mind, as they must also be running through the AC's. Finally the silence becomes unbearable.

"I guess we're stuck here," he says.

"You could say that," replies the AC.

"Anonymous 21, Friendly Local Radio, is your emergency terminated?"

"That's affirmative, Friendly — hey, we're still on Guard! — Say another frequency, please."

"Roger, two-five-five-point-four."

"Friendly Local, say taxi instructions, please." (To GIB) "Lord, look at all the gravel! This must be where they MAKE it."

"Roger, Anonymous. Turn left on the cross-taxiway, then left again to the parking area."

"Roger, clearing the active, and can you see if you can

get us some chocks — big ones?"

"We'll see what we can do."

The after-landing checks are completed as the aircraft comes into the parking area. Two Cessnas and a Cherokee six are parked nearby.

"I never saw so many rocks in one place in my life," says the AC. "This ramp has a definite slope to it; let's make sure we're chocked good before shutting down."

The aircraft stops about a hundred feet from the flight service station building. Out of the building comes the County Deputy Sheriff, who just happened to be passing by and stayed to see the fun. He has two pieces of 4x4 lumber, and walks up to the plane as if he has been working on them all his life. He disappears under one wing and reappears on the other side, giving a thumbs-up signal. The AC shuts down.

"Afternoon," says the sheriff, as the noise of the engine subsides and the crewmembers start unstrapping. "Nice of you to drop in."

"Long as we were in the neighborhood," says the GIB. "Hot out today, isn't it?"

"Boy that's for sure. Hottest February I remember."

"Wonder if I could use your telephone," says the AC.

"Sure, right in the building there. Sam (The FSS duty operator) is all alone in there and couldn't leave his post, but he said you'd probably ask that."

"Right. Well, I'll go get on the horn, but will you stay out here and pin up the seats?"

"Yes sir," says the GIB, and starts on his own. The AC goes into the building to make the first of many phone calls.

Now that the GIB thinks about it, it wasn't a very good idea to let that guy under the airplane, especially with the engines running. He (the GIB) should have gotten out over the wing and gotten the chocks himself.

He finishes pinning the front seat just as the AC returns from his first call. "Will they hang us or shoot us?" he asks, in a probably inappropriate attempt at humor. (He isn't really worried — not much anyway. Certainly not as much as twenty minutes ago.)

"Neither, I hope," replies the AC. "They say we did good, considering the indications we had. We're supposed to check the bird for FOD and tire damage, and sit tight. They'll try to get some fuel and parts and ground troops down by truck from Fun City Air Patch tomorrow. Hey, thanks for your help, Sheriff."

"That's all right," says the sheriff, "It was a dull day anyway. Say, what kind of airplane is this?"

"It's an F-4," says the AC.

"Hey, I thought so. Just like that Marine feller landed here a couple of years back."

"Rats!" says the AC again. "After all that, to be scooped by the Marines!"



"SCOOPED BY THE MARINES !"

EPILOG

In due course, the aviators returned with the airplane to their home base. Damage was limited to a cut tire. The squadron had the usual complement of Monday morning quarterbacks, and the incident was replayed several times. Although as far as the author is aware, no official investigation followed, several interesting points might have been brought up at the board, if there had been one:

- The AC later stated that he had "0 over 700" and that at no time did he see the fuel low level light. This should have indicated the likelihood of a gauge malfunction. Even in retrospect, however, it is a poor argument for pressing on. The AC looked at the gauge for the first time in several minutes, and thus could not be sure that the fuel had not been going steadily down for some time. Much better to land now and argue later.

- The GIB did not know how to read airport data blocks on the en route chart. (He subsequently learned.) [Ed Note: Airport data blocks no longer appear on HI charts.] This was his own fault, of course. He had not expected to have to land at any field but a military base, with a TACAN approach, 12,000 feet and a barrier – wasn't all that required by Chapter 8? However, training might share at least some of the blame. Neither

the basic emergency (reverse transfer) nor the intricacies of the flight pubs had received any special emphasis in the squadron training program. Perhaps the safety and stan/eval people were too busy correcting the punctuation in bold-face-emergency-procedures quizzes.

- Both crewmembers later confessed to momentary thoughts of turning right around and taking off again. Fortunately, reason prevailed and this possibility was rejected, for several very good reasons:

- They were not CERTAIN that the problem was actually the fuel quantity gauge, rather than reverse transfer as originally suspected. (Later checks accomplished by the ground troops from Fun City proved the gauge to be faulty and a new one was installed. Still, this was unknown at the time.)

- The remaining indicated fuel, even if correct, was insufficient for a takeoff, climb, cruise to destination, and landing.

- The drag chute had been deployed. (A new one was installed the next day before departing.)

- The possibility of FOD to the engines/tires/flaps/flight controls was very real. (A thorough FOD check was accomplished the next day and the cut tire changed before leaving. The Friendly Local Major was glad to send the Municipal Euclid street-sweeper out to de-FOD the taxi route. Surprisingly, the runway was not too bad. This was attributed to the light aircraft traffic which may have kept it blown clear.)

- Horrible thoughts about the consequences of any subsequent mishap, whether or not related to the original problem. ("You say you were safe on the GROUND, and you TOOK OFF AGAIN?" – "Sorry about that, Chief.") MORAL: In such a situation, SIT TIGHT. The temptation will not last long.

- The GIB did a lot of thinking about gloves. This was the first (and LAST) time that he flew without them; and, as stated, it was unintentional, although that hardly made any difference. Sometimes on subsequent flights at the home base, with different ACs, he would look up over the instrument panel and see the AC's bare hand on the throttles. This has to be one of the most concrete manifestations of complacency in the book. Maybe a word to the self-sufficient would be wise.

- Undoubtedly there are other lessons to be learned from this episode; hence the author's decision to submit this story for publication. For a long time it seemed that this might not be a good idea, since the aircrew's performance might have left something to be desired. It is safe to predict, however, that somewhere, sooner or later something quite similar will happen to another aircrew; perhaps they will have read about this incident and will be able to do a little better.



TAC TIPS

. . . interest items,

ZAPPED

At 4000 feet and 350 knots on an instrument departure in the soup, the F-4 was struck by lightning. Complete electrical failure followed, resulting in the loss of all instruments except EGT, RPM, the standby attitude indicator, and the angle of attack (AOA) indicator. The ADI tumbled, the HSI froze, and both front and rear airspeed indicators read zero. The pilot selected the STANDBY attitude source on the ADI (not to be confused with the standby attitude indicator which is independent of the ADI) but it proved futile.

A climb to visual conditions was accomplished using the standby attitude indicator. Once in visual conditions, the pilot cycled the generators and attempted to dump fuel with negative results on both counts. Additionally, communication was impossible because of radio and IFF/SIF failures.

By this time visual conditions prevailed at the departure point so the pilot flew a NORDDO (no radio) pattern and used the AOA indicator for speed approximations in order to lower the gear. The gear was lowered using emergency gear lowering procedures and all gear position indicators functioned normally. A no-flap approach was flown using a 15 unit AOA to a successful touchdown. The drag chute was then deployed and a departure end BAK-12 engagement was accomplished since no reliable speed reference was available.

Probably the single most important item of poop from this incident was the fact that the standby attitude indicator continued to provide usable information for several minutes (5 to 10) after power failure even though the "off" flag was visible. This was just as advertised in the

Dash One and quite possibly prevented the loss of an airplane.

REDUCTION IN WEATHER SERVICES!

As a part of the overall reduction in support functions, the CSAF has directed a reduction in forecasting and observing services which will affect most USAF bases. The initial manpower reductions will take place during April-June 1972 with the remainder scheduled for FY 73. What is the impact on aircrews?

The concept of a *continuous* weather watch by a weather observer from a Representative Observation Site (ROS) located on the runway complex must of necessity be abandoned. The observer and the indicators for the meteorological sensors will be moved out of the ROS into the Base Weather Station (BWS). Observations will be made from that location and the observer will also perform other tasks normally required in the BWS. In short, one observer will be attempting to do what two observers are now doing; accordingly, weather observations may not be as timely or as accurate as they have been in the past.

At many bases, forecaster service will be curtailed during the minimum traffic periods at night and on weekends. For aircrews requiring service during these periods, provisions will be made to provide forecaster support via telephone from specific stations that will remain open 24 hours daily. These stations will be known as Regional Briefing Stations (RBS) and will be selected to cover the CONUS geographically. Details concerning the RBSs, telephone numbers, etc., will be available in each

mishaps with morals, for the TAC aircrewman

weather station. In addition, Air Weather Service (AWS) will establish self-briefing displays in weather stations where forecaster service is reduced.

In summary, some degradation of weather service is expected as a result of the reduced capability of AWS. Observations may not always be current because a weather observer will be unable to maintain a continuous meteorological watch. Local forecaster service at many stations will no longer be available on a 24-hour basis. Information for DD Forms 175-1 will be provided remotely by telephone at these locations. This may require a wait for forecaster service. The understanding and cooperation of aircrews and operations personnel will lessen the impact of this new reduced support concept.

IT ALMOST HAPPENED

The paratroopers were on board the C-130 and number three and four engines had been started. As the pilot pressed the starter button on number two, a trooper dashed out of the crew entrance door and ran back to the left paratroop door passing through the arc of number two prop. When the loadmaster, acting as fire guard, saw the trooper start his dash he yelled over the interphone "STOP! HOLD IT!"

The pilot pulled out the starter button and returned the condition lever to ground stop in time to keep the prop from rotating. Two seconds more and there would have been a head rolling around on the ramp.

It becomes our responsibility to guard against stupidity by briefing passengers or paratroopers to remain seated until cleared to exit the aircraft, and, when possible, to

station a crew member or other responsible person in a position to prevent thoughtless and irresponsible acts such as this.

EXCEDRIN HEADACHE # 130

An add-on installation in some C-130As operated by the Guard and Reserves is causing headaches, externally induced headaches that is.

At some point in the A model's past, a galley was installed on the cargo compartment side of station 245 (the bulkhead that separates the flight deck from the cargo compartment). This galley unit, with its sharp corners protruding, invites head-splitting encounters with troops performing normal crew or maintenance duties.

This unit is not a base line item on the C-130A, so if its function is no longer required action can be taken through LG channels to remove it from the airplane.

Should your unit decide to retain the galley, be sure that all concerned are warned of its hazard potential and make it plainly visible to crew members and passengers alike by markings, paint, or other identifiers.

OH HELL !

During the cockpit preflight, the F-100 pilot, while attempting to check the fire and overheat warning lights, inadvertently pushed the external load emergency jettison button.

As the left and right 355 gallon external fuel tanks smacked the concrete and split open, you could almost hear the pilot murmur a soul rendering "Oh Hell!"

SPOS COR

ATTILA THE HUN TRAMPLES THE TULIPS

A recent F-100 takeoff accident points out a situation which many of us take for granted: Strange Field TAKEOFFS. All the publicity to date has been directed at strange field landings, and for some reason everyone considers the takeoff "no sweat".

The problem the Hun driver got into was not relating ground distance to airspeed indications,

resulting in an early rotation, a brief period of very low altitude gyrations, followed by a reaffirmation of the Hun's love for the ground, then a high speed trip off the edge of the runway.

Pilots do an outstanding job of determining the 1500 or 2500 foot point at the home drome and even the takeoff distance is found with some accuracy. But, put a pilot on a strange field and some real WAGS come into the picture. This should not be! A few extra minutes looking over an airfield diagram in base ops would help

immensely. For instance, what runway markings are available? Answer this question and your line speed and takeoff distance will be more useful than just a couple of numbers on your kneeboard.

Capt Al Mosher

UNNECESSARY FOD

Not too long ago, an F-4 took off for a low level and range mission. Unable to get into the range due to a fire danger, he RTB'd and landed. During post-flight inspection, FOD was discovered in the left engine. Markings on the damaged engine matched a unique bolt found on a Dart tow target. Additionally, a small piece of aluminum foil was found in the burner section. Cause? No — the same aircraft hadn't been used by an aggressive Dart killer the day before — 20 minutes before the aircraft had



NER



taken off on the above mentioned mission, an F-4 Dart tow aircraft had inadvertently dragged a Dart on takeoff. The RSO had observed the Dart dragging but hadn't advised anyone or requested a runway check. We all know this target is a relatively flimsy gadget and when it comes in contact with concrete or asphalt, pieces will probably come off of it.

Runway Supervisory Officers must insure that any deviation from standard procedures or any unusual occurrence that they observe is brought to the proper agency's attention. In this case an immediate runway inspection would have been appropriate. Engine damage from foreign objects continues to account for many lost manhours and dollars. Everyone must take advantage of any opportunity to alleviate or reduce this problem.

Maj Burt Miller

TAC ATTACK

F-100 DRY OUT

F-100 Dry Out — This problem has been around since day one in the Hun and we still don't have an adequate fix or special guidance in the Dash One. Namely, it's the problem of moisture collecting, freezing, and lousing up the airspeed indicator. How many times have you seen the fix for inoperable or faulty airspeed indicators turn out to be, "water drained from system, ground checks OK"?

The following hint, which was passed on to me when I first checked out, may serve you well. As you are going through your pre-start checks and setting up the cockpit pressurization and temperature, run the defroster lever full forward and leave it there until ready for takeoff. At that time close the defroster, but NOT all the way. Just leave it cracked to a point where it is comfortable in

flight. Further inflight adjustment may be necessary, but do not turn the defrost all the way off. This should help those of us who tend to FORGOT! During your pre-descent check, open the defroster up again and then as you penetrate, partially close the defroster as necessary to keep your maps and approach plate from blowing all over the cockpit. (Also it gets awfully hot if you don't.)

Although this "technique" is not addressed in any of our publications, I think it is a good one and if "passed on" may just PREVENT that loss of the airspeed indicator which may eventually bite some unsuspecting jock.

Also, how about some feedback from the field as I'm trapped here with no hardware and what's worse — no windows! (A weatherman's dream!)

Capt Al Mosher

PMDS HAS ARRIVED

by Major Bob Lawler
Hq TAC/SEF
A-7 SPO

PMDS is a new term to you pilots who are still doing it the hard way. (Eat your heart out.) However, to A-7D pilots PMDS is a reality and an easy solution to the navigation problem. What the devil is PMDS? The letters stand for, PROJECTED MAP DISPLAY SYSTEM. It is a dynamic, pictorial display of the aircraft's position and progress, directly related to the terrain over which the machine is moving. Most pilots are not aware that they need PMDS; however, once you've used it you're hooked. It sure takes the bind out of wondering where you are over the ground when asked that embarrassing question by a ground controller.

For maximum confidence in the aircraft's navigation system, a pilot has to relate the aircraft position to a point on a map. Before PMDS, this was done by translating the information provided on the navigation instruments to a hand held map; an inefficient and time-consuming task at best. Keeping up-to-date and making continuous updates is laborious, and, if made during high activity period, prone to errors. High-speed aircraft, complex flight plans, and an ever-increasing demand on the pilot's time and attention have combined to place a heavy workload on the pilot. Maybe you're already getting the idea that PMDS is the solution!

But, let's look at it further. It was developed for use in a variety of aircraft from tactical fighters and helicopters to supersonic transports. Comprehensive testing and installation in all A-7Ds has been

accomplished and results have been highly successful. Evaluation confirmed that:

1. PMDS increases the pilot's confidence in his navigation system.
2. Position up-dating and destination revisions are simple, quick, and accurate.
3. There is a significant reduction in cockpit navigation workload.
4. Operations mission effectiveness is increased.
5. Using PMDS vastly improves safety of flight.

It's a great system . . . to determine the position at any time during flight, requires only a glance at the display. Thus, the pilot can remain terrain-oriented regardless of weather, visibility, altitude, speed, or enemy electronic countermeasures. The display provides the pilot with a full-color projection of standard aeronautical charts at selectable scales. For example, two scales of 1:500,000 and 1:2,000,000 are being used in A-7D aircraft. Commercial aircraft use 40, 20, 10, and 2 nautical miles per inch depending upon their requirements.

How does the pilot use the display? The aircraft is normally represented by the small circle engraved in the center of the 5 inch diameter screen. At 1:500,000 scale the area visible on the screen is approximately 25 miles in diameter. However, to increase the ability to "look ahead," the pilot may select the decenter mode. The aircraft is then represented by the origin of the radar graticule near the bottom of the screen, providing the pilot with a forward viewing distance of

approximately 22 miles. During normal mode, aircraft track is shown under the lubber line, which is read against the rotating azimuth ring. The display can be oriented either track upward or north upward. In either mode, bearing to a selected point is obtained by reading the destination bearing pointer against the azimuth ring.

When the 'hold' button is pressed, the pilot moves the map by using the "bull-pupper" or "slew switch" to slew the map to any position. This control is used both for up-dating and for destination revisions, and provides a closed loop to the computer for correcting the navigation system. Operation of a scale selector switch automatically slews the film to present the aircraft position relative to the new map scale.

Any standard aeronautical chart can be used to produce films for the PMDS. The selected map area is divided into east-west rows. From each row, frames are photographed on a continuous roll of 35mm color, or black and white film. The processed film is inserted into a film cassette for use in the PMDS. The 35mm film is commercially available and is NOT encoded in any way. It has excellent color characteristics and resolution.

Another feature! In addition to the map areas covered, there is film allowance for static data frames to store information such as checklists, emergency procedures, approach plates, target photos, and test patterns.

If you're not convinced that PMDS is here to stay, and the way to go, then you haven't tried it!

PMDS



- 1- GO/NO-GO self test indication by test-pattern display.
- 2- DATA mode calls up index chart – specific chart selected by SLEW (or BULL-PUPPER).
- 3- NORM mode results in track-oriented dynamic map display.
- 4- N UP mode changes map orientation to North.
- 5- MAN mode provides manual slew backup for central computer failure.
- 6- Destination bearing pointer.
- 7- Scale switch selects 1:2,000,000 JN or 1:500,000 PC maps.
- 8- LAMP switch selects spare if projection lamp fails.
- 9- HOLD button enables SLEW for normal position/destination up-dating of digital navigation system.
- 10- Range counter displays nautical miles to destination.
- 11- MAN SLEW is omni-directional, rate-proportional joy-stick used in NORM or MAN mode map slewing and DATA mode chart selection.
- 12- LDG button calls up approach chart and range and bearing to nearest airfield.
- 13- DIM controls projection lamp brightness.
- 14- DECTR button offsets position display to apex of radar graticule. ➤

WEAPONS WORDS

Have You Heard?

by Lt Col J. E. Falconer
Chief, Nuclear Safety Branch
HQ TAC/SEW, Langley AFB, Va.

The latest version of AFM 35-99, the Human Reliability Program, provides specific guidance in areas that have previously been considered vague, confusing, or difficult to administer. For instance:

▲ Clarification has been provided concerning who should be under the program. The emphasis is placed on whether an individual's duties require "regular and frequent" access rather than the assignment of a specific AFSC. In TAC, any unit exercising contingency plans involving nuclear weapons on a regular basis (at least annually or more often) must maintain certification on applicable personnel. Units supporting other commands' nuclear role on a rotational basis must also maintain HRP certification on those personnel qualifying.

▲ Additionally, the administrative procedures involved in processing AF Form 286, "Human/Personnel Reliability Certificate," have been streamlined. This form is initiated by the Consolidated Base Personnel Office (CBPO) in four copies. After all qualification and screening actions have been taken, each participating function receives a copy for their files.

▲ Also, the red triangle method of identification of medical records of personnel under HRP will no longer be used. Instead, an AF Form 745, "Air Force Reliability Program," identification insert will be filed in the medical records of the individual and his dependents.

The importance of the Human Reliability Program cannot be overstated. Although nuclear weapons are designed so they are safe to store, handle, maintain, transport, and deploy, their destructive power and contribution to our deterrent capability require that extraordinary measures be employed to insure that they are not subject to unauthorized acts. Of specific concern is any act which would contribute to the possibility of unauthorized detonation. The loss of an intact weapon into unfriendly hands, the unauthorized arming, launching, firing, or releasing of a weapon, or tampering with a critical component of a nuclear weapon system, are

examples of unauthorized acts which could contribute to the possibility of nuclear detonation. The Human Reliability Program is directed toward the prevention of such unauthorized acts; it provides commanders at all echelons with the means to insure that "suspected unreliaables" are denied access to nuclear weapons.

The 10 June 1971 revision of AFM 35-99, Human Reliability Program, provides clear guidance for the identification of personnel requiring access to nuclear weapons. Because of the uncertainty regarding the human factor in nuclear safety, there is always a possibility that some individuals identified under the HRP are not reliable, or may become unreliable. The difficulty of assuring "reliability" requires that all elements of the Air Force Nuclear Safety Program be applied to personnel identified under the Human Reliability Program. Among these is the requirement for both members of a two-man team as defined in AFR 122-4 to be identified under the HRP. Also the fact that an individual is identified does not lessen the requirement that he observe all nuclear safety rules, security requirements, and special safety precautions. In addition, every individual identified under the Human Reliability Program must be evaluated constantly by his fellow workers and supervisors. Evidence of attitudes or behavior which may reflect adversely upon any individual's reliability should promptly be brought to the attention of that individual's commander.

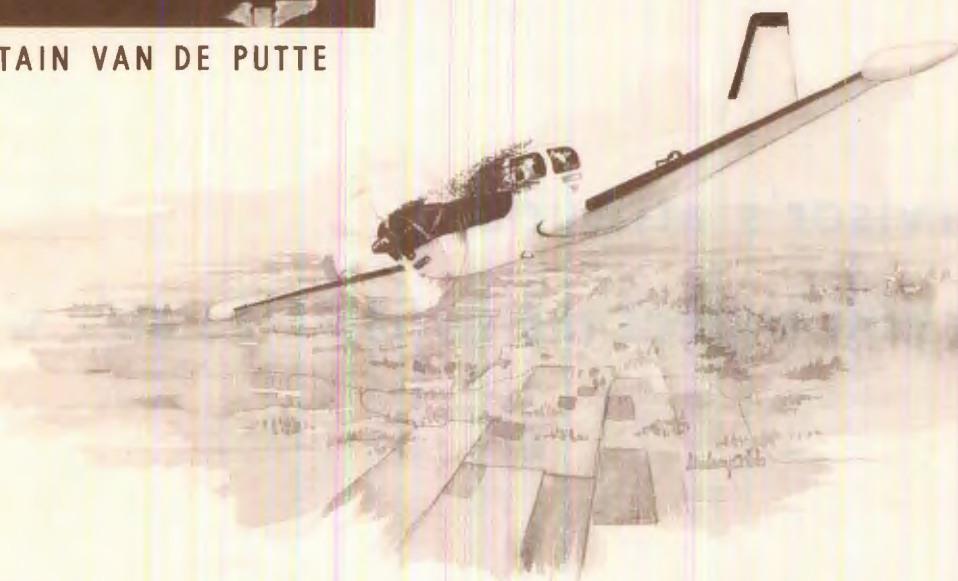
A TAC supplement to the regulation has been formalized and is nearing publication. (The key elements of this supplement were implemented earlier by interim message supplement.) Although this program is relatively simple, its numerous, but necessary, administrative details have been targets in many recent Inspector General reports. In order to better accomplish your part of this important program and perhaps save yourself from unnecessary write-ups, get a copy of this revised regulation and read up. ➤

TACTICAL AIR COMMAND

AIRCREWMAN OF DISTINCTION



CAPTAIN VAN DE PUTTE



Captain Gary G. Van De Putte, 424th Tactical Air Support Training Squadron, Eglin Air Force Auxiliary Field 3 (Duke Field), Florida, has been selected as the Tactical Aircrewman of Distinction for April 1972.

Captain Van De Putte and his student were climbing through 13,500 feet on a high altitude training mission in a QU-22B when a muffled engine explosion occurred. The cockpit filled with smoke and the engine began to vibrate moderately.

Captain Van De Putte took control of the aircraft, turned toward home base, and directed both crewmembers to go on 100 percent oxygen and to open the side vent windows. Engine vibrations became severe and oil pressure dropped to zero PSI as oil spewed over the engine cowling and windscreen.

Captain Van De Putte reduced power to minimize engine vibration and elected to attempt a forced landing

at a civil field 25 miles away. During descent through a broken cloud deck several more engine explosions occurred.

High key was established at 4000 feet MSL with gear and flaps down. The power setting remained unchanged during the engine out pattern, however, on final approach at 400 feet and approximately one-quarter mile from the runway, the engine quit. Landing was accomplished without further incident.

An after-landing inspection revealed two holes in the engine block and pieces of a connecting rod lying on top of the engine.

Captain Van De Putte's superb airmanship, combined with his calm, logical handling of a serious inflight emergency eminently qualify him as a Tactical Aircrewman of Distinction.



HE WAS A GOOD

he was a good worker

the supervisor's attitude:

"what do you expect me to do? i can't watch

by **TSgt Charles P. McManis**
Safety Technician
354 TFWg, Myrtle Beach AFB, S. C.

The following facts came to light during a recent accident investigation of a private motor vehicle accident in which one airman received fatal injuries and another was seriously maimed. This commentary may have a definite bearing on why there are so many accidents involving our younger airmen and may help provide a

basis for improving our accident prevention program.

The young airmen enlisting in the USAF today are drawing nearly \$4,000 net pay per annum. This is a substantial increase in buying power as compared with a mere five years ago. This sum is a fortune to many young men, who, a few short months before had been limited to a parental allowance. In the majority of cases, these airmen are not married. Hence, what do they do with their money? Here's what two were able to do:

- (1) Initially pay out an alleged \$1,000 for car insurance.
- (2) Rent a motel room downtown for a week, live there, and
- (3) Commute to work in a LATE model car which they themselves were too young to contract for. (As a result, they persuaded an unsuspecting parent to co-sign the contract.)

This was not enough, for they were still "rollin' in the

WORKER

him 24 hours a day.”

dough.” They decided to jaunt across the countryside to their hometown and flash their money over the bar in an effort to impress their friends with their new found freedom and wealth. Being independent, they didn't have to go home and get “un-needed” rest. Instead, the clock was as endless as their money, their ability to consume alcohol and their desire to drive cars fast and furious CRASH!! It happened!

Next, the investigation- and here's how it usually goes.

Someone has the gall to say, “Why did this accident happen? This airman was an outstanding worker,” or, “He was one of my best drivers!” In almost every case, he was allegedly a very responsible individual. The Commander or First Sergeant will say, “He wasn't authorized to subsist off base. I don't understand it!” Invariably, the supervisor's next question is, “What do you expect me to do, I can't watch him 24 hours a day!” Chances are that

the individual who makes the statement doesn't take enough interest to watch him even one hour a day. Why? Because he cannot and will not permit himself to look beyond his own interests. To put it even more simply and realistically, as long as he (the supervisor) is okay and nothing annoys him, he's happy. Even more than this, he has no love for his fellowman or the USAF as long as he gets his supposed due; money, stability, security, and prestige .

Strange isn't it . . . the supervisor's pattern fits the young man's. The airman's pattern coincides exactly with that of the supervisor who can't believe it really happened. Why can't he believe it? As a product of human nature, the willingness of younger airmen to follow an example is a trait we exploit to achieve personal discipline. Why then can't we accept the fact that our examples have both positive and negative aspects?

Accepting that, what can you do?

In essence, you are the leader and the supervisor. It is your responsibility to make every effort to recognize your shortcomings, and at the same time convey a clear picture of the responsible adult citizen to your subordinates. You must be able to identify with the new breed of airmen, their lighter controls and increased financial freedom. It is up to all commanders and supervisors to attain and demonstrate an active interest in these personnel and supply firm, precise, and mature guidance. At the same time, when the “bad egg” shows up, don't ignore him; that certainly won't make him disappear. Take appropriate means to control him, and, if the situation doesn't improve, let's throw the rotten one out before it decays the others.

A SUPERVISOR IS A LEADER...

ISN'T HE ?

Letters to the Editor

Green Apples-Red Faces

In reference to the article entitled "Green Apples," that appeared in TAC ATTACK April 1972 issue, I would like to correct the information concerning activation of the emergency oxygen cylinder ("bailout bottle").

The last paragraph stated: "Pulling it (green apple) will not only give you oxygen, but it will force you to slow your breathing." This statement is not entirely correct. Activation of the emergency cylinder by pulling the green apple will give you 100 percent oxygen under a positive pressure, but it DOES NOT force you to slow your breathing. In fact, an individual will tend to breathe faster to try to compensate for the oxygen pressure being delivered to the mask. The increased rate and depth of breathing will only accentuate the hyperventilation problem.

The proper method of treating hyperventilation is to personally monitor your breathing cycle. Pause, momentarily, between inhalation and exhalation. If necessary mentally count to four before starting another cycle.

Nathaniel E. Villaire, Capt., USAF
Physiological Training Officer
USAF Regional Hospital, Langley AFB, VA.

You're quite right. I've directed the editor to remove the egg from his face and to take a refresher course in physiological training. Ed.

APOLOGY

In the January 72 issue TAC ATTACK featured a story entitled "Ride 'Em Cowboy" by George A. Reynolds which first appeared in the spring 1970 issue of the AEROSPACE HISTORIAN magazine. We erroneously referred to this excellent periodical as the AIR FORCE HISTORIAN for which we offer our deepest apologies. . . . Ed.

Symbols

The March 1972 issue of TAC ATTACK contains the usual factual and authoritative articles of interest to all readers. Captain William B. James' article on page 28, "New Look in Aircraft Maintenance Management," was of particular interest to our unit since we are among those converting to the AFM 66-1 maintenance system. I would like to mention, however, that this paragraph 5 reference to office symbols for the Deputy Commanders for Logistics and Operations would not be "DCL" and "DCO" as printed, but rather "LG" and "DO", respectively. The intent of AFM 10-6 is to standardize office symbols at all levels of echelon as evidenced by Captain James' own symbol TAC/LGMMP. While titles change at various headquarters office symbols do not, hence the Deputy Chief of Staff, Logistics, at Hq TAC, has the symbol "LG," to confirm the AFM 10-6 application.

We thoroughly enjoy your fine magazine and wish you many continued years of equal success. Hopefully the aforementioned comments will not be considered as "nit-picking," but the article references have caused slight concern on our wing staff during this time of conversion.

Captain Ronald W. French
Chief of Administration,
516th TAW, Dyess AFB, TX

I can see where some confusion might arise. However, the article did not intend to imply that "DCL" and "DCO" were office symbols. Rather they were abbreviations (jargon) to identify the office holder rather than the administrative office symbol. Ed.

TAC TALLY

MAJOR ACCIDENT RATE COMPARISON

	TAC		ANG		AFRes	
	1972	1971	1972	1971	1972	1971
JAN	0	1.6	0	16.7	0	0
FEB	0.8	1.6	0	11.6	0	0
MAR	1.6	3.1	6.3	7.0	0	0
APR	3.0	2.7	8.0	4.9	0	0
MAY		2.5		5.7		0
JUN		2.6		6.9		0
JUL		2.9		7.1		0
AUG		2.7		7.8		2.7
SEP		3.2		7.4		2.4
OCT		3.2		6.9		2.1
NOV		3.3		6.9		2.0
DEC		3.2		6.4		1.8

AIRCRAFT ACCIDENTS

UNITS

*Estimated

	Thru Apr					Thru Apr			
	1972		1971			1972		1971	
	ACDTS	RATE	ACDTS	RATE		ACDTS	RATE	ACDTS	RATE
9AF	1	1.2	2	2.3	12AF	4	3.0	2	1.5
1 TFW	0	0	0	0	23 TFW	0	0	0	0
4 TFW	0	0	0	0	27 TFW	1	12.4	0	0
31 TFW	0	0	1	12.7	35 TFW	0	0	0	0
33 TFW	0	0	0	0	49 TFW	1	9.5	0	0
68 TASG	0	0	0	0	58 TFW	1	5.1	1	5.6
316 TAW	0	0	0	0	67 TRW	0	0	0	0
317 TAW	0	0	0	0	71 TASG	0	0	0	0
354 TFW	1	12.0	0	0	313 TAW	0	0	0	0
363 TRW	0	0	0	0	314 TAW	0	0	0	0
4403 TFW	0	0	0	0	355 TFW	0	0	0	0
					347 TFW	0	0	0	0
					474 TFW	1	8.2	0	0
					516 TAW	0	0	0	0
TAC SPECIAL UNITS									
1 SOW	0	0	2	9.3	4410 SOTG	3	32.0	0	0
2 ADG	0	0	0	0	4485 TS	0	0	0	0
57 FWW	0	0	0	0	4500 ABW	0	0	0	0

TAC		
APR 72	THRU APR	
	1972	1971

6	13	12
5	9	7
3	14	5
4	8	4

6	9	4
4	5	4
67%	56%	100%

SUMMARY

TOTAL ACCIDENTS
MAJOR
AIRCREW FATALITIES
AIRCRAFT DESTROYED

TOTAL EJECTIONS
SUCCESSFUL EJECTIONS
PERCENT SUCCESSFUL

ANG		
APR 72	THRU APR	
	1972	1971

3	8	4
3	7	4
0	1	2
3	6	4

3	5	3
3	5	2
100%	100%	67%

