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Today, the most important problem facing Tactical Air Command is the steady loss of combat potential caused by needless aircraft accidents.

An accident, by definition, is an event that takes place without expectation; it is the opposite of design or intent. Careful planning and purposeful intent, then, will reduce or eliminate accidents. Thorough planning requires foresight and understanding, both of which must come from experience. The people most capable of using foresight and understanding in planning are commanders who have worked up to their positions through years of experience. Properly used, a commander's experience and background should allow him to anticipate the hazards and pitfalls which lead to accidents and his planning should be oriented to avoid them.

Most of the aircraft accidents in TAC this year have been caused by operator error or material failure. The two causes are about equally divided. Such accidents should not continue to occur if adequate planning precedes each operation. It is an easy and lazy out to say that material failure is a problem of design and manufacture and that the operating level has no control over it. If this situation exists, the operating level must identify the deficiency and recommend modifications. Frequently, however, material failures occur as a result of improper or inadequate care of the equipment, either in operation or maintenance. This can be traced to a failure in planning ... and supervision. If the planning left a loophole that permitted a hazardous condition to exist, or a lack of supervision allowed the operation to deviate from a safe plan into a hazardous situation, the commander must shoulder much of the responsibility.

The more gross accidents, attributed to flagrant violation of directives or regulations, can especially be traced to faulty supervision which permitted an atmosphere conducive to these deviations.

I expect commanders at all levels to accept their responsibility for accident prevention, to eliminate needless risk through careful planning and to do their utmost to create a safe environment within Tactical Air Command.
During a routine safety survey one of the people on the survey team was dissatisfied with the corrective action being taken to correct the driving habits of an airman who had recently been picked up by the local police for reckless driving. The airman had been clocked at over 85 mph, and the corrective action was in the boys-will-be-boys category. While checking, the team member soon learned that this particular airman had a long history of speeding and reckless driving violations plus a few accidents to his credit. For some reason none of these events had triggered an alarm bell within the unit and he was receiving no special attention! The Base Commander was somewhat shocked to learn that such goings on existed in his unit. He thought everything was well under control.

Experience has shown that we must not look the other way when our people ignore traffic laws. We lose too many people, spend too much money and time patching them up and create too many problems within the local community.

Supervisors at all levels should be aware of this and pay particular attention to the driving habits of their men. The best way to keep our people alive and unhurt is to get tough with those who refuse to follow the traffic rules. If a man habitually violates traffic laws, can he be trusted to follow the more stringent directives which prescribe how he must do his primary military task? This is a crucial question which must be accurately answered and firmly acted upon.
The pilot was leader of a three-ship flight of F-100s on an air defense intercept exercise. Shortly after takeoff, the pilot came out of afterburner and noticed the aft overheat caution light was on. He retarded the throttle, turned wind for immediate landing, jettisoned his external stores. Shortly thereafter, the number one flight control system failed and the pilot engaged the ram air turbine. Just prior to starting a turn to base leg, the number two flight control system failed and the stick began to stiffen. At this time, someone advised that he was on fire.

The pilot's ejection and subsequent rescue are of interest to all fighter pilots. I will quote directly from the pilot's statement, then add pertinent comments.

I positioned myself for ejection and reached for the triggers but missed as they were too low, reached again and squeezed.

During the period 1962 through the first six months of 1965, ten out of 66 crewmembers who successfully ejected from TAC F-100 aircraft reported difficulty in finding or locating the ejection seat triggers. Some of the ten found they were squeezing the armrest release by mistake. Many solutions to this problem have been proposed and are being evaluated, but positive resolution is considered long term. In the interim, your best solution is to give yourself frequent drill in a seat trainer for your aircraft.

As the seat fired, I felt a pain in my lower back.

X-Ray photos revealed that the pilot had sustained a compression fracture. This type injury is generally the result of a pilot leaning forward while pulling the triggers. Improper positioning at the time of ejection continues to cause compression fractures. This again is an item where frequent training and practice are a must.

The pilot stated that after ejection he found himself apparently free falling on his back and waited several seconds for the chute.

When it didn't open, I grasped the chute handle with both hands and pulled. Still no chute for 3-5 seconds, when I saw the seat departing at about 10-15 feet, the chute opened with moderate shock.

The investigation revealed that the seat had operated in a satisfactory manner and that the delayed opening was probably due to the pilot holding onto the seat for a few seconds immediately following ejection. If this occurs, the chute will not deploy until the pilot leaves the seat. This is another continuing problem. Pilots should drill themselves to follow thru and try to beat the automatic equipment and to kick free of the seat after opening the belt. Remember, you can't beat the automatic equipment if it works properly and you can't hold onto the seat if you are trying to unfasten your seat belt.

His chute opened at about 300 feet and the pilot was in the water before he could deploy his survival kit. Once in the water he was unable to deploy it. This indicates a problem with the kit release mechanism, however, the unit didn't UR it.

By this time a small boat had arrived and the pilot was picked up by boat. The helicopter rescue aircraft was not able to pick up the pilot from the water with parachute attached, due to the added heavy drag. Crewmembers should be made aware of this and the proper procedures for releasing parachute canopy during water landing. However, if you are ever in this predicament and can't release it, try to cut the parachute risers instead of the individual shroud lines. This is a much faster way to get clear.
PULL UP YOUR CHAIR and get comfortable. I have a sad story ... a story about three high time pilots, a student flight engineer and an instructor flight engineer who managed to get tangled up with the elements and their big four-engined flying machine.

My story starts during final approach. Visualize two of the three pilots seated in their usual seats. The third, an IP, standing behind the right seat with the student engineer at the panel and the IFE looking over his shoulder. The tower has reported a 16 knot gusty cross wind from the left. The runway is wet.

The pilot in the left seat has the number four engine at 25 inches because it has been backfiring at higher settings and he’s making all power adjustments with the other three. As he flares the big machine over the overrun, he retards the three throttle to idle. The pilot in the right seat has been thinking about the landing and that 16 knot cross wind. He figures he’ll have to hold in some aileron for the other troop in order to keep things under control. He should have opened the throttle lock plate. Still watching the runway, he reaches for the throttles and pulls back one and two, thinking he has two and three. (Four is still up at 25 inches.)

Squawk! Scream! Thunk! The contraption is on the ground. The pilot tries to reverse, can’t, and opens the lock plate. Still watching the runway, he reaches for the throttles and pulls back one and two, thinking he has two and three. (Four is still up at 25 inches.)

The big machine swings left. #!! #! The left pilot cranks in opposite rudder, brake and more reverse on number two, still thinking it’s number three. Meanwhile, his helpful companion in the right seat gets on the rudder and brake with him while he cranks in full left aileron.

After a short trip thru the mud the big bird lumbers into a mobile control truck and catches fire. All hands scramble out unhurt.

Enter investigators, who check everything, listen to each man in the crew tell what happened ... then start writing words like asymmetrical reversing, improper technique and poor crew coordination.

These are big words for a dumb fighter pilot like TAT, but as near as I can tell, everyone was unhappy because the pilot in the left seat did not bring the throttles out of reverse when directional control started to go to pot ... because the co-pilot started stomping brake and rudder and putting in aileron without getting the nod from his leader ... because the instructor pilot was not monitoring this merry-go-round and did nothing, and because neither engineer said anything to anyone about the reversing error.

I can see their point and agree ... but before I let you jump on the bad mouth wagon, let me toss out a few chunks of raw meat for you to chew on. Chunk one; why did the pilot continue reversing after the bird started to veer left, instead of coming out of reverse? Was it because he thought the cross wind was causing the veer ... or was it because he instinctively attempted to correct with differential reverse (a technique he had previously used to good effect) and got caught this time? See the trap? The cure is to always use correct procedures so they’ll come natural when you’re in a bind.

Chunk two ... why did crew coordination crumble? Had the crew worked as a team very long? If the mission does not permit having close knit crews, are crew duties rigidly standardized? Had the co-pilot previously worked for an AC who wanted him to pitch in on his own? This crew coordination is a fragile thing at times. Each man must know what the AC expects of him. There are times when he must trust his AC and take no action. Other times he...
advice or pitch in to help without being asked. Anyone to formulate a hard and fast set of rules will cover each case. In this instance we have both extremes. The co-pilot cranking in aileron which made a bad situation worse instead of doing his assigned task of preparing throttles so the AC can reverse, and the pair of engineers who made no effort to tell the man he was making an error.

Another chunk of meat... were the engineers quiet because someone once stomped all over them for volunteering information? Perhaps neither were monitoring throttle at all. If so they may have been treating this as a touch and go landing instead of a full stop. What is the ratio between full stop and touch and go landings?

Finally, the IP who failed to catch the error. Had things gone so smoothly during the rest of the flight that he was certain these troops knew their stuff or was he checking something else when things started to fall apart? Perhaps he took the wrong moment to grade the final approach speed or some other such item. If so, when he looked back he would have had little time to analyze the problem and do anything constructive to correct it.

If nothing else, I hope I have shown both sides of this little story and have given you some ideas that keep you out of my next story!

ALTHO I DON'T weigh down my pockets with horseshoes, I do believe in luck. Take this TAC many-motored crew... they lost nose wheel steering just after turning clear of the active. Now that was luck. Bad luck. Not real bad, just nuisance bad. "Pressing on, someone noticed hydraulic fluid drooling on number two. More bad luck. The crew shut the engine down and continued taxiing. Approaching a crowded ramp, the brakes suddenly failed... serious bad luck. The crew was unable to steer with differential power and the whole unlucky construction was soon headed toward three parked F-100s.

The pilot hit the emergency brakes and - luckily - they worked. All this bad luck started from a ruptured hydraulic line in the number two nacelle.

Yes sir, I believe in luck. That broken hydraulic line was bad luck. It was luck, because the crew had no control over it. But, the nose gear steering system hinted at impending trouble and the drooling fluid fairly shouted that it was on its way. Why press on just to test your luck with the emergency system? Never can tell, it might be your day to be REALLY unlucky. Yeah, I believe in luck, I believe you make a lot of it yourself!

TAT SPOTTED this one in the morning message traffic... "While on downwind at 220 knots, I lowered the gear and advanced throttle. I checked rpm, but it remained at 80 per cent. While turning a short base leg, I selected emergency fuel and rpm responded normally to throttle movement. The landing was uneventful."

Not very exciting is it? Remember to use proper procedures and you'll avoid fright.

TWO YOUNG LIEUTENANTS, with just over 1000 hours between them, crawled into their U-6A (in case you are slow with numbers, that's the L-20) and chugged off an airstrip that is adjacent to an overseas ordnance range. There was no range activity at the time and a few moments after getting airborne the pilot radioed he was on final for a victor one maneuver.

A bit of humor, had he just left it at that and gone on his way. Instead, he pulled up, rolled inverted and on thru. The bird slammed into the ground in a near level attitude. The joking was over. This grim ending is unnecessary proof that airplanes are airplanes and are terribly intolerant of being treated as toys.

A YOUNG DART shooter left the range when fuel was down to a bingo of 2000 pounds. About four minutes later he noticed fuel was down to 800 pounds total, with 900 on the forward gage. He landed from a straight in approach with 200 pounds total fuel on board. After he taxied in they poured 1180 gallons
into the bird — meaning that he had exactly nine
gallons left, plus taxi fuel.

Close.
The unit checked and cleaned the fuel probes ••..
recalibrated the system and checked it out on the
run up pad, then flew the bird to minimum fuel on a
test hop •• all without finding anything amiss.

This tiger couldn’t help wonder if this young man
didn’t stay for an extra pass. If he did, he caused a
lot of good people to go thru a lot of needless effort
just so he could save face. I sincerely trust he is
honest even tho it means that this particular bird is
going to scare someone else.

This business of honesty brings up a point or two.
No commander in his right mind is going to penalize
a pilot who honestly admits an honest mistake or an
error in judgment. We’re in a complex business
and can’t avoid making an occasional error.

One of the old heads in the office was telling about the time he
checked the switches on his hundred and proceeded
to make a LABS that scattered tanks, pylons and
other gear all over the range. Much to his disgust,
when he rechecked the armament selector switch it
was on jettison all. He had misread it on the earlier
check. He saved the armament shop countless man-
hours by admitting his error and at the same time
saved others from making a similar goof because the
unit started painting the end of the knob day-glow
orange so it was easier to check.

LET’S SAY you’re driving a heavily loaded twin engine bird out over the high rough country when
fuel pressure drops on one engine. Whatcha gonna
do? If you’re flying a goon, the dash one says to shut
down the engine using the mixture control, then
feather the prop. If you follow this bit of advice,
you may find yourself in a sweat trying to dump c
in time to avoid the rocks. Some of the other dash
ones are less autocratic about this •• they explain
that a drop in fuel pressure CAN mean a fuel leak.
That you should check for a fuel leak and in general
keep the engine running if you need it badly enough,
shutting down when you are ready to slow the air-
craft for final approach. They explain that changes
in air flow as the aircraft is allowed can cause the
fuel leak to encounter hot exhaust stacks or other
ignition sources and go from a simple fuel leak to a
fuel-fed fire.

When shutting an engine down because of a fuel
leak, do the honors by cutting the mixture control
or turning off the fuel supply unless your dash one
specifies a different technique. Know the potential
hazard indicated by a drop in fuel pressure, weigh
the course of action and decide on the one that best
suits the conditions that exist. You may have to take
a calculated risk to avoid an accident, but that’s why
you draw flight pay.

AN INSTRUCTOR and his two students were re-
turning from a gunnery training mission when one of
the studs called, “I just got a big thump in my
gine •• rpm jumped ten per cent and down and I
got a fire in the aft section.”

“Roger Three, throttle off and turn left so I can
check you over.”

“See anything?”

“Don’t see anything, no smoke. Check your in-
struments and what is your rpm?”

“EGT is up to 600 with throttle off. It’s vibrating
pretty bad.”

“What’s your rpm, Three?”

“Fifteen per cent, the lights still on!”

Lead transmitted a May-day and then said, “I
don’t see any smoke, Three, try an airstart. Turn on
your emergency fuel, airstart ignition on •••

“The lights still on, Lead. The fire light.”

“Pancho Flight, this is Pancho Ops. Don’t try an
airstart if you have a fire light.”

“Roger, ah Three, disregard the airstart and set
up for an ejection •••”

The ejection was a success at around 3000 feet
above the hills •• even tho Three had some trouble
getting the seat to fire, possibly he didn’t get the
arm rest fully up before squeezing the trigger. Steady
readers of this column should be able to forecast my
next comment. That’s right, the stud was handlin’
this emergency better than his instructor!”

SEPTMBER 1965
The instructor's first error ... which probably had no effect on the outcome of this accident, but which could affect other emergencies ... was telling the student to stopcock. First action with a fire light, vibration, overtemp or any combination of the three is to reduce power to see if you can keep things under control and still develop some thrust. The thump and the overtemp confirmed the fire light and there should have been no doubt in anyone's mind that trouble was for real.

If you can't keep temperatures under control with reduced power, then go ahead and shut the thing down. Once you shut it down you can forget it. You are not going to get any more power from that particular engine - unless it's a J-79 that has been in compressor stall - which is an entirely different set up.

Error two was having the student fool around trying to nurse a crumpled engine to life while only three thousand feet above the hills. Sounds like the flight leader couldn't bring himself to believe that one of Uncle Sam's gold plated engines had finally come unglued. He has lots of company. I see several fatal accident reports each year where the involved pilot refuses to admit he is in ejection-serious trouble until it's too late to punch. I have no cure for false optimism, other than for each of you to think about emergencies and decide on what you should do under a given set of conditions so your plan of action is already formed when the actual emergency arises. Along this line, you still can't beat regular, realistic simulator drill. There's a heap of difference between having some SEF ask for the Engine Failure After Lift Off procedure and having that sudden loss of thought that accompanies the cold hard fact in your belly which is induced by that sudden loss of thrust at an extremely critical phase of flight.

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**TAC ATTACK**

"INVESTIGATION TO DATE," the message said, "indicates the pilot crashed while attempting to follow his flight leader thru a roll at a very low altitude ..."

No, this wasn't a rerun of a message sent during the fearful forties ... I checked the date and it was current. Well, like many troops of the earlier era, he'll never do it again. I'll wager a year's flight pay his leader won't get a chance to lead someone else thru another one of these either.

Each year we get a few of these bashes and I don't have to listen to the hangar flying to know that for each of them, many others pulled a similar stunt and got away with it.

Back in the old days I almost admired the spirit of those diehards - while condemning their lack of good sense and their disregard for fellow man. In those days the chief risk was losing one's life. The glamour and glitter of the flying business hadn't worn off and the exposed citizenry hadn't yet awakened to the fact that these foolish displays were at their expense and, often, at their risk.

I do not need to remind you that today a pilot may live thru the flat hatting but have someone witness his performance and bring about the end of his career in military aviation. Sincerely, this is as it should be. Today, there is no place for such childish antics ... the machinery is too expensive and the mission far too important.

I would imagine the head shrinkers have a field day explaining why some clods still fly this way ... they'd speak things that range from a secret fear of flying (yeah, get caught and you solve that fear!) to a need to impress.

I think most flat hatters are trying to prove themselves hot pilots, either to themselves or to other pilots in their unit. They listen to a lot of bar talk about the good old days, or about someone's more recent efforts and they misunderstand. They think this is the tried and true route to tiger status.

It ain't. If I want to find tigers, real honest tigers, all I need do is check the gunnery scores, the range log and mobile control log. Try it. You'll find the tigers in the flight that has no squawks. Those with comments on poor spacing, pass too steep or too flat, low pass, sloppy formation on initial, bad spacing, landed short or long and hot, will be the culls. Invariably, the gunnery scores will verify the logs. It all goes together.

Flat hatting is not the route to tigerhood. And don't go whining about working off frustrations. You can do that in the gym.
Ground Safety

CONTACTS

People who wear contact lenses should carry a card in their wallet stating that they do wear contact lenses and that the lenses should be removed from their eyes if they are involved in an accident and become unconscious for a period of time. Contacts can do serious damage if left in the eyes for a few hours during unconsciousness.

Another tip, if you are a sunbather and wear contact lenses you should remove them before sunbathing. There have been cases where a person stayed in the sun too long and the contact welded to the eyeball.

HOT SEAT

This airman first was working the midnight shift in the ground power shop. About two hours after he reported for duty, his super told him and an airman second to put a new fuel pump on an MC-1 compressor.

They got the new pump on, but the new pump didn't have enough suction to draw fuel and they had to pressurize the tank. While pressurizing the tank, fuel splurted out onto the airman first, getting all over his pants from waist to his knees.

His super sent him to the john, telling him to take his clothes off and let them dry, explaining the raw fuel would burn his skin. The airman first went into the latrine all right, but sat down in one of the cubicles after lowering his trousers. While meditating, he absent-mindedly (that's the only way I can explain it) fired up a cigarette. He blew out the match ... but some moments later, a bit of burning ash dropped off the coffin nail and ignited his britches. And that's when the fun began.

After extinguishing the fire and waiting for the zipper of his trousers to cool, he checked himself for damage and then got someone to drive him to the hospital. Laugh if you will, but several people are hurt each year just because they did not use their heads. Will we read about YOU next?

JUDGMENT

Safety is often a matter of judgment. Good judgment is a pilot's most valuable asset ... his good judgment and the good judgment of the mechanics, traffic controllers and other people who work to keep him flying. The same applies at ground level. A short time back I became a victim of the skate board craze. After I bounced off the pavement all kinds of people started telling me how dangerous these boards are. I look at it this way ... skate boards, like aircraft, boats, skis, surf boards, and a lot of other things, have certain limitations. If you exceed the limits, or press too close to them, things get downright nasty and you are asking for an accident. Actually you shouldn't call it an accident because the event is foreseeable.

The skate board can get very unstable at speed. The speed at which it becomes unstable and starts to back off is very close to your max running speed, making a bailout risky. If the board hits an obstruction or becomes unstable at high speed on a steep hill and if you get tangled with it trying to bail out, or just stumble ...

If you choose to try your skill at this new sport, take a tip from me and pick your play area with care ... build up your skill as you progress toward faster slopes or more advanced maneuvers, but beware of speeds that make a bailout risky, because eventually you will spill. No, the boards are not excessively dangerous ... unless you ignore their limitations and leave no margin for error ... but that goes for anything.
Major Lewis stirred his coffee and watched the passengers make their way into the commercial Convair on the ramp below. He spoke, more to break the silence than anything else, "The guy who designed this hash house had the right idea. Big picture windows overlooking the whole airfield... that's my kind of atmosphere."

The Old Sarge absently nodded agreement. He wasn't exactly in his best mood. The bed in the motel room was swaybacked and sleep had been a struggle from one uncomfortable position to another. The eggs he'd just finished looked as if they had been swimming in a drip pan, and to top it off, the coffee was pitifully weak by maintenance office standards. Besides, he was mulling over the C-123 accident that had brought them to this place.

The Convair coughed out clouds of light grey smoke as its crew started first one engine then the other. The smoke apparently triggered a response from Major Lewis. "That bunch was pretty lucky the other night." The Old Sarge was thinking the same thing. "Yes sir, a few minutes more and the fire in that left nacelle could have burned thru into the fuel tank and that would have been it."

"Seems real weird that an electrical problem started fuel in both nacelles." Major Lewis thumbed thru a battered steno pad. "You figure the sudden overvoltage cause the fuel boost pumps to overspeed and that this cause the pumps to develop fuel starvation?"

"Yes sir, as you know, voltage was high enough to pop light bulbs and voltage-high enough to do this would cause the pumps to develop well over 50 psi. Fuel disconnects and B-nuts started squirting fuel at 50 psi."

Lewis tested his coffee and grimaced. "My wife makes stronger tea than this!" He put the cup down and returned his attention to the problem. "Seemed right that the system was all connected. Shorted wires in the nacelles would be a likely source of ignition once the hydraulic lines burned thru, and both fires fed on this after the fuel pressure dropped to normal."

"Right. Until the left main fuel line burned thru just after touchdown... a good thing they got the fire under control."

Lewis turned to a blank page. The Old Sarge took a worn envelope from his pocket and unfolded it. "The problem started about four months ago when they installed another APP generator to replace one with a sheared shaft. Later the same day the battery overheated. They trouble-shotted the system, found the voltage a bit high, installed a new generator switch and paralleled the generators. The next write-up was a month later, and was followed by four more write-ups during the next two months. To correct them, they paralleled the generators three times, trouble-shotted the system once, and once found a bad connector on the regulator. This was after number two generator dropped off the line."

The write-ups got real frequent starting about a month ago. Number two generator dropped off and would not reset, number one went off the line on landing... they found an open field in number two.

"Two days later, number two dropped off again and had to be manually reset after every take-off. They found a loose lead on number one. Two dropped off again four days and four flying hours later. They trouble-shotted and replaced the field control relay, but got a repeat write-up the next day. It flew eight hours and then number one dropped off. It flew two hours and came back with an overvoltage squawk. Each time they'd find something wrong, fix it, and hope they'd cured the problem. Yesterday morning a pilot aborted takeoff because one generator warning lights came on. The right one reset OK and the left seemed to correct itself. The next takeoff was OK. They made a third takeoff and both generator fail lights came on. Maintenance
checked the system and installed a new regulator for number two, paralleled the generators and tried to get ops to run a high speed taxi test that afternoon since most of the trouble seemed to start during takeoff."

Major Lewis sighed, "Too bad they didn't get around to it instead of mulling over the situation until it looked less and less serious. Anyways they finally launched it at night on that training flight. Too bad they didn't wait. I'll have to brief this thing, so let me run over the flight itself...see if I miss anything."

"All right, sir."

"Everything went perfectly normal until their second takeoff. Then, number two generator dropped off the line just after they picked the gear up. The co-pilot reset it and checked the voltage. It was 28 volts, but moments later number one dropped off the line. The flight mechanic pulled the throttle back on the APP, thinking it was forcing the engine generators off the line. At the same time, number two dropped off the line. The flight mechanic returned the APP to run while the co-pilots tried to reset the generators electrically.

"Unable to reset them, he put the APP on the line, but got no help from it. They were in the dark, which means the battery was dead too. Using a flashlight and checklist, the co-pilot started thru the generator out procedure. The flight mechanic asked him to take the APP generator off the line, which he did, and then the flight mechanic went back to manually start it. He reset the APP field control and started the unit. Normally he would have let it idle, but it was already warmed up, so he put it over to run. At this point he should have reset the control relays for both engine generators. Instead, he reasoned that number one was kicking number two off, and that the APP was the best cure."

"All this time, the pilot was beating around for landing and extending his approach, anticipating electrical power. The co-pilot then put the APP on the line, all lights came on and they got the gear extended. They tried to contact the tower, but couldn't raise them.

"About this time the co-pilot noticed cylinder head and carburetor inlet temperatures were off scale on the low side. He figured the single phase inverter had failed, although the warning lights weren't on. He switched to the spare and both failure lights came on. The pilot told him to put the single phase inverter back on the line, which he did. The co-pilot then checked the APP voltage and found it slightly low. Meanwhile the pilot had started his turn onto base, flashed his landing lights to alert the tower, and put flaps to the takeoff position. Within seconds, sparks started showering down from just aft of the wing beam or the ceiling of the cargo compartment. All lights became extremely bright and the bulbs started exploding.

"The pilot called for everything off, but fires had already broken out in both nacelles and in the battery compartment. The pilot pulled the T-handle on number one, but without electricity this had no effect. Somehow he managed to get the bird onto the runway with the co-pilot holding a flashlight on the airspeed indicator. Firefighting equipment was already headed their way, since the fire department people saw the flames while he was making his approach.

"The APP worked OK during bench check, but after ten minute voltage started fluctuating. Exact APP voltage is what caused them..."
trouble instead of one of the
engine driven generators.”

The Old Sarge spoke, “True. Also, the engine driven generators
may have already been ruined by
then.”

“A good point. Now for main-
tenance. Altho most of the main-
tenance corrective actions were
pretty much normal and reason-
able, they were missing the true
cause of all their problems.”

The Old Sarge nodded, “An-
other case of curing symptoms
instead of the cause. The APP
voltage regulator and reverse
current relays were likely giving
intermittent trouble. This would
be hard to spot unless someone
went ‘way back to that first write-
up the day they installed the new
APP and got suspicious. Now, it’s
easy to see…but that always
seems to be the case.”

Major Lewis glanced at his
watch. “Time we got started. You
know, after looking at this one, a
fellow can see why it pays to stick
to the published emergency pro-
cedures. Then, if things fall apart,
the powers that he will have to
blame the aircraft or the proce-
dures instead of including you on
their list.”

“I guess you’re right,” the Old
Sarge murmured, “but I still think
that crew did a fine job, every-
thing considered. They were try-
ning and they were thinking, and no
one should blame them for not
being able to analyze the true
cause of their problem when main-
tenance had been unable to come
to grips with it after almost four
months of troubleshooting.”

By the end of the war in Europe,
this unit had moved 45,000 tons of
cargo, evacuated 50,000 wounded
and transported 98,000 passengers.

By the 18th of July, 1962, the 516th
had flown a variety
of worldwide commitments such as the ski mission from
Greenland with the only Air Force ski equipped C-130’s.

The present commander is Col. W.G. Duncan.
An F-105 pilot couldn’t get a good chute after landing his big beast, and tried three times to drop the hook for a possible BAK-9 engagement. But, he was unable to break the safety wire on the guarded switch. The arrester hook switch was safetied with a double strand of .018 copper wire instead of .014 wire in accordance with TO 1F-105D-2-2. This may sound like a small item, but it isn’t to a pilot when he is headed toward the boondocks rapidly running out of runway, time and ideas.

The chances that some people are willing to take in order to save a few seconds! For example, an airman decided he could check to see if an M-39 cannon was loaded by just glancing down the muzzle. If he couldn’t see a round, the gun was not loaded. He used this “technique” to check weapons on aircraft coming back from the gunnery range. Can you imagine? Peering down the business end of a 20 MM cannon that might be ready to cook off a round!

In addition to being extremely dangerous, his short cut was ineffective. A bird came back from a mission, he peeked down the barrel and saw nothing but black. He stepped aside and another man on the armament crew pulled the trigger... a sure way to prove if a gun is loaded or not... BLAM! It was.

Did he blame his shortsighted shortcut? Indeed not! He explained the accident happened because he was wearing sunglasses and they kept him from spotting the live round!

contamination is a dirty word

Not long ago there was a lengthy TV show about Doctor Pasteur and some of the problems he had educating his contemporaries. He couldn’t seem to convince them to sterilize their knives before operating on their fellow man. He couldn’t get most to even wash their hands.

Now, as any TV addict well knows, the medics go thru a complex little washing ritual which is routine. Off hand, our fluid handling in and around the Air Force is at about the same level that surgery was during Pasteur’s day.

A few dedicated maintenance people recognize the importance of keeping things absolutely clean... but the rest can’t seem to bother. Check thru the incident reports here at TAC and you can almost visualize the emphasis each unit is placing on proper fluid handling.

Units reporting numerous hydraulic pump failures, fuel control, flight control and AB malfunctions generally have poor fluid handling control. You’ll find them with a bird in the hangar with its aft section off and uncapped lines dangling a few inches above the floor. The hydraulic mule will be in similar shape...

We even spotted one unit that had sawdust spread out under the aircraft to catch fluid drooling from the unprotected fittings. Men working in the area couldn’t help but kick sawdust on an occasional fitting. This compares with the old-time doctor who performed surgery with a scalpel he’d just dropped in the barnyard and wiped clean on his trouser leg.

When a hydraulic pump fails, they’ll write...
An incident report and advise that they're replaced pump, leaving one and all to wonder if they ordered to flush out the system and clean the filters. By the time someone asks 'em about it, 'tis too late and the new pump has been ruined.

Present day aircraft are almost human and their fuel, oil and hydraulic systems are terribly intolerant of foreign material. To keep them running trouble free is no small problem... lines and fittings have to be covered with plastic caps, plastic bags or heavy aluminum foil every time they are broken apart, regardless of how soon they are to be reattached. The same holds true of the fittings on the hydraulic mule and the fluid used to service both the aircraft and the mule. One slip anywhere along the line can undo all the good work.

But, in the final analysis, all of this cleanliness really pays off, just as surely as it does for today's doctors.

**modifications and modernization**

Many improvements go unnoticed because no one realizes they are significant or because the Airman or NCO who discovers a way to improve on a system item of equipment knows unauthorized changes are so and allows the improvement to die a natural death. Perhaps the people involved were not familiar with the procedures for presenting improvements. The details are spelled out by AFR 57-4 and supervisors should make certain everyone knows about this reg.

Basically, Class 1 requests should go thru channels to TAC and give a full bill of materials, including federal stock numbers, part numbers, military specifications, number of items needed, type of material and approximate cost. The request should give the AFSC's involved, along with the man-hours and hourly rate of each operation. It should specify the manufacturer, or installation required to accomplish the improvement. It should tell how the improvement is accomplished and tell how it will effect AGE, training aids and so on. This sounds complex, but is often easier done than said.

When we receive the modification package here at TAC we will get configuration board approval, approval from the prime AMA, and if the mod is to be retained over six months, get authority to press on from HQ USAF.

After this is all done, we'll assign a command emphasis code, publish details of the modification and send it to other affected units.

**TAC ATTACK**

For years we've had two big troubles with our precision measuring equipment... torque wrenches, tire gages and such... getting people to use them and keeping them properly calibrated. Everyone agrees that you can inflate a tire more accurately by checking its pressure with a gage instead of eyeballing the bulge on the bottom side... and everyone agrees that a man can torque bolts a whole lot more accurately using a torque wrench instead of going by feel. However, when there's only one or two tire gages on the line... or the fitting to be tightened is buried in the bird's innards where an agile man with two elbows on each arm is hard pressed to get at it, people start to cheat on the system.

The answer to this is adequate supply, better design and a hard-nosed attitude. You can reach more with that torque wrench than you may think! However, there is much less excuse for uncalibrated equipment.

We have systems to insure that precision measuring equipment gets frequent checks. Don't get lazy and ignore these checks... and take care of the equipment so it doesn't get knocked out of calibration between checks.

Don't go piling tools on your torque wrench, for example. You know how to treat these items, so treat them with the special care they deserve.

**not so well oiled**

Most car owners keep a pretty good check on the oil level in their heap to make sure it doesn't get too low or use so much oil it's in danger of running it out. They'll take reasonable care to check on a piece of equipment that may not be worth more than five bills, yet some of these same people can crew a two million dollar airplane and ignore the amount of oil it uses. This hardly makes sense.

If a car engine runs out of oil and grinds to a halt, the driver can coast to the side of the road and walk. When an aircraft engine runs out of oil, the pilot is going to be hard pressed to save the bird. Sometimes he'll even have trouble saving his neck. Stupid as it sounds, we still have cases where this happens. In the last one, the pilot observed the oil pressure fluctuating and got back on the ground before the J-57 failed. It took 15 quarts to service it, there were no oil leaks and consumption checked normal on the test stand. The form 781, part 2, did not indicate when the engine was last serviced with oil. Would you treat your car this way?
A Marman clamp, or V-band coupling, is used to connect and seal tubing and ducting or to attach accessories. When handled properly and installed correctly, it is very effective and time saving. Removing, replacing or inspecting is a one man operation, the clamp goes on or off in a few seconds. But don't let its simplicity fool you. Improperly handled or incorrectly installed, it will not perform its sealing function and leaks will occur. Hot air from aircraft engine compressors, leaking around an improperly installed coupling, has burned wiring, deformed metal components and started fires. Fuel, oil or hydraulic leaks caused by incorrect handling or use of Marman couplings have caused system depletion and serious accidents.

The Marman Division of Aeroquip Corporation produced a pamphlet on the correct handling and installation of V-band couplings and generously permitted us to reprint from it. The few simple rules below contain the secret to success... and safety!

We believe this article should be mandatory reading for all aircraft mechanics.

WHAT IT IS

COMPONENT PARTS

- STRAP
- TRUNNION
- T-BOLT
- V-RETAINER
- QUICK-COUPLER LATCH

Y-BAND COUPLINGS ARE USED ON DIFFERENT TYPES OF FLANGES. HERE ARE SOME OF THEM:

- O-ring Flanges - Rubber gasket (reusable).
- Sheet Metal Flanges - No gasket required.
- Machined Sheetmetal Flanges - Metal gasket (not reusable).
- CONOSEAL Flanges - Metal gasket (not reusable).
SLIP THE COUPLING OVER THE FLANGED TUBE OR DUCTING. DON'T SPREAD IT MORE THAN NECESSARY.

WHAT IT DOES
IT REALLY JUST SQUEEZES THE FLANGES TOGETHER.

NOW YOU'RE READY TO PUT THE V-BAND COUPLING TO WORK (ALMOST)
FIRST YOU'D BETTER CHECK THE PART NUMBER. MAKE SURE IT'S THE NUMBER CALLED OUT IN THE PORTS MANUAL. COUPLINGS MAY LOOK ALIKE, MAY EVEN FIT OK, BUT EACH TYPE HAS ITS SPECIAL USE. EXPECT A LIGHTWEIGHT TO DO A HEAVYWEIGHT'S JOB AND YOU WILL HAVE TO MOP UP THE LEAKS.

MARMON CLAMPS ARE NOT DESIGNED TO BE USED AS RIGGING TOOLS TO CORRECT MISALIGNMENT ... THEY TO SUPPORT EQUIPMENT DURING EMBLY.

AND THERE CAN BE NO MISALIGNMENT OR GROWING APART OF THE TWO TUBES.

NOW YOU'RE READY!

SLIP THE COUPLING OVER THE FLANGED TUBE OR DUCTING. DON'T SPREAD IT MORE THAN NECESSARY.

TAC ATTACK
Check for proper torque value in your parts manual. (Sometimes it is shown on the part). After initial tightening with a socket wrench, tighten the nuts to about 70 per cent of maximum indicated torque. Tap around the outside of the coupling with a rubber or plastic mallet to distribute band tension.

**STOP! DON'T OVER-TORQUE!**

**THE EVILS OF OVER-TORQUING!**

**THIS IS WHAT HAPPENS WHEN A COUPLING IS OVER-TORQUED**

- The band crowns or bows.
- The retainer bottoms out against flanges.
- Retainer legs spread.

**HERE'S WHAT IT LOOKS LIKE WHEN PROPERLY TORQUED**

- Note gap between I. D. of retainer and O. D. of flanges.

Some small sized couplings are purposely designed with curved T-bolts...they look like this.

Over torquing can also strip the T-bolt threads. Sometimes so slightly as to be invisible to the naked eye, but enough to cause coupling failure. If you know a coupling has been over-torqued, don't reuse it.

**OVER-TORQUED** note bent T-bolt, turned T-bolt head and deformed quick coupler.

**PROPERLY TORQUED**

**SEVEN WAYS TO AVOID GOOFS:**

* Make sure you have the right part number.
* Check in your parts manual for correct torque for each specific coupling.
* Do final tightening of couplings only with a torque wrench.
* If you have a leaky joint, extra tightening won't help. You have the wrong coupling, a damaged flange, or a non-reusable gasket.
* Be sure the T-bolt is correctly seated.
* Don't use Marmon couplings as rigging tools or pipe stretchers.
* Never deliberately bend a T-bolt to force a coupling to fit.

**YOU MADE IT!**

You now qualify for expert on the Marmon V-band coupling. You should be getting your badge any day now.

- TAC ATTACK
I'm now a believer. From now on I'll not trust anyone or anything. I used to read articles in the safety magazines that warned pilots to always tune in all available nav aids when making landings so they could monitor controlling agencies. Like most pilots I endorsed the practice but never could find time to follow thru with it on most approaches. No problems, so I stayed comfortablylid and complacent about my need of specific aid.

Sure I trusted the controllers, I still do, even after that big bird crept into that California hill during a radar vectored climbout. I agree it was a shock to learn that climbout vectors keep you clear of other traffic but pay no mind to ground clearance. I still trust the controllers because I have yet, but I do trust them explicitly and I'll tell you why.

Five of us were bringing our F-105s into attack air base, that's not the name of the place, but it'll do for now, and I protected the guilty bird by using a in a plains area with some mountains about 20 miles south of the station. Inbound, we split into two elements and a single, and approach control gave each of us vectors to get spacing on other traffic. Weather was remarkably good. About 1900 scattered, 13,000 overcast, two or three miles in haze. The scattered deck was variable in breaks.

I was leading the first element and was planning to make a TACAN approach just before they split us for vectoring. We had a little trouble getting our call signs straight with Approach Control, but finally ironed it out to everyone's satisfaction.

As I recall, they asked me twice for my Brack estimate before we split the flight. We were about ten or twelve minutes out the last time. I was having a little radio trouble, as usual, and Phil, my wingman, was having to make some of the calls, but the radio straightened out when we changed channels and got closer in.

We squawked 3-04 for the man and he told us we were 35 miles south. He had us turn to 360 and maintain FL 290 for vectors to precision final. If I recall, he asked me why I was lowest, I figured it was for me and asked. It was, so I turned and continued on down. He turned us over to feeder control and they told us to continue heading 320 and to perform our landing cockpit check. He asked me to turn back to 320 and he gave me a turn to 230 just before I dropped the rollers. We were in the clouds at the time, so I glanced over at Phil to see if he was managing OK. He was still hanging in nice and tight. The controller turned us to 220 and asked if we had performed our landing check. He told him we had. He said, 'Roger, you're 24 miles north northwest of Brack.'

He seemed fairly busy, and gave instructions to three other aircraft in the space of two or three minutes. I called once to remind him we were steady 320, 4000 feet. We were in and out of clouds and I'd glance down when we were in the clear and we seemed rather close to the ground. I called and asked if he was certain he had me. He said he was, that we were 18 miles north northwest. He asked me to squawk ident. I did, and he turned us to 240, then started giving us no gyro instructions. About this time we broke out of another cloud and there was this hill sticking up into the next one! Holy cow! Another ten seconds on that heading and we'd have splashed. I yelled something over
the radio and pulled up. As soon as we got clear I had Phil squawk ident and the controller really flipped. He told us to climb to 10,000 IMMEDIATELY! We were already half way there by then. We talked to the senior controller after getting on the ground and he couldn’t really explain it, other than some other aircraft must have been following the headings they’d been giving me, at about the same time.

It could have been a case of someone deliberately following my headings for practice...I’ve heard of that happening, no darned if I know what practice that gives a man.

The main point is that I know fairly well where the mountains were around the area and could have easily prevented that scare by paying a little attention to my TACAN. Believe me, I will from now on out!

better mousetrap

POOPY-SUIT POOPER

Looking for a pin-hole leak in an anti-exposure suit can be mighty tedious, but every suit in every TAC unit must be inspected each 60 days. TSgt Edward J. Conner, NCOIC of the 317th Troop Carrier Wing Personal Equipment Section, became concerned over the time it took to handle the bulky suits and dreamed up a simple, yet efficient device to speed inspections.

The suit is attached to a four gallon metal drum and inflated with low pressure air from the exhaust side of a vacuum cleaner. A bright light mounted inside the drum lets the inspector easily spot abrasions and small holes which might otherwise go undetected. A far more detailed inspection can be performed in about one-third the time than was previously required.

The neck of the suit is fitted over the drum and sealed by tightening the draw cord. The wristlets are closed with the wrist straps allowing a small amount of air to escape to avoid over-inflation. With the rig mounted where all external areas are exposed, the suit is readily accessible to the inspector.

Sergeant Conner reports that all parts except the vacuum cleaner were from scrap materials, keeping the cost down to almost nothing. He spent approximately three man-hours assembling the device, using a four gallon metal drum, two metal straps for mounting, an electric light fixture, switch and extension cord, plus a seven inch section of 5/8 inch tubing from the vacuum cleaner.
Sideslip missed the morning meeting. He wasn’t just late for it; he missed it! But he wasn’t worried. They’d made him a flight commander for this deployment, hadn’t they? With such an important position it was logical that he’d have special duties that would occasionally take him away from the squadron. And that deal last night was a perfect example of the responsibilities a flight commander-type picks up. There had been a few details to clear up this morning and as he entered the squadron tent he decided the best move would be a casual word to the ops officer that he was going to report to the squadron commander on the incident at the main gate that he had been investigating...

"Yes, sir," Sideslip was being as affirmative as he could, "it looks to me like the AP could have prevented the whole thing... he let that farmer drive this load of hay right up to the main gate before he told him that all trucks must use gate three."

"Don’t stand there and just ‘well, sir,’ me, what were you guys up to?"

"Well, sir... I mean, it was like this, sir... I, uh... we, that is... they had con... uh, talked the club officer into allowing them to put on a hay-ride party. You see..."

"I’m beginning to see... don’t make me ask who ‘they’ were."

"I was doing my best to stay away from a discussion of that, sir," Sideslip felt terribly deflated. This interview wasn’t turning out the way he had planned. But the boss was still talking...

"... so when he said he wanted someone to bring the F down and pick up the Division Commander, I foolishly gave the colonel your name as a responsible, conscientious type who could do the job."

"You mean you want me to go back home, pick up the general and bring him up here for..."

"It may not be what either one of us wants at this point, captain, but the gods have ordained that our Division Commander should meet the commander of this base the day after what will forever be known as the hay-ride debacle." The C O..."
had a menacing look on his face, "And you're going to bring him up here, so go check on the weather and work up a flight plan... I have to call the command post and tell them when you'll be arriving."

Sideslip tossed the CO his most responsible, conscientious salute, turned in a military manner, and dashed out of the tent. He commandeered what passed for the squadron pickup and ordered the driver to take him to base ops.

Sideslip had regained his composure by the time he reached the weather station. He calmly surveyed the situation. A cold front with possible snow in the higher planes moving fast... get south and east of it and all's clear. He did some fast figuring in the remarks section of a 21A and called back to the squadron.

Within an hour and a half he was in the air, knowing the supreme satisfaction of a solo dash into the clear autumn sky. It wasn't going to be a long haul and he let it climb in burner... the thrusting surge of power helping to ease the frustrations of the morning.

As he levelled off, Sideslip's mind turned toward the general. The Old Man was a real terror... he hadn't come by that "Wild Will" tag by accident. They said he kept a red rug in his office so the blood wouldn't show, and that nothing upset him more than a poorly planned or incomplete mission. He considered an abort a crime more heinous than any other thing a man could do, Center interrupted Sideslip's thoughts.

"Sideslip Two, Center, weather advisory. Your destination now reporting 500 feet and one mile visibility in dust with frontal passage within the next hour."

Sideslip stood straight up in the cockpit. Five hundred and one normally wouldn't bother him, but the front was just approaching... and he knew what these premature winter storms could generate in the way of sleet, icing and slash on the runway. The way his timing was working out, his arrival would coincide with the worst of the frontal passage. And if he landed anywhere else, he'd probably incur the worst of the general's wrath.

His only hope was for Homeplate to go below minimums in time to force him to divert. Wild Will couldn't do any more than cuss the weather.

If he landed somewhere else, he'd never be able to pick up the Old Man today... maybe the ruckus over the ill-fated hay-ride party would subside, given a bit a time.

"No, Boy. ..." Sideslip scolded himself. "That's not the way to approach the problem. Face it out! Wild Will respects the pilot who can get through to accomplish his mission."

He'd just decided that he'd press on as long as the weather was at minimums or above, when Center told him it was still dropping... down around two hundred obscured.

As he studied the letdown for Nellis... as good an RON as he could think of... al ready to call in a change of flight plan, he thought, "Wild Will couldn't expect me to break regulations, below minimums and all... he might be mad at the weather, but I'm not going to give him a chance to be mad at Sideslip!"

As he worked out the justifica-
modeled and reported that the ceil-
is actually 300 feet and ap-
ach visibility three quarters of a mile. Since the weather is at
minimums, are you going to try an
approach?"

"Leave it to some smartalec.
many-motor to go into a field that
was reported below minimums," Sideslip thought. A picture formed
in his mind of Wild Will pacing Base Ops, knowing the field wasn't
below minimums, waiting. He couldn't stand the thought, and
shelved all his Vegas plans for another, brighter day.

The approach was barely
routine although he had made it hun-
dreds of times. The last few feet
of the GCA got kinda tense, but
Sideslip broke out... well, he saw
the strobe lights... as he passed
minimums. The landing was good,
considering he made it more by
instinct than anything else and the
runway wasn't too wet. He man-
s to brake to a reasonable
ed before he spotted the taxi-
way and skidded precariously
around the turn.

Since he had been too busy
to call the command post in the air,
he twisted in the manual frequency
as he taxied and called, "This is
Sideslip Two... on the ground.
I'll be ready to take the general
aboard as soon as I'm refueled.
I'll call you from the line shack
when departure time is firm."

"Sideslip," The Command
Post sounded almost apologetic,
"The General left from the com-
cmercial airport about twenty-five
minutes ago... right after he got
that call from some base com-
mander up north. He was certain
you wouldn't land here in this
weather, and he was muttering
something about going on a hay-
ride with you... nobody really
understood him."

**Long before we learned to drive, we learned the
meaning of most traffic signs. First we learned the
very basics... red and green mean stop and go... and gradually began to understand that driving is con-
trolled as much by the signs outside the car as by the
wishes of the driver.

By the time we were ready to start driving our-
selves, we knew all about the meanings of individual
signs... square ones are basic warnings, octagons
are STOP, triangles are YIELD, and a double stripe
means don't pass.

Yes, we knew all about traffic signs. Or did we?
How about the traffic signs that are not painted
yellow or white, the ones that don't change from red
to green? How many of the other traffic signs do you
see and react to now that you've been driving for
ten... or twenty... or thirty years?

The other traffic signs are the movement, speed
and direction of your surroundings as you pass thru
them. Here are a few... see how many more you can
think of.

When a ball rolls across the street, EXPECT a child to fol-
low it!

If the car in that driveway has a driver in it, he may be
ready to back out... look for his back-up lights and for move-
ment.

Is that car approaching the intersection going too fast? He
may have missed the stop sign... be prepared to get out of
his way!

When a driver stops at the curb ahead of you, give him
room... he'll probably open his door in your face!

When a parked car has a driver in it, look at the front
wheels... if they're turning, he is probably starting to pull
out in front of you.

A bike or two on ahead means slow down and expect any-
thing!
FLASH

Rumors have a way of multiplying when there is a change of command. One which caused a great deal of speculation in recent weeks concerned the SEG. To keep the matter straight and in perspective, the status as TAC ATTACK went to press was as follows:

The 4450th Stan/Eval Group as a unit will be dissolved. The responsibility for Stan/Eval functions will be transferred to the Deputy for Operations, Headquarters TAC, with each ops staff agency assuming their appropriate responsibility for the program. It should be pointed out that dissolution of the 4450th does not mean the end, or even de-emphasis, of the standardization and evaluation program in TAC. Rather, it is a realignment and decentralization of responsibilities. And strong program, more responsive to the needs of unit commanders will continue.

TAC ATTACK will keep you informed as the program develops.

L/Col I. T. Van Patten
Asst Chief, Office of Standardization and Evaluation

WHY?

By Captain Eldon D. Olsen

"I'm flabbergasted! Who'd a thought old Jim would flunk a written test on his air machine? He has had a solid month to get ready. With any reviewing at all, he should have had a cinch to ace it. But a 63% overall grade, spiced with five bold face procedures wrong -- I can't believe it!!!"

How many times have you heard a similar spiel from some dazed supervisor? How many more times will we hear this question being asked?

The only answer that seems to fit is that, "the troops just ain't studying." With all the effort SEG puts out to prepare master question files, added to all the effort each unit makes to print and distribute study guides to the crew members, there isn't much excuse for anyone to fail an examination. Can you imagine the outcome if one of these indiv...
wed a similar lack of purpose or dedication to a lian job? You guessed it! They would end up either fired or bankrupt! But even this would only affect their personal well-being. When you goof off around aircraft, you go beyond your own personal well-being and into the well-being of others. So let's all get into those study guides and manuals and sharpen up on this thing called "professionalism."

Who knows? The aircraft or life we save might be our own!

NEW CONCEPT FOR AIRCREW EVALUATION MANUALS

At present, there are 23 different series TAC manuals being used to evaluate aircrews during stdn/eval checks. Many of the areas and items that are graded on proficiency and instrument checks are identical and there is naturally a great deal of duplication among the manuals. During the past few months, a study has been made to determine the feasibility of combining all criteria in one manual. It was concluded that two basic manuals would be the minimum requirement, one for jet and one for conventional aircraft. Drafts of these new manuals have prepared, combining the best parts of the manuals now in use. Of course, there are some items and areas that will not apply to certain aircraft. These items/areas will be tagged "not applicable," e.g., ARA not applicable to C-123. The draft manuals, numbered TACM 60-6 (Jet) and 60-7 (Conv) have been given to selected examiners to use on a three month test. At the end of this test period, the decision will be made whether or not to continue with this project.

Tactical evaluation criteria would continue to be published individually for each tactical weapon system, as appendices to the basic jet and conventional grading manuals.

MAINTENANCE STANDARDIZATION/EVALUATION

Now that we have visited many bases and the field is becoming more aware of SEG-M, specific items of interest should be covered. This month we would like to cover the use of study guides.

In the aircrew program, each aircrew member is normally provided a personal study guide, prepared from the Master Question Files on his aircraft. Those who have seen the size of the Mainte-

TAC ATTACK
STUCK GEAR

The Fifth Air Force Safety News told of an RF-101 pilot who was unable to extend the left main gear. After trying all procedures, he intentionally exceeded gear down limit speed and retracted the other main gear. He pulled the gear control circuit breaker and this left the nose gear down and locked. The pilot then landed on a foam runway, touching down on the nose gear and external tanks. He used nose gear steering to keep on the foam. The aircraft slid 3300 feet and damage was confined to the flaps and one lower AB shroud.

THREE POINT

The F-105 was further out than normal when the pilot turned final for landing. He checked 220 knots on both the airspeed tape and the standby indicator. He slowed the aircraft and held it at 190 knots with power until he was over the overrun, then decreased airspeed and landed short of the spot he was shooting for. The main gear and aft section touched down simultaneously. After shutdown, the airspeed tape was found to be stuck at 170 knots. Although the incident report charged the damaged skin, speed brake and busted IFF antenna to pilot factor, this one was probably set up by a defective Central Air Data Computer which caused the airspeed tape malfunction. An angle of attack indicator ... and proper use of it ... might have saved this one. Of interest, extreme nose high attitudes are not always evident since some pilots tend to lean forward when trying to wish one one, and this changes their normal references.

GOONEY GONE

Almost eight years ago a Navy F-11F test pilot started a shallow dive after firing his 20mm cannon. About 13 seconds later he ran into the spent projectiles and literally shot himself down. Well it happened again ... only this time they used a gooney bird. The pilot tried to fire JATO and bottles failed to fire. He hit the switches ag firing the second pair of bottles. Airborne, he actuated the jettison and firing switches simultaneously. All bottles jettisoned and the two unfired bottles ignited. One clobbered the port prop, the engine fell off and down came one each gooney. Fortunately no one was seriously injured.

BOOM-SEAT BUSINESS

The pilot involved in a recent Navy bash reported the ejection was normal in all respects; however, the accident investigation uncovered significant evidence that he had ejected thru the canopy. In many instances where the pilot reports no obvious malfunction, investigation of the ejection system comes to a screeching halt. The importance of detecting all malfunctions in this system always warrants a detailed investigation. Minor malfunctions, if uncorrected, have a nasty way of growing into major problem areas. ... usually after a fatal ejection attempt. A malfunction which results in a five second delay in ejection would hardly be noticed above 5000 feet, but it would probably be fatal below 500.

— USNASC Cros.
UN D CHECKED OK?

On a live close air support napalm run, three of the four cans released normally, but the left outboard wouldn’t go. The pilot brought his F-100 around for another try using the outboard auxiliary release... this time the 335 gallon tank smartly separated from the aircraft, struck and ruptured the napalm can, then proceeded to damage the left wing tip, left horizontal stabilizer and punch a five by fifteen inch hole in the aft fuselage. When the pilot got the bird home, he learned maintenance had trouble shot the bird for an identical problem three days before, but couldn’t find the malfunctions. After the maintenance cats had a bent bird and an irate herder on their hands they finally impounded the bird until they could determine a positive cause.

OIL STAINS

A recent OHR from a training base tells of a smart young fellow who charged forth on an av training mission carrying three extra cans of engine oil in the cockpit. All went well until one of the cans leaked all over his clothing bag. It doesn’t say what kind of a reception he got at the club that night, but it does have some potent thoughts about oil-soaked canvas, oxygen pressurized cockpits. If you must carry petroleum-base fluids around in your airmachine, make a special effort to keep the stuff away from the LOX... you can have your TDY suit cleaned, but it’s a mite more difficult to recover from the spectacular results of an oil-oxygen mixture in the cockpit!

FINICKY F-4C

An F-4-C pilot had trouble getting started after landing at a Navy base. Seems they serviced the bird with JP-5 and the J-79-15 has its ignition system, fuel nozzles and fuel control all set up for JP-4 and doesn’t run too well on other fuels. In fact, it would be almost impossible to get an airstart on JP-5.

If you’re stranded and must use something besides JP-4 in a J-79-15 powered machine, fill it with the lowest grade aviation gasoline available.

AW, C’MON GUYS

Overseas incident report:

Pilot failed to deploy chute until airspeed was too slow for deployment... all pilots briefed to remember to deploy drag chute.

How about briefing pilots to turn off the runway... shut down the engine before they climb down the ladder?

TAC ATTACK

HAZARD REPORTS

An Operational Hazard Report is the first chance at accident prevention. An overlooked problem invariably leads to serious accidents, loss of lives and aircraft, and a reduction in TAC’s combat capability... unless someone observes the problem and takes time to report it.

Now isn’t that ridiculous - to think that you, the pilot, navigator, flight mechanic, loadmaster, or crew chief can help prevent accidents! One would almost think you were a safety officer. And who said a supersonic fighter or hard working assault transport should be safe? Isn’t flying dangerous, after all?

If those are your thoughts, consider this! Every accident is the result of a sequence of events - a series of little mistakes. Eliminate just one step in the sequence, and you will probably prevent the accident. Why shouldn’t flying be safe? We have tried through brains, hard work and training to make it so.

So what’s so big about an Operational Hazard Report? It is the first step to success, and the basis for our effort. It does make every man a safety officer, and it does get results.

The program is designed with you in mind. All you have to do is be alert, and observe a hazard. Write it down, call your safety office, or send a wire. Sign your name, or be anonymous, as you please. Just join the program, and see how safe flying can really be when we try.

DOWN THE HATCH

The 4452CCTW safety newsletter, Phumbs Up, warns F-4 drivers not to put helmets and other gear on the canopy rails. Anything that falls off the rail when the engine is running will most likely go down the duct into one of the world’s more expensive grinder upper. Nuff said.
Not long ago, an OHR came bounding up thru channels because a TAC crew arrived at a southern airpatch, taxied to the transient parking area, calmly shut down the engines on their machine and pressed on with their business. The hazard? Well, seems the bird was hauling 16,000 pounds of high explosives!

The crew hadn't said a thing to anyone. Fact is, they didn't realize that 160 one hundred pound bombs require special treatment...like a special parking spot out in the boondocks. The directives are scattered - or buried - thruout Air Force Manuals 71-4, 127-110 and TO 11A-1-33, AF Regs 55-4 and 60-5.

Basically, they say that if you are carrying explosives, you should contact the tower before takeoff or landing and let them know what kind of cargo you have. They'll have special taxi and parking instructions for you. Cargo such as this should warrant an entry in the remarks section of your clearance, too.

Regardless, the next time you have an explosive cargo, get in touch with your transportation officer and have him brief you on ALL the safety precautions required for that specific cargo...like the bird must carry a placard when carrying Class-A explosives and so on.

Both the number one and master fire warning lights flickered just before a crew started to taxi their C-130 bird. "No sweat, the dadburned fire detector system gave false indications on the last two flights. Signal chocks out and we'll let the engineer check it when he gets thrufooling with that door."

"Sir, this is the loadmaster, smoke is pouring out of both number one and number two...

"Shut 'em down! Shut 'em down! Get the extinguisher while I secure things!"

Apparently the starter control valve failed, allowing the starter to continue running after it was de-energized. It oversped, failed, and high temperature air escaped into the number one nacelle, causing the ruckus. Aside from not taking things for granted, this episode illustrates the danger of not making (or keeping) fire warning systems reliable.

An F-4C pilot noticed the wheels light blinking after he turned downwind from his fourth touch and go landing. The BLC malfunction light was also on, but was quite dim. He extended the gear and attempted to lower the flaps. The flaps would not go down; he made an immediate no flap landing.

The left trailing edge BLC valve had failed internally, sticking full open. Heat damage to wiring popped the flap circuit breaker. F-4C pilots are cautioned that a BLC failure can deprive them of normal flap control. If this occurs, they should attempt to lower flaps with the emergency system. Altoh this limits trailing edge flaps to half flaps, it will open the BLC louvers and reduce further heat damage.

"I was leading a flight of two F-4Cs on a practice nuc weapons delivery and was descending to maintain five-by-five...five hundred knots and five hundred feet. When I saw the other flight of two, they were slightly above us, and it looked like we had ample clearance. However, both folded their wings and entered a dive. It was too late to take evasive action and I felt a thump as the leader bounced off my inboard pylon. I won the engagement and he'll never attack another big bird intruding on his private hunting territory."

Bird strikes, such as this, are definite hazards when flying low level missions and it pays to have your visor down in case one goes for your eye.

On takeoff, approximately 300 KIAS, a dove (gross weight approximately three ounces) struck the windshield. Aircraft (gross weight 11,300 pounds) was in one G attitude, 1600 feet MSL. Angle of collision headon. No damage to aircraft.

A moderate vibration warned a T-bird crew to expect trouble just after they picked up the gear and started to climb out from a touch-and-go. The bird soon lost thrust with much rumbling. The crew tried a gang start as they declared an emergency and bent the bird out and back in a sort of procedure turn to a downwind landing.

The IP dropped gear and flaps during the latter part of the turn, then noticed another bird on the runway. He made a quick decision, skidded over alongside the runway, and landed on the sod. Damage was minor, and the engine problems were induced by a failed vane on the compressor that caused extensive turbine damage.
Capt. Thomas B. Blaikie of the 4447th Combat Crew Training Squadron, Sewart Air Force Base, Tennessee, has been selected as a Tactical Air Command Pilot of Distinction.

While demonstrating a stall series to a student C-130 crew, Captain Blaikie felt an explosion and saw the number two engine turbine light come on. The engine was shut down and the number one fire extinguisher discharged into it, but the overheat light remained on. Based on inflight inspection, Captain Blaikie determined the number two engine turbine had disintegrated throwing fragments into the left wheel well severing utility hydraulic lines; however, there was no fire present. By allowing the utility system to deplete, Captain Blaikie ascertained he would have five minutes of usable pressure if the flaps and gear were not activated. He lowered gear and flaps, refilled the system, and turned off the number one pump. Just before landing, Captain Blaikie turned on the pump so he would have normal braking and nose wheel steering. As a backup he selected emergency brakes prior to executing a successful landing. Captain Blaikie's thorough knowledge of his aircraft and its systems and his professional handling of this emergency, qualify him as a TAC Pilot of Distinction.

Technical Sergeant Cecil L. Stambaugh, 464th Field Maintenance Squadron, Pope Air Force Base, North Carolina, has been selected as a Tactical Air Command Maintenance Man of the Month.

Staff Sergeant Calvin C. Resinson, of the 4528th Organizational Maintenance Squadron, Nellis Air Force Base, Nevada, has been selected as a Tactical Air Command Crew Chief of the Month.
Captain Bobby J. Ussery, of the 313th Troop Carrier Wing, Forbes Air Force Base, Kansas, has been selected as the TAC Outstanding Nuclear Safety Officer for the six-month period ending 30 June 1965.

As an additional duty during the activation of the 313TCW, Captain Ussery developed and administered an outstanding nuclear safety program. He set up an effective nuclear safety training program for all combat crews and established a thorough and carefully coordinated nuclear safety plan in conjunction with AFR 122-1 and AFM 122-1. While participating in surveys and staff visits, Captain Ussery continued to prove his value as a qualified nuclear safety officer by assisting and guiding reserve units attached to the 838th Air Division. His extensive and professionally applied nuclear safety program was rated outstanding by Twelfth Air Force during one of their recent staff visits.

Captain Ussery’s diligence and hard work to create an effective nuclear safety program qualify him as a TAC Outstanding Nuclear Safety Officer.

Major Bobby D. Cornell, of the 4504th Missile Training Wing, Orlando Air Force Base, Florida, has been selected as the Tactical Air Command Outstanding Missile Safety Officer for the period 1 January through 30 June 1965.

Major Cornell initiated and completed many outstanding safety projects during the awards period. He originated a monthly supervisor’s safety training program to insure pertinent missile safety information was available at all working levels. Major Cornell researched all Air Force nuclear mishaps and included a description and cause factor analysis in the Wing’s safety information file. In conjunction with his permanent party oriented safety program, Major Cornell has developed and continues to conduct detailed safety briefings for all incoming students. He visits the missile compound daily to insure a before-the-fact accident prevention program and help correct deficiencies.

Major Cornell’s continual and dynamic missile safety program qualify him as a TAC Outstanding Missile Safety Officer.

Staff Sergeant Earnest L. Ricket, of the 4504th Munitions Maintenance Squadron, Nellis AFB, Nevada, has been selected as the Tactical Air Command Outstanding Contributor to Nuclear or Missile Safety for the six-month period ending 30 June 1965.

Sergeant Ricket is assigned as a weapons load crew chief and has performed numerous flawless missile loadings in support of the Wing missile training program. During the last six months, his crew performed 30 AIM-9B and 10 AGM-12B missile loadings on the F-105 aircraft. No missile loaded under his strict supervision was involved in a missile accident or incident. His crew was monitored and observed during all of the live launch missile loadings, and no safety violations were detected during any of these operations. Because of the high standards and safety compliance demanded by Sergeant Ricket, he has acted as the overall supervisor for multiple missile loading operations. He and his crew received highly favorable comments for their excellent performance while demonstrating AIM-9B loading procedures during a TAC Missile Safety Survey.

Sergeant Ricket’s continuous high standard of performance, safety conscientiousness, and outstanding display of professionalism are exemplary goals which other load crew chiefs should strive to achieve. Well done, Sergeant Ricket.
The accident picture was a little less bleak in July, but we still have plenty of room for improvement... seven major accidents with three pilots killed and one badly hurt. All seven aircraft were destroyed.

An F-84F pilot got into a spin at 14,000 feet while in simulated air combat. He got the spin stopped, but did not have enough altitude to finish the recovery and was still with the bird when it hit the ground.

The pilot of an F-104G was killed when his aircraft rolled vertically to the left shortly after takeoff on a dart tow mission. He ejected, but was too low at that attitude to survive. The aircraft was carrying two 165 gallon tip tanks with the dart rig on the left pylon. Another F-104 pilot was killed when he tried to eject after his aircraft appeared to pitch up, yaw and roll during recovery from a hot rocket pass. Cause of both accidents is unknown at this writing.

An F-105D pilot received major injuries after he ejected at low altitude when he apparently stalled and decided he could not recover from a random rocket pass. Another F-105 pilot ejected successfully after his bird flamed out from fuel exhaustion. The pilot was busy with details of a combat mission and didn't monitor fuel. The external tanks failed to feed.

Two F-100D pilots made successful ejections during the month... one after a maintenance error caused his right rudder to go full up. He couldn't maintain enough control to permit landing. The other hit trees while flying wing on a TACAN approach into a 400 foot ceiling with a half mile visibility. He pulled up with a very rough engine and unsafe gear to eject short of the runway.
WINTER FLIGHTLINE HAZARDS WILL BE WITH US SOON AND SO WILL RUN UP AND TAXI PROBLEMS!!!

Vehicle movement on icy ramps is precarious - keep speed down and use caution.

Don't rush thru your work because of the cold, remember this is a critical time when good maintenance is important.

Remember, cold weather means more thrust from jet engines and chocks on ice covered ramps tend to slide away from the wheels.

You may find yourself doing acrobatics on top of a slippery wing if you're not careful!!!

Remember, cold weather makes water more of a problem in pitot systems, stickwells and fuel tanks. Don't forget to drain them regularly.

Make use of wing covers, keep ladders covered and do not use stages without rails.

Ground wires and receptacles are easily covered with ice, take time to find and see them.

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Remember, cold weather makes water more of a problem in pitot systems, stickwells and fuel tanks. Don't forget to drain them regularly.

Be sure to keep windscreens clean - lots of oil and residue will be blown on them from anti-ice and deicing systems!

With proper care and planning we can be expert in our winter operations!

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