

TAC ATTACK

TAC Attack

June 1978

Mayday pg 4

JUNE 1978



MAYDAY...MAYDAY...MAYDAY...

Pg 4

TACTICAL AIR COMMAND

TAC ATTACK

JUNE 1978 VOL 18 NO 6

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TACRP 127-1

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George M. Sauls, Colonel

Angle of ATTACK

SUMMER---'78

One of the colder, wetter winter seasons in recent years is now a memory of the past. The weather has adopted a more agreeable demeanor and the warm temperatures and fair skies are beckoning us all to undertake the annual ritual known as the summer vacation.

The military and civilian members of TAC will log countless highway miles in their automobiles and recreational vehicles during vacations and the numerous PCS moves which occur during the summer months. The urge to get as much enjoyment as possible out of off-duty time is inescapable. Don't let this urge lead you into proceeding recklessly.

The off-duty activities which rank number one and two in fatalities to Air Force personnel are driving and water sports. I am convinced that if we approach these and other recreational activities with the respect which they deserve, we can drastically reduce our summertime loss of life.

I urge you to take a few moments of your time to carefully plan your vacations and trips this summer. The short planning exercise will allow you to anticipate many problems and take steps to avoid them. Above all, your planning should assure that you have the right equipment, safety and otherwise, for whatever activity you plan to undertake.

A moment's inattention or carelessness could lead to a less-than-enjoyable summer vacation. Our off-duty time is well earned. We should enjoy it to the utmost. ➤

George M. Sauls
GEORGE M. SAULS, Colonel, USAF
Chief of Safety

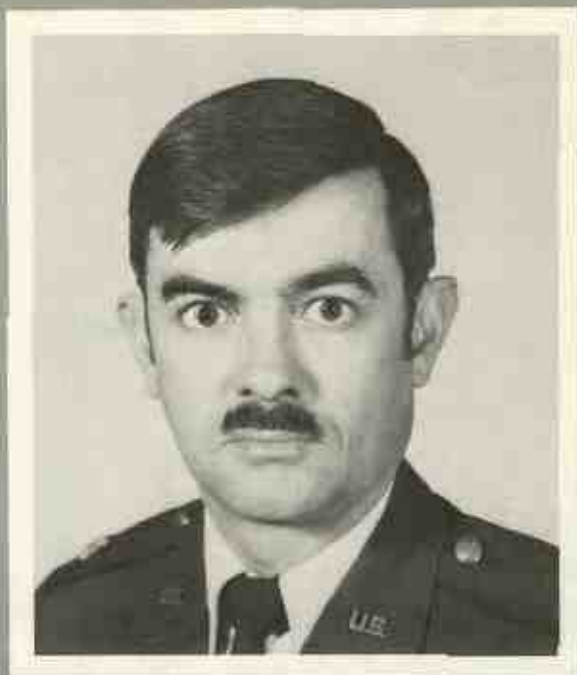


AIRCREW of DISTINCTION

On 28 March 1978, Major Fowler and Captain McCloud were flying F-5E aircraft engaged with four F-15s in a Dissimilar Aerial Combat Tactics (DACT) training mission near Eglin AFB, Florida. Major Fowler was flying as number two on an Aggressor upgrade mission. Captain McCloud was the instructor pilot flying the lead aircraft. The two pilots were in a left turn, at 20,000 feet and 1.2 Mach when Major Fowler's canopy suddenly shattered. He was severely injured by flying plexiglass causing the loss of his right eye and greatly impairing the sight of his left eye. Despite the severe pain and shock, Major Fowler immediately recovered his aircraft, initiated distress calls, gave a position report to his flight lead, and turned his aircraft toward Eglin. Captain McCloud effected a rejoin while directing and coordinating emergency recovery procedures with the controlling agencies and the Eglin AFB command post. Rejoining with Major Fowler, Captain McCloud gave timely and accurate instructions on altitude, attitude, airspeed, and heading to effect the safe recovery of this wingman.

Despite his injuries, Major Fowler demonstrated exceptional composure and airmanship while simultaneously maintaining aircraft control and responding to information provided by his flight lead. He executed a perfect landing, taxied clear of the runway, and completed post-landing procedures prior to being helped from the airplane.

Major Fowler's and Captain McCloud's exemplary airmanship and flight coordination under most serious conditions prevented loss of life and the saving of a valuable aircraft. Their performance qualifies them as the Tactical Air Command Aircrew of Distinction. →

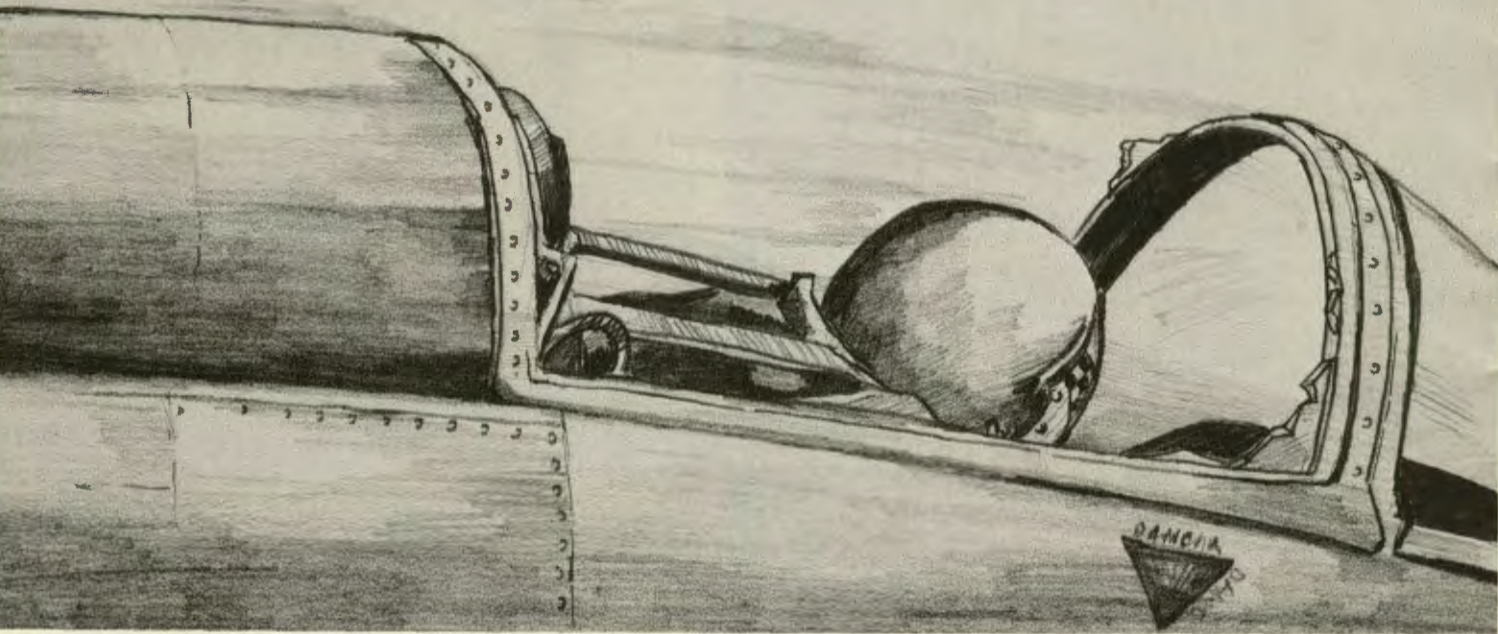


Maj Raymond D. Fowler
64 FWS/57 TTW
Nellis AFB, NV



Capt David J. McCloud
64 FWS/57 TTW
Nellis AFB, NV

MAYDAY, MAYDAY, MAYDAY



I had the greatest job in the world. With one more ride I would be an Aggressor with the 64 FWS at Nellis. I had wanted this assignment ever since I first heard of the Aggressors being formed. After coming out of a staff tour at HQ TAC, I had been humbled many times while trying to reach up to the standards of this superb organization. Finally, the day arrived for my graduation flight, and a "real" Aggressor sortie was scheduled for the afternoon. I was looking forward to a good day.

About a week before, my class plus several instructors had deployed to Eglin AFB to complete our training against 33 TFW F-4s and F-15s from the 1 TFW at Langley. We had been enjoying some excellent flying; in our spare time, we had eaten a raw oyster or two -- it had been a good TDY.

The morning of March 28, 1978, dawned

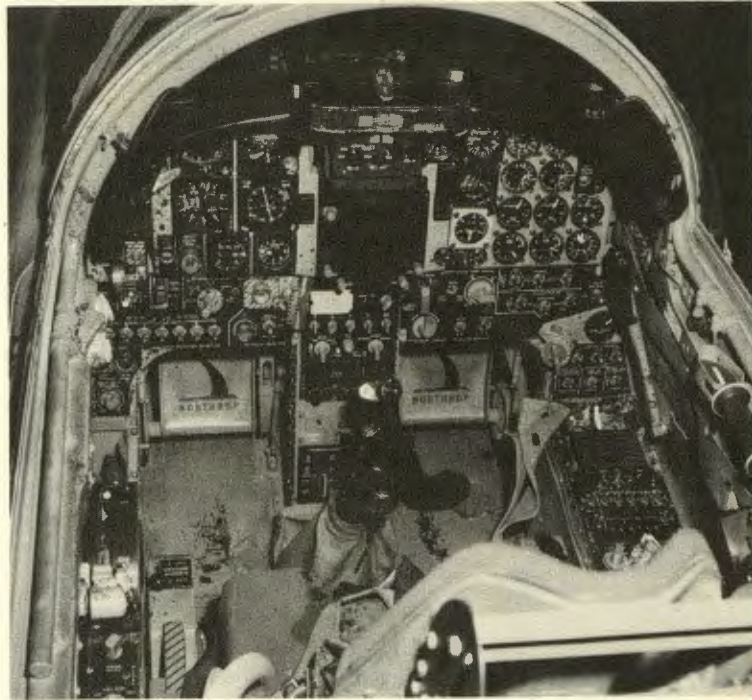
bright and beautiful. I met Capt Dave McCloud for breakfast at the club. Dave was my IP for the flight. We had flown together numerous times, and we always did well.

At 0925, eight of us met to brief the mission which included four F-5s and four F-15s. Since the F-15s had more endurance than the F-5s, we were sending just two F-5s in at a time. Dave and I were to be the second shift.

Suit-up and preflight were normal. As usual, the crew chief's last words to me were, "Have a safe flight." Dave and I taxied, made a formation takeoff, and climbed to 35,000 feet to await our turn.

Although we had intended to enter the fight at 36,000 feet, cirrus clouds at that altitude changed our plans. We would have to go in at our low block -- 16,000 feet. When the first flight of F-5s cleared out of the area, we

Major Raymond D. Fowler
64 FWS/57 TTW
Nellis AFB, NV



changed to the fight frequency and started a descending left turn from west to south. We were in full AB with about 30 degrees nose-low so the airspeed built up rapidly. I was about 6,000 feet behind Dave concentrating on keeping him in sight while looking for F-15s. I had my cockpit tape on, and I made several comments to use in the debrief in order to reconstruct the fight.

"Coming through 240, descending through 27,000."

"Six minutes after." We were doing about Mach 1.2 and still increasing.

"Rolling out 180."

BLAM!!!

I felt like I had been shot in the face with a 105 mm shotgun. There was pain in my right eye, blood was splattering on the instrument panel, and the world was suddenly very bright. The noise was an unbelievable scream.

"Mayday, Mayday, Mayday, ... Mayday."

At first I did not know what hit me, but something sure as heck was wrong. I ducked low behind the instrument panel. Now I could tell that the plexiglass of the canopy was gone as was my helmet visor. I had this dull pain in my right eye, and I could not see on that side. I **HAD TO GET THE PLANE SLOWED DOWN!** I chopped the throttles to idle, dropped the speed brakes, and pulled out of the dive. About 30 seconds had passed.

"Mayday, Mayday, Mayday, Mayday. Dale has lost part of his canopy, he's at 19,000 in a right hand turn, and I've got some damage to my right eye."

In retrospect, that probably was not the most informative call to make, but it was truly the only thing I could think of to say. I had the plane slowed down to about 400 knots and was in a right turn to Eglin which was about 55 miles away. The fight had been knocked off; and Dave and a couple of the F-15s were getting snap

vectors from GCI to me. However, because of the wind noise, I could not hear them. I switched to Eglin Tower.

"Eglin Tower, this is Baron 24."

"Baron 24, Eglin Tower."

"Baron 24 has lost his canopy; I've got some damage to my right eye; I'm 45 miles south right now declaring an emergency, and I'm heading north as fast as I can."

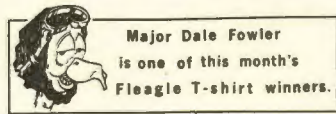
At this point, my biggest concern was getting back to Eglin before I bled to death. I wanted to go fast but the windblast caused problems. I compromised around 300 knots.

About this time, an F-15 joined up on my left side followed shortly by Dave on the right. Their presence did a lot to help my morale which certainly needed a boost right then. My biggest problem communicating with them was the noise of the wind. I had been flying with a hot mike before the canopy blew. Finally I realized that by going cold mike and turning the radio up to full volume, I could hear transmissions much better. My transmissions going out were still a bit garbled because my mask was cut in a couple of places. When I transmitted, the mike picked up a lot of wind noise.

"Dale, can you see?"

"Yeah, I can see out of one eye."

The first thing Dave did was ensure I could see. The wind was blurring vision in my left eye



MAYDAY...MAYDAY...MAYDAY...

so I positioned my head right behind the instrument panel so I could see the attitude indicator and HSI and could protect the eye from the wind. The left lens of my glasses was splattered with blood which limited vision a little more.

I had been flying back at 15,000 feet. Beginning to feel dizzy, I descended to about 10,000 feet to help ensure that I would not get hypoxic. It was also cold. I remember seeing the blood "smoke" when it hit the cold instruments.

"Dale, you going to be able to see to land?"

"Yeah, I'm protecting my left eye right now because the wind gets in it and tears it."

"OK?"

"OK."

"I've got blood all over everything though."

"If it gets too bad when we drop the gear and get on final, I'm going to have you clean it up and we're going to have you jump out."

"I'm going to make it."

"OK."

The active runway at Eglin was 19, but we were lined up for 01 and got it upon request. I set up a normal straight-in with Dave cross-checking my rate of descent and airspeed. As I



slowed down, there was less noise; and the wind did not make tears in my left eye as much. It was painful to rotate my head, and it was also painful to move my eyes around. In other words, my cross-check was lousy. I expected to have some problems with depth perception, so I asked Dave to call my altitude above the runway the last 200 feet.

Dave gave me altitude calls down to 5 feet. I got into a little bit of a PIO trying to find the runway. Touchdown was about 1,500 feet down the runway. I deployed the drag chute to expedite stopping, but it failed. There I was in a 130-knot roller skate. Although you should not get on the brakes at that speed, I did; and the F-5 stopped beautifully. Since I was in a hurry to meet the Flight Surgeon, I rolled to the end, turned off, taxied past a couple of planes, and shut down.

"Eglin Ground, 24 is clearing the end, and I need assistance."

"Roger, crash vehicles are responding; once off the end, hold your position, and they'll take good care of you."

Thirteen minutes had passed since the canopy had gone.

While the firemen were positioning their ladders, I put my seat pins in. They did not want to believe I had done that, but I finally convinced them, got unstrapped, and out into the ambulance.

I spent 5 hours in surgery. Unfortunately, I did not bring back enough of the right eye to fix, although I know the doc did his best. I got the bad news as soon as I woke up. Enough of that.

Let's talk about some of the things we found from looking at the pieces. The canopy plexiglass disintegrated for reasons not yet confirmed. I did not hit a bird or anything else. Pieces of the canopy hit me, breaking my visor and the right lens of my glasses, and driving the lower frame of my glasses into my right eye. The hard shell of my mask was broken on the right side. The visor cover on the left side of my helmet was broken. The visor was pitted in front of my left eye. I came too close to losing both eyes.

To talk about how I feel about not being able to be a practicing fighter pilot would take several more pages. It is enough to say that what has happened has happened. I enjoyed what I got to do, and nothing can take away my fighter pilot attitude. You never know, maybe somebody will invent a bionic eye and I'll be right back in there.

WOULD YOU LIKE TO HAVE ONE ?



Photo by Joe Lahouchuc

Hi,

Do you like my outfit? It's quite unique you know. Not everyone on the block has a Fleagle T-Shirt of their very own. They're not available even in the most exclusive stores. Want one just like mine? Here's how to get it.

Write an article for TAC ATTACK on any aspect of aviation-maintenance, life support, training, survival, weapons delivery, or even your own personal, completely original "war story." If your article is chosen best-of-the-month, you'll be a winner and join the elite club of T-shirt wearers.

People in USAFE, PACAF, AAC, and others throughout the Air Force need your ideas on how to do the job better, more effectively. Don't wait, send your articles to:

Editor, TAC ATTACK
TAC/SEPP
Langley AFB VA 23665
ATVN 432-2937/3373

Debbie

I'll be waiting to hear from you !

TAC TAC TIPS

One man that has a mind and knows it, can
always beat ten men who haven't and don't.
Shaw

Throttle Stoppers

The F-4 mission proceeded normally until afterburner termination on the takeoff leg. The right throttle was difficult to move and would bind when the pilot attempted to retard it below 90% RPM. An emergency was declared, fuel was burned down, and the aircraft maneuvered for the landing pattern.

Later attempts to free the throttle loosened it enough so it could be retarded to idle -- however, when the idle stop was reached, the engine flamed out. A successful restart was made, and the right throttle was left at 80% during the straight-in approach and landing.

What happened? -- the starter breech cap came loose and jammed under the throttle crossover shaft. The cap may have been improperly installed; however, no abnormalities were noted in preflight. Do your best on the preflight and try to find the obvious things that may cause you trouble.



...interest items,
mishaps with
morals, for the
TAC aircrewman

Look OUT !!



Two F-4s were operating on a published low-level route at 1,000 feet AGL when the wingman called out, "traffic at 12 o'clock level, 1 mile and closing." The flight lead was on a collision course and pushed over. At the same time, the conflict aircraft, a yellow and white Cessna, began a climbing right turn. The lead F-4 pilot estimated the miss distance to be less than 500 feet, and later stated that had he not seen the aircraft and taken evasive action, there would have been a collision.

The subsequent investigation revealed that the FSS responsible for the area was not aware of the F-4's presence even though the flight had coordinated through the OPR for the route and had made several calls on UHF to the FSS without a reply.

This incident once again proved that you have to keep those eyeballs engaged whenever you're flying.

Preflight Responsibilities

During a formation takeoff, the airspeed indicator on an RF-4 failed shortly after coming off the peg. The takeoff was continued with all other indications being normal. Once airborne, all pitot static instruments began fluctuating. A safe formation approach and landing were completed.

After landing, both pitot-static drain plug caps, located in the forward nose gear well, were found to be disconnected and hanging by their safety chains. It really doesn't matter who left them disconnected. The aircrew should have noticed them on their preflight.

Most preflight checklists are sketchy and incomplete. That, however, is no excuse for missing an obvious discrepancy. It's your aircraft. You don't have to check it out as if you were going to buy it; but you ought to pay close attention to the areas that could get you in trouble.

Excuses For Not Making A 781 Write-up

**BY Capt Lawson
FSO, 64 FTW
Reese AFB, TX**

1 "Well, it seemed OK toward the end of the flight."

2 "That's OK, mine looked fine back here."

3 "I would, but we're three days behind and hell, it's VFR."

4 "Maintenance will just CND it anyway."

5 "Well, (expletive) we're halfway back to the squadron now."

I could go on and on (used most of them myself, it seems) but the point is that the 781 is the only clue to the aircraft's individuality. (No Margaret, they are not all alike.) When you make a write-up that is corrected by a CND, at least you have passed on a little information to your buddy who is flying the aircraft next period. Not only that, some nitpicking complaint could

actually be a symptom of something far more serious impending. How about FOD? It's mighty tough to bite the bullet and admit that you might have lost that John Travolta autograph comb in the cockpit instead of your car.

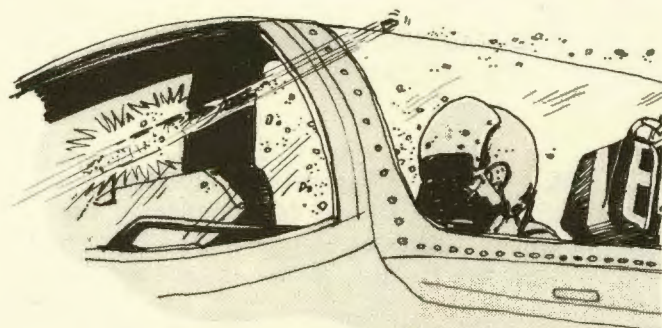
Remember, the 781 is our best feedback to maintenance personnel and subsequent pilots, so do write up significant deviations in the aircraft's behavior, even if you only want it to be an info-only write-up. Also, when checking the 781, approach an aircraft with no write-ups the same or with more caution than you would the one with a 781 rivalling WAR AND PEACE for bulk, what you don't know can hurt you.

A Shattering Experience

An AFRES F-105F was number three in a flight of four on a ground attack mission. Range work included six bombing and two strafe passes. Following the last strafe pass, number three reported he had received ricochet damage to the windscreen.

Damage was confined to the windscreen and consisted of a 6-inch gash in the top of the left quarter panel. Review of the gun camera film revealed no abnormalities in the strafe passes. All range facilities had been properly policed.

This incident could have been much worse if the pilot had not had his visor down. When the ricochet occurred, a considerable amount of plexiglass material filled the cockpit and could have impaired his vision -- at the worst possible time. The visor is there for your protection -- it works -- use it!



WHERE THERE'S SMOKE, THERE'S FIRE



**By Maj Skip Weyrauch
HQ TAC/SEF**

ACT I: As the scene opens, we see an expanse of concrete, otherwise known as a tactical fighter wing flightline, bustling with activity. Sherlock and Watson are on the scene as independent observers.

SCENE 1: An F-15 just ground-aborted for "apparent smoke" coming out of the JFS (Jet Fuel Starter -- used to crank the engines).

Sherlock: "Good decision -- right Watson?"

Watson: "Well ... I don't know. That silly ole

JFS vents all sorts of stuff -- white puffs here and there. Could be just normal vapors or something."

SCENE 2: The crew chief accomplishes his initial investigation into the problem. Pressure is on to get that write-up cleared and the ailing Eagle back on the ready line.

Sherlock: "I agree -- those Eagles need to fly often. They're such a thrilling sight in flight."

Watson: (Ugh -- I think your poetry is sick). "So what did our crew chief find? Well, the initial investigation revealed fuel on the centerline tank (as well as inside), but the source couldn't be determined. Panels were removed and visual checks revealed no leaks. The JFS

fuel system was pressurized and no leaks noted."

Sherlock: "That all sounds good so far."

Watson: "Just wait and hear 'the rest of the story' (Hmm, maybe Paul Harvey would like me to stand in for him this summer). The next troubleshooting step was to start the JFS for an operational check. The check was completed and the JFS shut down with no apparent problems. Further investigation by the maintenance personnel revealed no abnormalities."

Sherlock: "I suppose the proper firefighting equipment was ready just in case?"

Watson: "Dunno, Sherlock, we assume it was." (Yes, I know how to break down the word assume).

Sherlock: "Also, I wonder if they performed the JFS operational check under similar conditions to the first 'smoking case'?"

Watson: "You mean 'return to the scene of the crime.' That's deductive reasoning, isn't it?"

Sherlock: "Elementary, my dear Watson."

SCENE 3: Mission accomplished -- the Eagle is cleared to fly.

Watson: "So what's the next step? Pilot arrives and preflights the proud bird. He asks the crew chief, 'Any problems with your bird?' And the standard answer is ... you guessed it, 'I'm not the regular crew chief!' Now no one knows the history of the JFS smoke and subsequent ground abort. Everyone thinks this ailing Eagle is A-OK. JFS started; both engines started; JFS automatically shuts down, indicating normal operation."

Sherlock: "I smell it coming ..."

Watson: "Sure, it's as plain as mud ... or whatever the blokes say."

Sherlock: "I reason it through this way, Watson:

1. JFS smoke -- indicates a possible fire, or at least an ignition source that didn't have the right combination of fuel and air for complete combustion.

2. Fuel leak -- unsolved mystery, but it fills the bill for a fire.

3. Result ... fire."

Watson: "That's exactly what happens -- you're amazing Sherlock."



Sherlock: "Elementary, my dear Watson, just plain elementary."

And so the story ends and the curtain closes. Three to four minutes after engine start, the crew chief noticed fuel vapors emitting from the JFS exhaust. Before he could signal for engine shutdown, the JFS caught fire. Emergency shutdown was accomplished and fire was extinguished by use of a portable CB extinguisher.

After the JFS was removed from the singed Eagle, it was noted that the turbine blades were damaged. Cause of the difficulty is under investigation.

Once again, we've managed to prove that where there's smoke, there's fire. All situations cannot be covered by the T.O.s, so when they fail us, we have to rely on ingenuity, powers of deduction, and common sense. Just because the troubleshooting fails to find anything wrong doesn't mean that everything's OK. Work at it until you're satisfied enough to crawl into the cockpit -- without a parachute! ➤

CD MAN

By Maj Davy M. Bass
4485 TESTS
Eglin AFB, FL

It's a bird, it's a plane; no, it's CD (Chemical Defense) Man (Figure 1). CD Man, normally disguised as a mild-mannered jock, is faster than a speeding bullet (ZEU-23), more powerful than a locomotive (F-4), able to leap tall buildings in a single bound (well, at least to the bottom step of the boarding ladder). Even more important, he is able to perform his mission in the face of a chemical warfare (CW) attack.

This is the last in our series of articles covering new equipment the Tactical Air Warfare Center (TAWC) and its 4485th Test Squadron are operationally testing. When we started in January, little did we know how well this series would be accepted. So well, in fact, that this article was requested to be added to the originally planned number. In the following, we will cover the reason for efforts to upgrade CD protective equipment in the USAF inventory, a description of the near-term equipment selected, how we tested it, what we found, and finally how we are working to our CD capability. The lead office in this effort is TAWC's Combat Unit Support Division. You had better read closely, for some day you will step into your phone booth (life support shop) as Joe Jock and emerge as CD Man.

The first question that comes to mind is, "Why do I have to wear this?" The choices are, "It will:

- a. keep you alive."
- b. keep you from puking your guts out."
- c. help you keep your eyesight."
- d. enable you to perform your mission."
- e. all the above.

The answer is "e," all the above. Given chemical agents, as a possible or probable mode of warfare, it is only smart that we protect ourselves. The protection needed is a cover for all exposed skin and eyes and filtered air for breathing from the time you leave a protective shelter until you return (without it, you could be a "dead bug" in a matter of minutes). Several renditions of protective equipment have been considered and discarded, and the ensemble presented here is not considered the final form. However, it will pro-



vide the required protection (if properly used), and it is currently coming into the inventory.

To give you an idea of the total ensemble, here is a blow-by-blow account starting at the bottom and working up. (1) Plastic tube socks are worn over the normal socks and under flight boots. (2) Plastic footwear covers are worn over the boots to and from the aircraft to prevent liquid contamination of the cockpit and the boots. The covers will be taken off as the crewmember climbs the ladder, and a new pair put on when he returns after each mission. (3) Neoprene gloves are lightweight (0.017-inch thick) laboratory gloves and are worn under standard leather or nomex gloves. (4) White cotton underwear, a full-length, high-neck, thin (T-shirt thickness) layer of clothing is worn between a charcoal impregnated undergarment and the skin (see pin-up Figure 2). The purpose of the underwear is to prevent chafing and irritation of the skin by the charcoal and to absorb perspiration so that the charcoal does not become contaminated or saturated. (5) Charcoal-

impregnated flyers' undercoveralls (Figure 3), one-piece garment made of nonwoven fabric, is chemically treated to repel liquid agents, and contains activated charcoal to absorb chemical agents. The undercoveralls are worn over long cotton underwear and under the standard nomex flight suit. (6) The CRU-80/P oxygen mask filter mounts into the torso harness bracket that is normally used for the CRU-60/P oxygen connector (Figure 4). The filter incorpo-

FIG 2

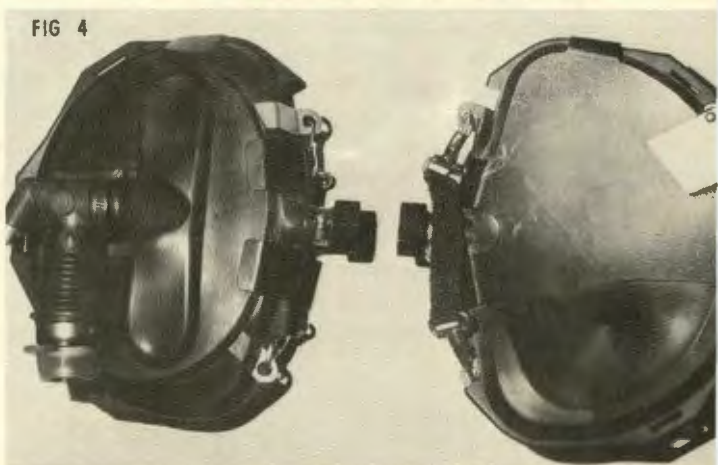


TAC ATTACK



FIG 3

FIG 4



CD Man

rates the oxygen fittings of the CRU-60/P connector. It purifies whatever the wearer is breathing: toxic air en route to the aircraft, as well as the output of the oxygen regulator in the cockpit. (7) The MBU-13/P CB oxygen mask incorporates a rigid transparent faceplate, an oral nasal mask, an adjustable head harness, and a pressure compensated exhalation valve (Figure 5). If glasses are worn, their temples must be

FIG 5



precut and bent, and they must be inserted into the mask prior to flight. (8) HGU/P flyer's helmet (certified for high performance jets) is a helicopter helmet that uses a six-point harness suspension (Figure 6). This basic helmet has been modified by removing the sun visor and boom mike and by adding an Air Force communications cord and bayonet receivers. Our regular helmets, form-fit or padded, were not found to be compatible with the oxygen mask or its adjusted head harness. Hot spots developed and persisted to the point of distraction within a short time. (9) HGU-41/P CB Mask Hood, made of butyl rubber, is worn over the helmet, mask, and neck area. The hood attaches up the front via Velcro tape and can be quickly taken off. The hood keeps liquid contamination off the neck area, provides a vapor barrier to the mask and neck area, and retains a layer of air of reduced toxicity around the mask face seal area in case of mask leakage.

FIG 6



The donning (putting on) and doffing (taking off) of the CD equipment is more involved than you might think at first glance. It takes one other person to assist in the donning; or at least a full-length mirror to check your equipment. Doffing, however, is a whole new ball game since you must assume contamination of the ensemble. In order to assure the best protection, doffing and donning procedures have been devised and practiced in a couple of exercises. Those procedures will be taught in training classes by your disaster preparedness personnel and are too lengthy to relate now.

What will be discussed are the results of TAWC's testing. But before we launch into all of the things that are wrong with this equipment, let us note that it has been concluded that tactical missions can be completed while wearing this equipment even though you will experience difficulties and limitations. This total ensemble has been flown on various mission profiles: instruments, night, air-to-ground, air combat maneuvering, low-level, and cross country. There exist three areas of difficulties or limitations with the equipment. First, the Mask Hood is made of rubber butyl to provide the necessary protection; however, it is flammable. (A search for non-flammable material is underway.) Second, the full face oxygen mask is not doffed easily. Third, the total ensemble is uncomfortable and extremely hot. We will address these one at a time.

Because of its flammability, the hood is designed with a Velcro tape zip-off capability (see Figure 7). To facilitate this quick doffing, the hood must go over the parachute harness, but under the parachute risers. The procedures developed for doffing are: (1) Ground Egress -- After completion of boldface procedures, the aircrew should doff and discard the hood prior to opening the canopy/egressing the cockpit. (2) Pre-Ejection Controlled Bail-out -- If the time and altitude permit, the aircrew would doff and discard the hood prior to ejection. (3) Post-Ejection Ground Landing -- Air-

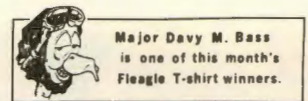
FIG 7



crew will doff and discard the hood (if not already accomplished) after all other post-ejection procedures and before ground impact.

To remove the mask, you must first remove the hood and take off the helmet. This is not difficult; however, it takes much longer than simply releasing your normal mask from one of the bayonet connectors. The extra time required becomes important if you are attempting to remove the mask because you must Valsalva, become nauseous, or are preparing for a water parachute landing. We have all heard stories of flyers choking on their own vomit in their mask or drowning with the mask on in a water landing. Now, it becomes a very serious possibility. When accomplishing procedures for a parachute landing in water, you should replace the established procedure of removing the standard oxygen mask with the following: (1) Doff and discard the hood (if not already accomplished). (2) Doff the helmet. (3) Doff the mask. (4) Discard the mask. Remember the helmet and mask are connected at the communication cord. (5) Don the helmet. If time and altitude do not permit this, discard the mask and helmet together. Note that if over-land parachute landings are anticipated, you should keep the mask and helmet on. The Valsalva problem can be solved by some aircrews who can use other means to clear their ears (e.g., swallow, yawn, or blow against the regulator pressure). The others must break the seal at the bottom of the mask to reach their nose. This is a two-handed procedure!

Finally, we need to cover the problems associated with the extra heat load imposed by the CD equipment. You will probably experience more fatigue and distraction than normal due to: (1) Eyeglasses becoming streaked with perspiration. Remember, you cannot reach up and wipe them off now (without removing the head gear). Of course, if you don't fly with glasses, you won't have this problem. (2) The mask and harness causing hot spots. This problem affects aircrews in different places and to different degrees, but it usually gets worse with time. (3)



Major Davy M. Bass
is one of this month's
Fleagle T-shirt winners.

The total ensemble being extremely hot and there being no way to replenish body fluids without removing the helmet and mask.

This last problem generated some further testing just completed this month. The results should be available at your MAJCOM headquarters soon. The heat problem is one of degree (and that is not a bad pun). The longer you wear the equipment, the hotter the day and the cockpit, and the harder you work (pulling G's), all add up to a heavier heat load which will adversely affect your performance. The effort of the current testing is to try to define just how long you can safely wear the equipment for various environmental conditions outside, as well as inside the cockpit while doing the hottest, most active job normally encountered (low level navigation and conventional ground attack). Armed with this information, the field commander will have a better idea of how to employ his forces or, more specifically, how long to employ them while they are wearing CD equipment.

Meanwhile, the helmet/hood/mask problems have led the USAF to declare a follow-on replacement for these off-the-shelf items to be the number one CD hardware development priority. One concept slated to be tested for feasibility is an impermeable hood which is donned over your regular helmet and mask. See Figure 9. It would have a filtered source of air blown underneath the helmet visor which would provide an overpressure under the hood in the face area. This overpressure would provide the necessary CD protection previously offered by the full face mask. A bonus of this configuration would be that it could be integrated with new helmets and add-on devices (e.g., laser acquisition device, flash blindness protection, and lightweight helmets) as they are designed. The major drawback is that now on top of all that extra CD equipment, you will be dragging around a battery powered filter-blower unit while preflighting, and the airplane must be modified to integrate with the filter-blower when you are in the cockpit.

Well, there you are sports fans, 6 months of TAC ATTACK issues on how and what the 4485th Test Squadron is up to. If you feel you are an experienced tactical fighter operator (front or back) and that you can distinguish yourself and the United States Air Force in this outfit, just fill out the "Dream Sheet" (AF Form 90) and hope that the system will recognize your true talent.



Funny



DING-DING-DING-DING GAME OVER



Funny photos

YF-84 AND CRU



TELL OPS IT'LL BE READY IN 5 MINUTES.

FOTOS



ISE MISSILE.



BUT I GOTTA GO TO THE BATHROOM!!!



HEY MOBILE...I SUPPOSE THIS IS A Q-!

HANGING THE THUNDER CHIEF WING PYLON TANKS

By Harold Poehlmann
Fairchild Republic CO

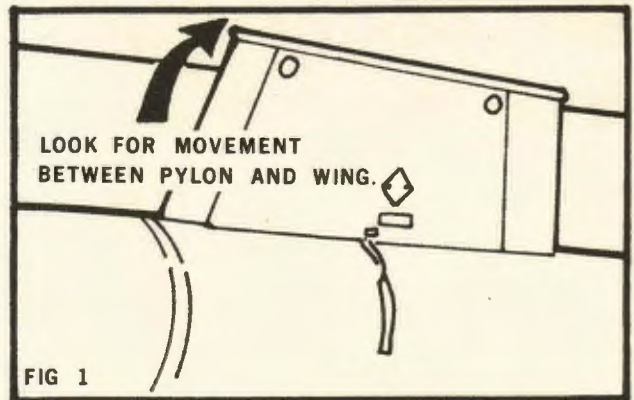
F-105 wing pylon tanks are still "breaking free" necessitating a dropped object report. Several TCTO's have been issued to improve the attachment; however, it has been my experience that a very simple preflight check can detect an installation that requires maintenance attention.

As you might expect, the main attaching trunnion, better known as the jettison gun, is a piece of high-grade steel that is tasked as the sole pylon-to-wing attachment. As such, it cannot and should not be subjected to "unnatural" bending loads. If the conditions are allowed to exist that cause the collet/barrel/housing to "flex," the life of the attachment is certain to be curtailed.

The installation of the pylon assembly requires the mechanic to do a series of operations in a definite sequence. If the sequence is altered or if a step is missed, an improper installation will result. It is absolutely necessary that the forward and aft stabilizing pins be "adjusted" so that the pylon has no inclination to move in the vertical plane. This has been the most noticeable finding in the years past, mainly because the instructions were not explicit. The instructions were improved "many years ago" so you would expect the situation to improve. For example, F-105D-2-5, Page 11-56, Step 18, states: "Torque (aft) on the high side is preferred." This is very important because when the tank is fueled, the aft stabilizing pin goes into high compression most times at the expense of unloading the front pin. The "Caution" at the top of Page 11-57 is a paramount advisory. The installation job is not complete until the tank is fueled and torque recheck of the forward pin is made. It was this advice that was not in the early instructions.

Now that the "scenario" is laid out, it is appropriate to mention a pilot's preflight technique that has proven to be effective in detecting unairworthy tank installations. Some pilots like to "grapple" with the tank fins and try to "knock" the tank off with a combination half Nelson, hor-

izontal oscillatory thrust and an upper fin bone grinding chop. True, the security check of the fins is appropriate; however, you should save the "coup de grace" for the front of the tank. The most revealing and productive preflight technique is to gently shake the nose of the fueled tank in a frequency that is compatible with, and coupled with, the normal mass rebound and look for relative movement between the pylon leading edge (upper edge) and the wing skin. If you can note movement between the pylon nose and the wing or detect an audible knocking (Fig 1), the installation is not airworthy and requires maintenance action.



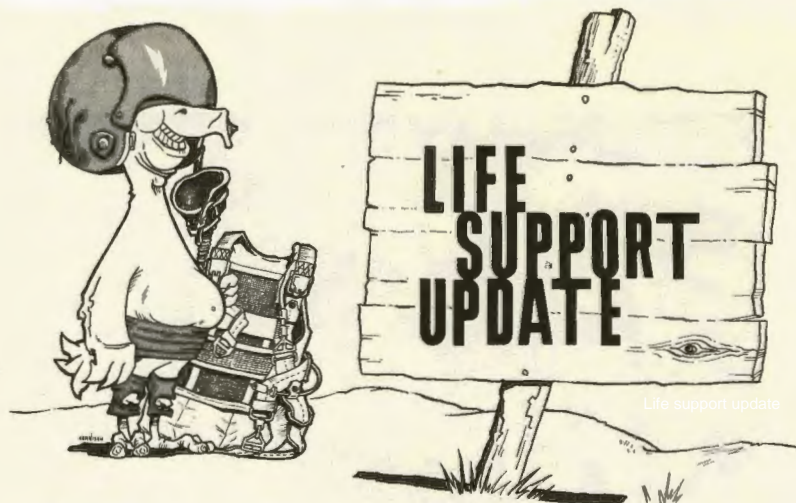
A "loose" installation will not only affect the main attachment system, it will promote rapid wear of the stabilizing pin ball end and the bushing in the wing which provide the resistance to torsional movement. TCTO 1F-105-1254 is producing new wing bushings and will rectify worn bushings which allowed twisting loads into the pylon "gun."

A companion problem has been the finding of loose main attaching caps. There are several reasons for this, but the most suspect is attaching and torquing the cap without the required full lowering of the forward and aft stabilizing pins prior to lifting the pylon into position. Obviously this condition cannot be detected by the above suggested preflight, especially with a full fuel load. A no-fuel postflight condition would allow an occasional side movement test to detect a grossly loose trunnion cap.

SUMMARY - The use of this suggested pylon installation preflight technique is "guaranteed to produce satisfaction" as well as providing assurance the installation is not "clicking off" pylon trunnion cyclic fatigue counts, usually resulting in having to produce an unwanted dropped object report. ➤

Keys To A No. 1 Life Support Program

HQ TAC/DOTL



Not long ago, the 347 TFW, Moody AFB, was awarded the "First" Annual TAC Life Support Award. The following points detail some of the noteworthy program elements which contributed to their "best in TAC" achievement.

LIFE SUPPORT TRAINING. A realistic aircrew training program was developed and established that prepared and provided aircrews the means/methods to function in all environments and in any conceivable survival situation. The favorable comments of the TAC Inspector General and, more importantly, the continual proficiency demonstrated by assigned aircrewmembers, attest to the effectiveness of this program. Life support technician training is considered excellent. This program is motivated by personal instruction with performance testing and is further reinforced by quizzes administered weekly. The resulting internalization of concepts and intrinsic satisfaction displayed by technicians indicate that desired training goals are achieved.

LOCAL PROGRAMS. Most significant is the life support mobility program. This "how-to" plan includes a step-by-step checklist that covers each function necessary to mobilize, deploy, and return. Also included is a detailed, comprehensive mobility packing list that will sustain "Bare Base" life support operations for a minimum of 45 days without external support. A unique addition to this plan is the geographical location supplement that allows life support personnel to configure survival equipment with additional items peculiar to a specific geographical area. Mobility items developed by the 347 TFW include portable parachute racks that are easily assembled and disassembled and, most notably, "The Crate." This item is initially used to transport the large oxygen cylinder during mo-

bility. However, at site location, it is transformed into a self-contained, multi-function work and test facility which incorporates a battery-powered communications and oxygen tester, a screen room enclosure (for testing avionics equipment) and a sink for cleaning oxygen equipment. This innovation was recently highlighted in TAC ATTACK (see TAC ATTACK, Sep 77) and has also been approved by HQ TAC, and widely accepted by other TAC units. In addition, it also has been forwarded to HQ USAF for dissemination Air Force-wide.

LESSON PLANS. The 347 TFW life support personnel developed comprehensive lesson plans to complement their worldwide mobility commitment. These plans include arctic, tropical, desert, and local area survival. To further enhance the effectiveness of these lesson plans, locally developed sound-on-slide programs depicting 347 TFW aircrews in the various survival situations are used. They are currently being distributed to other units as a guide in their respective program development. The overall impact is that this endeavor will most certainly enhance aircrew training Command-wide.

TRAINING ENVIRONMENT. The keystone of the 347 TFW's training program is their realistic approach to the needs of the aircrew in a "here-and-now" situation. The program is progressive and constantly evolving to provide special training to include Red Flag type escape and evasion techniques and other regional deployments. In all training, each crewmember is required to perform "hands-on" operation of all survival equipment coupled with realistic training scenarios. The total involvement of all life support personnel and the enthusiastic participation of assigned aircrews continue to validate the effectiveness of their program. ➔



**By Capt Stephen M. Horn
5 WW, Langley AFB, VA**

As the temperature climbs toward triple figures under balmy summer skies, memories of last winter's cold, icy conditions quickly fade and good flying weather becomes the rule rather than the exception. But beware -- with sultry days come thunderstorms, some of the most dramatic, most dangerous, and most feared of

all weather phenomena. It's estimated that 45,000 thunderstorms occur around the world each day. Each of these storms has the potential for severe or extreme turbulence, hail, severe icing, lightning, heavy rain, and low-level wind shear -- all good reasons to steer clear of these monsters. Unfortunately, this may not always be possible. Should avenues of escape or evasion suddenly close, your knowledge of thunderstorm characteristics may be the key to survival. For this reason, we'll review some of the important points about each of these hazards.

TURBULENCE

Severe or extreme turbulence in and around thunderstorms is generated by the tremendous shearing action between vigorous updrafts and downdrafts. These drafts reach their maximum intensity during the mature stage of the storm's development; shortly after heavy rain begins. Updrafts are strongest in the mid and upper portions of the storm, while strongest downdrafts usually occur at mid levels. Superimposed on these large scale, continuous drafts are numerous irregular eddies and gusts. The broad drafts are responsible for large vertical aircraft displacements, while eddies cause sudden pitch, yaw, and rolling motions. These motions often result in a great deal of pilot discomfort and in some cases may cause aircraft structural damage. Experienced pilots realize that severe turbulence also occurs as high as 10,000 feet above the visible cloud tops and 15-30 miles downwind of the anvil; therefore, they allow plenty of room when overflying or circumnavigating these storms.

HAIL

Most, if not all, thunderstorms produce hail in the interior of the cloud at some time during their life cycles. The hail often melts before reaching the ground, but that's little consolation to the pilot who encounters it aloft. The probability that a storm will contain hail is greatest during its mature stage, when updrafts are fully developed and the thunderstorm reaches its maximum height. Hail is most frequently encountered between 10,000 and 30,000 feet; however, in some storms, vigorous updrafts may propel hailstones into the clear air above the cloud top and 20 miles or further downwind of the innocent looking anvil. Keep this in mind the next time you try to outclimb a rapidly building cell or scoot under the sprawling cirrus anvil.

ICING

Although not as threatening as hail or severe turbulence, icing is always an important factor when flying near thunderstorms. Generally, clear ice occurs in the lower portions of the storm, while rime ice dominates the upper levels. Heaviest icing conditions are usually en-

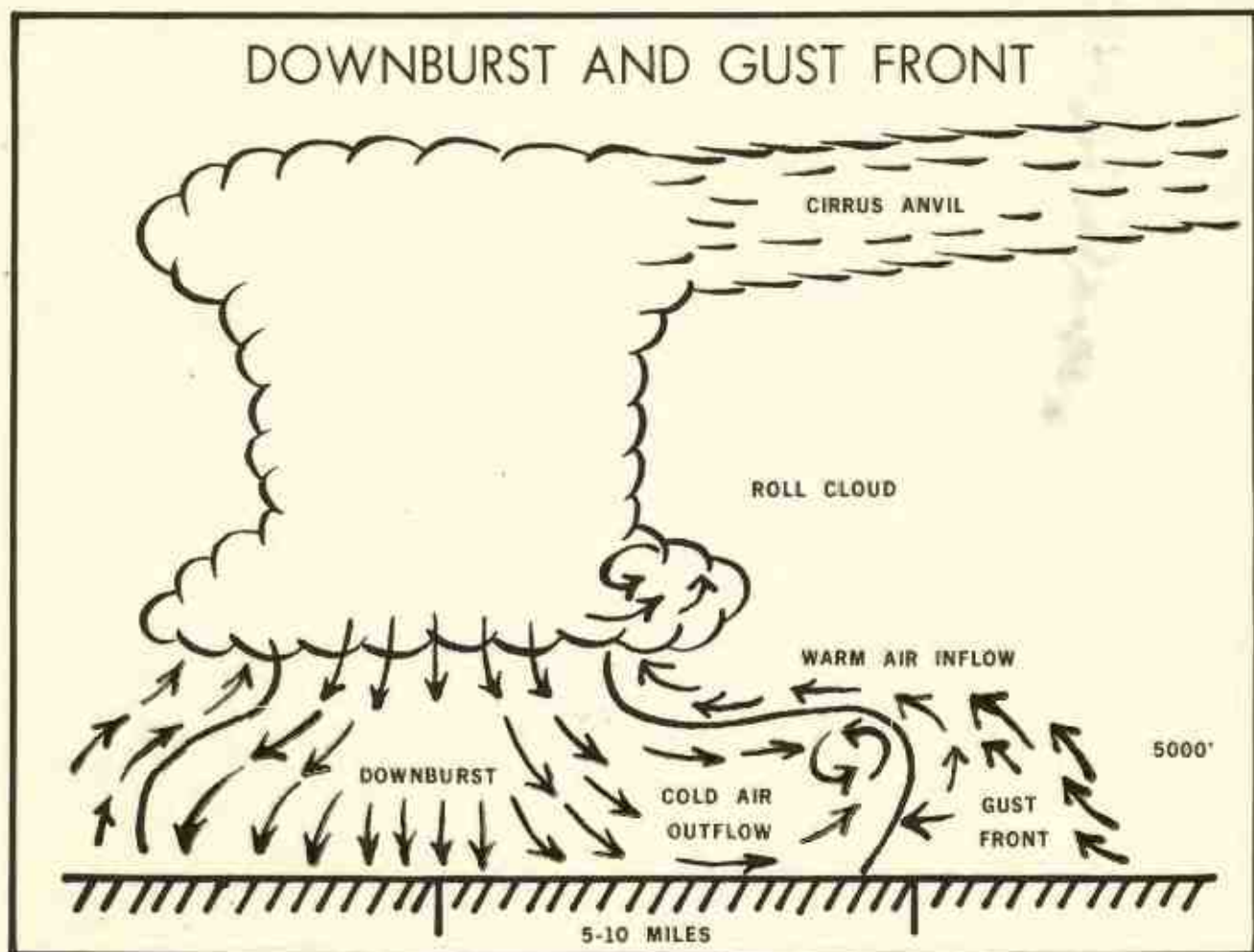
countered just above the freezing level where the concentration of supercooled water drops is greatest; but severe icing may occur at any level within the storm where the temperature is between 0° and -25°C. Isolated thunderstorms may not pose a very serious icing problem, since flight time in each storm is generally short; however, when clusters of storms -- covering an area of hundreds of square miles -- are encountered, icing problems soon become critical. This icing, of course, is a hazard to aircraft in the area. Remember, you shouldn't even be close to thunderstorm areas to begin with!

LIGHTNING

Lightning is probably the least understood phenomenon encountered. The sudden flash we see is really a sequence of events which begins with a luminous trail of ionized gas, called a stepped leader, extending from the cloud in distinct steps, each about 150 feet long. This leader moves the cloud charge center nearer to the ground (or another cloud), causing luminous ribbons, similar to the stepped leader, to grow from the ground (or another cloud) toward the cloud. These ribbons are called positive streamers. Once contact is established between the stepped leader and the streamers, a conductive path is established along which electrons flow causing the brilliant flash we perceive as the lightning bolt. If an aircraft happens to pass near this path, it is likely to be struck. This may occur at any altitude between the surface and the top of the storm, but most strikes occur within 5,000 feet of the freezing level or in the temperature range of +10°C to -10°C. For this reason, the best way to avoid lightning strikes is to avoid the area near the freezing level.

HEAVY PRECIPITATION

Thunderstorms contain vast quantities of liquid water, but not all their moisture falls to earth as rain. Many drops remain suspended or are lifted by the updrafts. When an aircraft penetrates areas of heavy precipitation at high speeds, tremendous impact pressures develop which can peel rivet heads out of leading edges, erode fiberglass wingtips or antennas, and peel off paint. Your best bet to minimize water damage is to penetrate the cumulonimbus cloud at the airspeed recommended for your aircraft, not faster.



LOW-LEVEL WIND SHEAR

Analyses of several major aircraft accidents over the past few years have established without a doubt that low-level wind shear associated with thunderstorms can cause aircraft accidents. In some thunderstorms, extremely violent downdrafts, called "downbursts," plunge to the ground from the upper levels of the storm and spread out at the surface producing hurricane force winds. The leading edge of this wind field is called the gust front. It often precedes its parent thunderstorm by 5 to 10 miles, and is associated with extreme vertical and horizontal wind shears making takeoff and landing rather risky. Some gust fronts are quite extensive, but most are short-period, small-scale features (about a mile wide) and thus provide little or no warning of their existence. Since there are

seldom any reliable visual indicators of the location of the gust front, you should always be extra cautious when flying at low levels in the vicinity of thunderstorms.

AVOIDANCE

Thunderstorm activity is prevalent over much of the southern US during the summer, so chances are good you'll encounter one of these storms soon. If you work closely with weather personnel at your departure base or en route facility, follow the thunderstorm avoidance rules listed in AFR 60-16, and keep in mind what we have presented in this article, you're likely to survive the thunderstorm season and will be able to look forward to another season of flying. Remember, the key word for all hazardous weather phenomena is "Avoidance" whenever possible.

HOW TO F A I L

Fr. Art Perrault

SPECTACULARLY!

We hear a great deal today about the laws of success, and self-help books are a booming business; but how about our right to fail? Is there a scientific method to insure failure? We know that the only way to become successful is on purpose, but is it possible to be a failure on purpose? An exhaustive survey taken recently disclosed the fact that only 3% of all Americans are "outstandingly successful," that 68% are "moderately successful" and 29% of our people are "complete failures," achieving nothing.

Two tramps were sitting on a park bench discussing the economic situation, and one said to the other, "This depression don't bother me none ... I was a failure during the boom." How can we guarantee our failure even during times of unprecedented prosperity?

- Be a drifter -- avoid like poison any short-range, intermediate, or long-range goal. The Wall Street Journal, faced with the complaint that high taxes make it impossible for anyone to rise from rags to riches today, made a study that disclosed there have been more new millionaires starting from nothing in the past decade than in any other period in history. These people were all different in many ways except that they were decisive. So rule number two for failure is:

- Procrastinate -- they even have a slogan for Procrastination Week: Don't Put It Off, Procrastinate Today!

Another good method is never to do today what you can put off til tomorrow. If you get a sudden urge to "do it now" just sit down until the mood leaves you.

Research conducted by Columbia University disclosed the amazing fact that it is not aptitudes but attitudes that make us successful. 93% of our

success is attitudes and 7% is skill and knowledge. So failure rule number three is:

- Be negative -- you can catch more flies with honey than with vinegar, but who needs them? If you want to be successful, think success. So if you want to be a failure, think failure.
- Be a poor communicator -- be a poor listener; even a fool is considered sensible when he keeps his mouth shut, so yak up a storm and remove all doubt.

All of our actions are consistent with our inner opinions about ourselves. The picture that we have inside about ourselves, whether it is true or false, determines what we can or cannot do in life. So rule number five for failure is:

- Sell yourself short - remind yourself constantly about all of your weaknesses, shortcomings, and past failures ... and don't forget to tell others. Be a blob.

The biggest problem facing management is motivation. So failure rule number six is:

- Fizzlemaniship -- when you get that "hot button" urge to achieve, fizzle!

Worry prevents our doing the very thing that would remove the worry. So failure rule number seven is:

- Be a worry wart -- a neurotic is a person who worries about things in the past that never happened, unlike the normal person who worries about things in the future that never happen! If you run out of things to fear, you can fear fear itself!

How do we fail in life without trying? The answer is in failure rule number eight:

- Don't try -- if at first you don't succeed, forget it! Everyone is a self-made man, but only the successful ones admit it. ➔

Stolen from the "Chaplain's Message," JET STREAM, 22 Jan 78, published by 150 TFG, New Mexico ANG

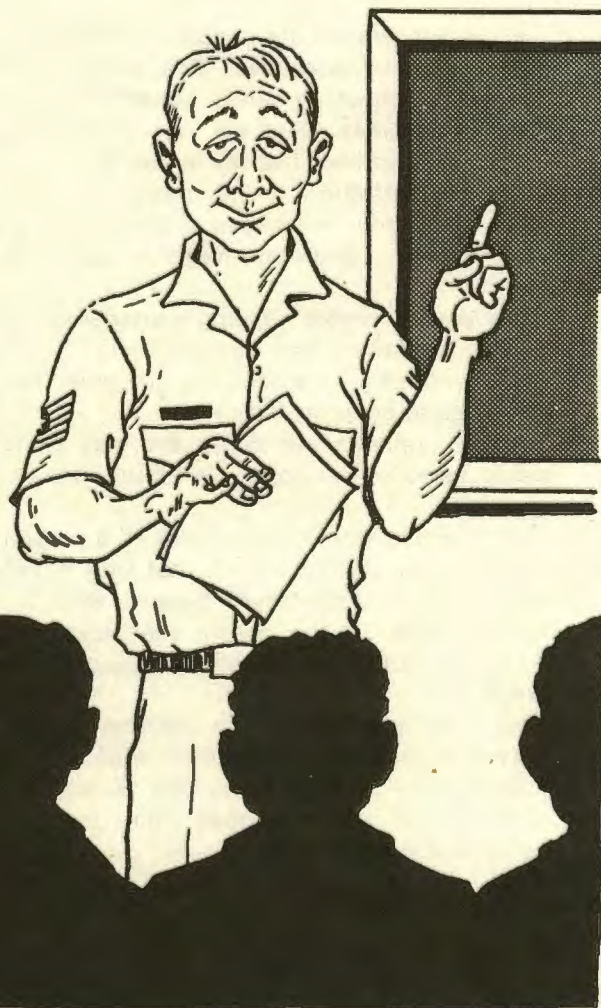
INSTRUCTION. a matter of life or death

By TSgt James W. Swanson
966 AWACTS/552 AWACW
Tinker AFB, OK

Have you ever reviewed an aircraft mishap report and discovered that one of the crewmembers involved was a former student of yours? If so, you may have said something to yourself like, "That dummy, he knew better. I taught him myself," or "I wonder why somebody didn't teach him better." There are ways that we, as instructors, can prevent this from happening.

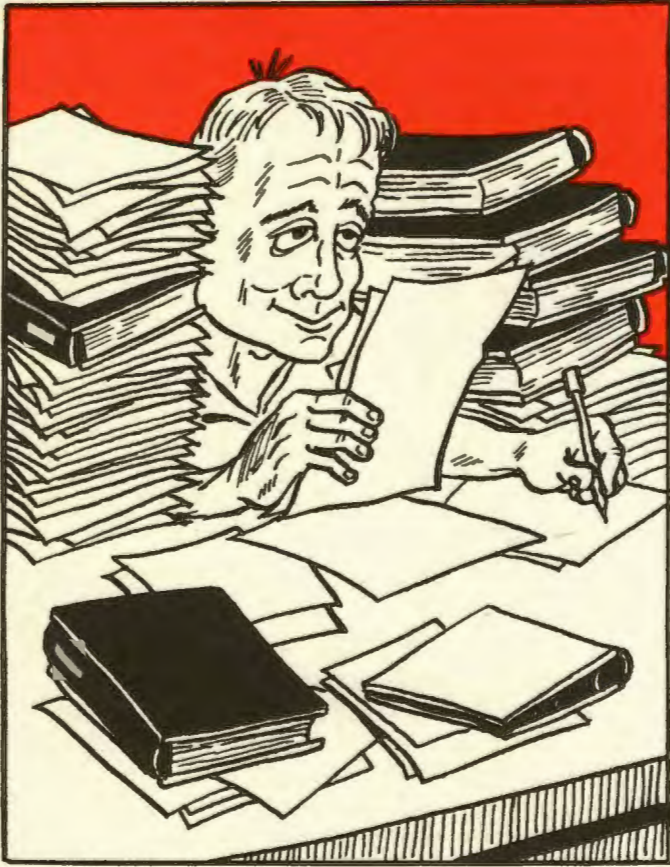
With the acquisition of new weapons systems in the TAC inventory, it is imperative that we train our students to the highest degree of proficiency, with safety as one motivating factor behind every phase of training.

Here are five steps that may help you become a better instructor and, more importantly, may save a life or a valuable weapon system in the future.



FIRST: Set an outstanding example. Your attitude should be such that a student will unconsciously ease into the best frame of mind conducive to learning. Your professional manner must be an example throughout every phase of instruction. When a student opens up his mind for learning, he is not only learning the subject, but also absorbing some of the characteristics and attitudes of his instructor.

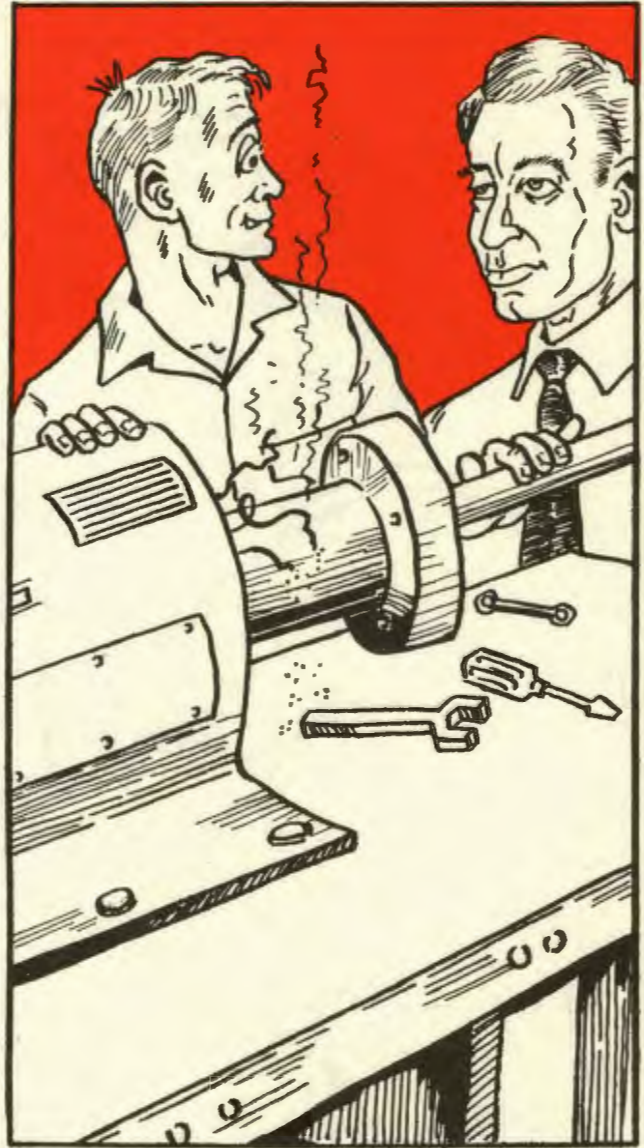
SECOND: Thoroughly prepare your lessons. This could fall under the category of professional approach, but deserves individual attention. An unprepared lesson is usually spotted very easily by the student and destroys some of your credibility. You also become prone to teaching errors. Some of these errors may be caught by you or the student, but what about the errors that aren't caught? Preparing for a lesson also means preparing your student(s) for the lesson. That means eliminating as many dis-



tractions as possible. If a student is distracted by personal problems, etc., all the lesson preparation in the world will have gone to waste. Know your student. Help him with more than just the subject you're teaching.

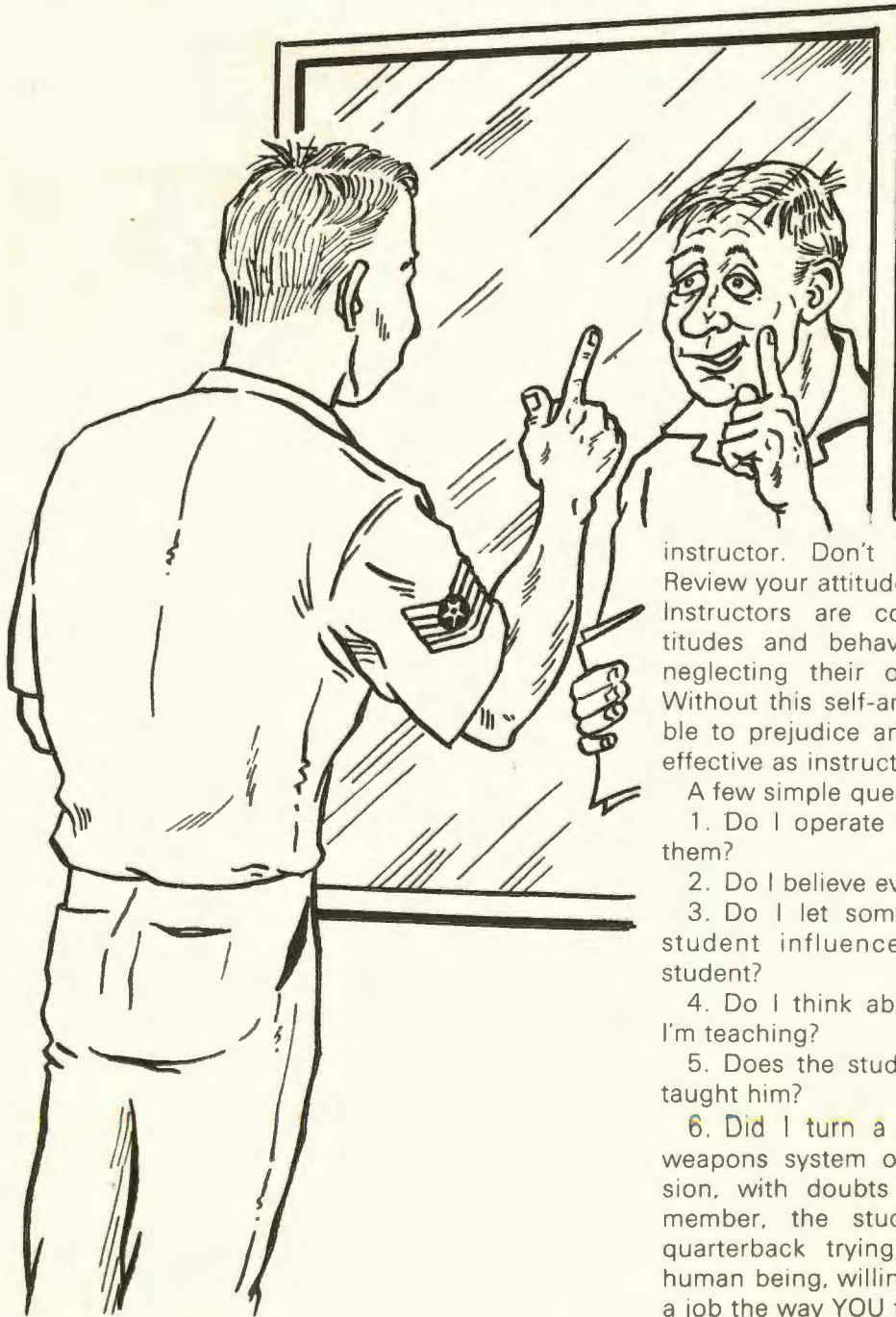
THIRD: Admit your mistakes. If you present something that you discover to be incorrect, set the record straight as soon as possible. Remember, if you put it off, you might forget about it completely -- it could come back to haunt you. When you teach something incorrectly, there might be a small loss of credibility when you admit to the mistake; but it's nothing compared to what you will lose if you refuse to admit an error. Additionally, the student will have a tendency to reject anything else that you try to teach him/her. If you teach something incorrectly and your pride won't let you admit it, the result could be fatal. Be a humble instructor instead of a sorry griever. You're only human, so admit your mistakes.

TAC ATTACK



FOURTH: Be open-minded about your student and the subject. Students can make an open-minded instructor into a better instructor because they question things that are normally taken for granted. In return, we learn systems and methods better by researching their questions. With new weapons systems, maybe there's a better way to do something. If we're open-minded with the student, we may be able to correct deficiencies in the systems or operation of the systems. We need ideas on safer, more economical methods.

INSTRUCTION: a matter of life or death



FIFTH and FINAL: Critique yourself frequently. Remember, you should be your harshest critic. Ask yourself, if you were the student, would you want to have someone exactly like yourself as an

instructor. Don't let your ego answer you. Review your attitudes, behaviors, and prejudices. Instructors are constantly observing the attitudes and behavior of their students while neglecting their own attitudes and behavior. Without this self-analysis, we are more vulnerable to prejudice and consequently become less effective as instructors.

A few simple questions to ask yourself are:

1. Do I operate the systems the way I teach them?
2. Do I believe everything I teach?
3. Do I let someone else's judgement of a student influence my attitude toward that student?
4. Do I think about personal problems while I'm teaching?
5. Does the student really understand what I taught him?

6. Did I turn a student loose to operate a weapons system on his own, without supervision, with doubts about his capabilities? Remember, the student isn't a second string quarterback trying to take your job. He's a human being, willing to be influenced into doing a job the YOU taught him.

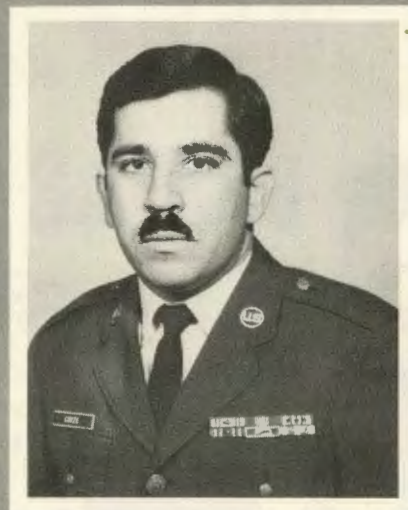
With these few steps in mind, we should be better instructors when our students are turned loose with their brand spanking new, or perhaps not so new, weapons systems. ➤



TAC SAFETY AWARDS

Ground Safety Award of the Quarter

Staff Sergeant John X. Corzo, 35th Avionics Maintenance Squadron, 35th Tactical Fighter Wing, George Air Force Base, California, has been selected to receive the Tactical Air Command Ground Safety Award of the Quarter for the first quarter 1978. Sergeant Corzo will receive a desk set and letter of appreciation from the Vice Commander, Tactical Air Command.



SSgt John X. Corzo

Crew Chief Safety Award

Sergeant Gary W. Teipel, 354th Aircraft Generation Squadron, 354th Tactical Fighter Wing, Myrtle Beach Air Force Base, South Carolina, has been selected to receive the Tactical Air Command Crew Chief Safety Award for this month. Sergeant Teipel will receive a desk set and letter of appreciation from the Vice Commander, Tactical Air Command.



Sgt Gary W. Teipel

Individual Safety Award

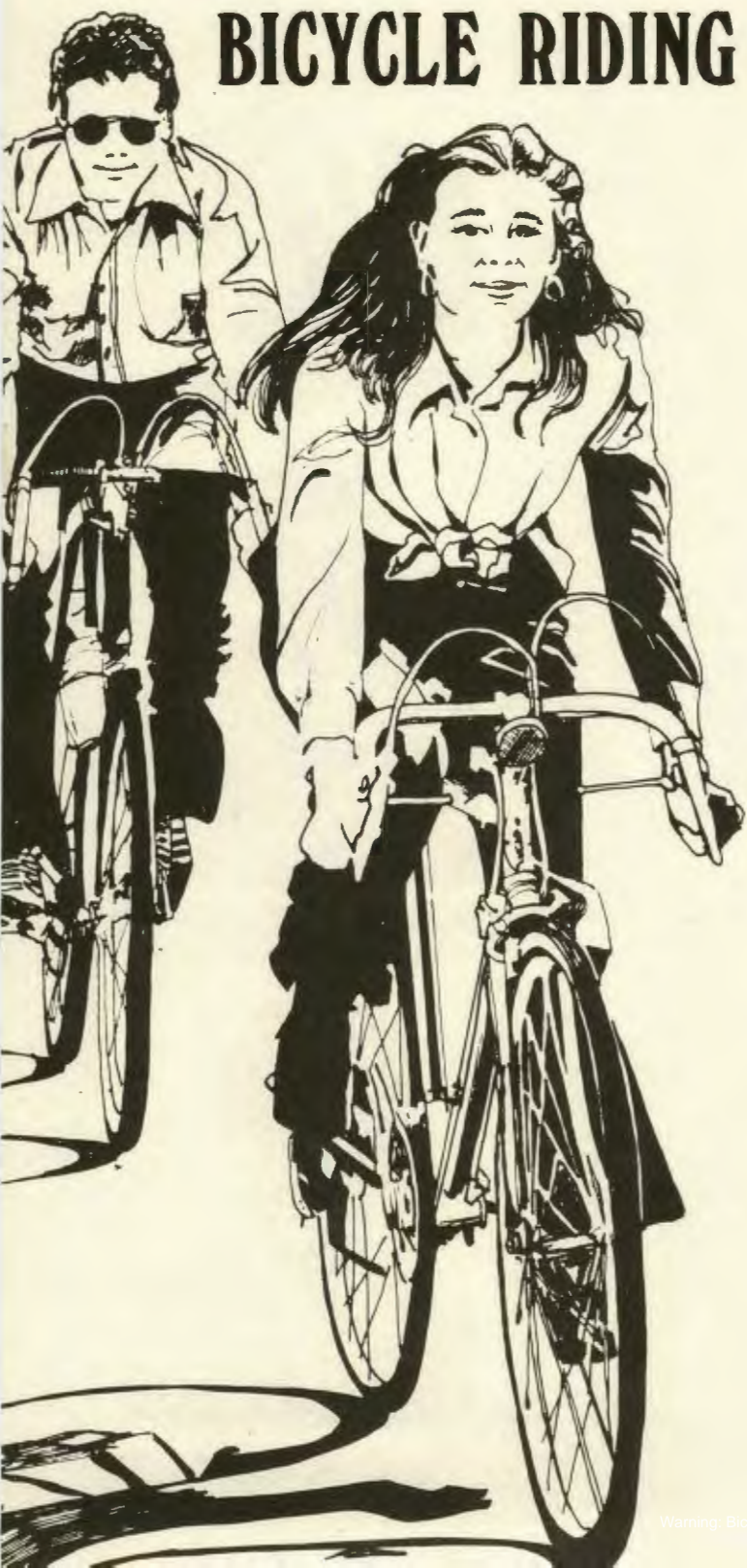
Senior Airman Ralph Arnold, Jr., 552d Consolidated Aircraft Maintenance Squadron, 552d Airborne Warning and Control Wing, Tinker Air Force Base, Oklahoma, has been selected to receive the Tactical Air Command Individual Safety Award for this month. Airman Arnold will receive a desk set and letter of appreciation from the Vice Commander, Tactical Air Command.



SrA Ralph Arnold, Jr.

WARNING

BICYCLE RIDING CAN BE HAZARDOUS



By Capt Donald E. Waddell III
1 TFW
Langley AFB, VA

In recent years, bicycling has become immensely popular. Long a favorite with children, adults now are beginning to abound on the streets and highways on bicycles ranging from \$50 models to \$750 - \$1,000 touring and racing bikes. Official statistics now estimate that more than 95,000,000 bicycles are owned and operated in the U.S.

And why shouldn't bicycling be popular? It's an ideal way to get around -- you can move around at a reasonable speed while you're able to take in the scenery around you. Moreover, biking is good exercise. Dr. Kenneth H. (Aerobics) Cooper says 7 miles, 4 days a week (at a speed of 15 mph or better) will give your heart and lungs the necessary workout to insure you retain or attain good physical fitness. All this time you are burning up calories at the rate of 400 - 900 per hour, depending on pace. (That's about 5 hours to burn off a pound of fat.) What you won't be burning is gasoline. And if you use your bike to run errands or to go to and from work, you will be conserving energy and money. Europeans, much more so than Americans, use the bicycle as primary transportation, and with the energy crisis becoming a predominant factor in the changing pattern of our culture, there are excellent reasons for us to begin relying on the bicycle.

However, while your bike may be transportation for you, it may be a target for motorists; and with the increasing popularity of bicycling, there has been a corresponding increase in bicycling accidents (estimated at 450,000 each year).

The number of bicycle-related deaths has more than doubled since 1960, rising from 460

JUNE 1978

NG:

TO YOUR HEALTH.

to 1,000. Surprisingly, however, the death rate from bicycling accidents has remained almost unchanged since 1960 due to the huge increase in the number of bikes owned. The death rate among adults (15 and over) has increased steadily from 22% of the total bicycle related deaths in 1960 to 51% in 1975. This fact reflects the increasing use of bicycles among older people and suggests that adults don't really operate bikes much safer than kids. Incidentally, 80% of all bicycle-automobile accidents involve a violation by the bike rider.

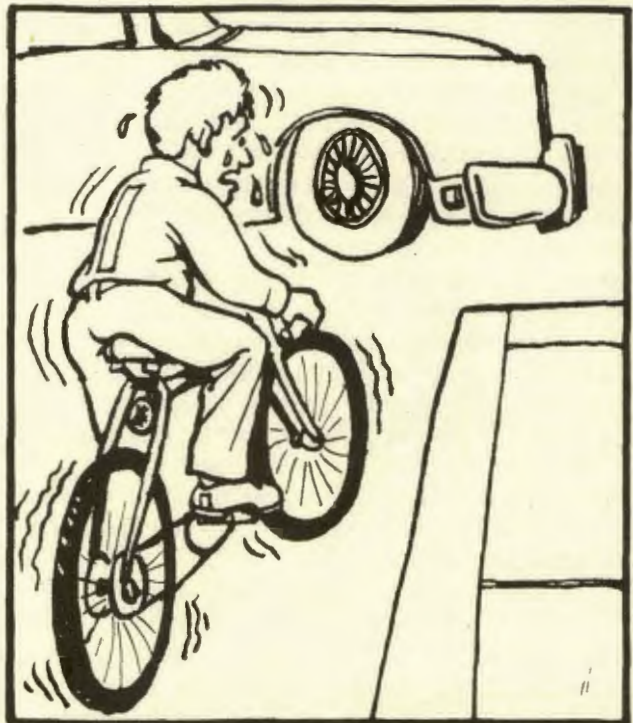
What all this means is that riding bikes is fun but potentially hazardous, and that safe riding practices can reduce the potential danger ... hence, this article. So armed with these facts, we'll now look at some techniques that can make you a safer bike rider. To that end, let's return to my original warning -- be seen. A driver of a car or truck is looking for other cars and trucks. Your bike and, hopefully, your body have been streamlined to reduce weight and wind resistance. Further, the normally small profile of a bike and rider is further reduced by the dropped handlebars common on most 10 speeds. So you're not going to be seen by virtue of your size. This leaves us with color, and you'll have to make the most of it ... something to go with your Hart Schaffner & Marx tweed, perhaps. How about a day-glo orange hunting vest? It's cheap, light, and versatile. Actually anything bright, anything that will set you off from the surrounding scenery will help drivers see you ... and that's the idea.

At night, being seen is equally important, but in many respects easier to achieve. A white shirt, several reflectors and a light will easily set you off in the dark. There are three basic types of lights for you to choose from. (1) Probably the most popular light straps to your leg or arm and illuminates white light forward and red to the rear -- it's simple and inexpensive but, unfortu-

nately, doesn't illuminate much of the road in front of you. (2) Electric generators produce lots of light but also add plenty of drag. (3) The most practical, in my opinion, is a clamp or bracket that holds a flashlight securely to the handlebars. I use a flashlight in conjunction with a leg light. The flashlight helps you see; the leg light helps you be seen.

Your responsibilities aren't fulfilled by simply adding a little color to your wearing apparel. All the warnings applicable to defensive driving are equally true (and more so) to riding. So remember, every driver is out to kill you, anticipate that motor vehicle drivers will do the unexpected and establish eye contact with drivers at every intersection. Don't assume he sees you ... look him right in the eye.

As a defensive rider you must be aware of the places and situations in which you are in the most danger -- i.e., the time between getting on your bike and getting off it. More specifically, however, one-half of all bicycling accidents occur at intersections. For example, there is one situation that will happen to you if you ride in traffic very much. You will be riding along at 15 - 20 mph approaching an intersection or road; a car passes you on the left and then makes a right turn directly in front of you! This has happened to me several times, once resulting in a collision in Tucson.



WATCH OUT.

Here are some other DANGEROUS SITUATIONS to be alert for:

1. Parked cars. Watch for kids and dogs running out from between them. Watch for car doors opening.

2. Cars backing out of parking slots.

3. Loose gravel. The thin wheels on most bikes can't hack gravel roads or shoulders. Avoid them.

4. Wet Brakes. Your brakes depend on friction to stop you. Damp tire rims and brake shoes reduce the friction to near zero, increasing stopping distance significantly. If your brakes or rims are wet, dry them off before you ride. If it's raining, there's little you can do except slow down

and anticipate longer stopping distances.

5. Toe clips. Make sure they're loose enough to easily remove your feet. As you start, don't become so preoccupied with inserting your feet into the clips that you run into something or out in front of a car.

6. Secure everything you carry on a bike. Not long ago a city attorney was seriously injured when a flashlight he had scotch-taped to his handlebars fell off into the spokes and threw him off his bike. Bungee cords and permanently mounted carriers are good for carrying loads though many folks prefer a backpack of one kind or the other.

As you know, the law requires that you ride on the right side of the road, with traffic. Sharing the road with motorists doesn't, however, mean confining your area to the three inches just inside the edge. This only encourages drivers to try and slip by you in the face of oncoming traffic. The problem develops when the motorist discovers halfway through passing you that he is in danger of sideswiping an oncoming car. Sensing a problem, he'll ease back into you, hitting you or forcing you off the road. So the bottom line on this one is to give a motorist plenty of room when it's safe to pass, but don't encourage him to pass when it's not safe by riding on the edge of the road.

Since you are riding on the same side of the road as other motor vehicles, it is useful to know what's happening behind you. Purists may regard mirrors with a certain amount of disdain, but I'm less of a purist than I am a survivor. The truth of the matter is that my mirror has saved my life. This occurred when I was forced to leave the road to avoid being hit by a homicidal taxi driver. My mirror alerted me to the danger. So I advocate using a mirror. Mirrors that can be attached to your glasses are available; I prefer the kind that attach to your handlebars.

A word about the law; namely, bicyclists using the roads and highways are subject to the same rules and regulations as drivers of other vehi-

cles. It's just as simple as that. Matter of fact, you can be cited for not stopping at a stop sign, speeding (if you can't hack it), failure to yield, and other violations. Seems a shame to dissipate a good head of steam just to stop and start again ... but that's the law.

The law also gives you the same rights as a motor vehicle. The fact of the matter is, however, that the law may give you the same rights, but don't anticipate that the motorist will. The general attitude of a motorist is that bikes should be ridden on the sidewalk.

So you have the right of way ... as long as you don't use it. That is to say, it will be a Pyrrhic victory, when lying on your back on the pavement with a broken leg and concussion, to be able to say to the motorist who just hit you, "you were wrong ... I had the right of way."

Speaking of concussions, you will be smarter if you wear a helmet when you ride. Enough said.

There are many excellent books on bicycle maintenance so I won't belabor the subject except to say that 20% of all bicycle accidents involve a mechanical problem of some kind, most likely brakes. You owe it to yourself to see that your bike is in good working order. And you owe it to yourself to ride defensively, to adhere to sound bicycling practices while you're enjoying all the benefits of riding. ➤

TAC TALLY



	TAC			ANG			AFR		
	Apr	thru		Apr	thru		Apr	thru	
		1978	1977		1978	1977		1978	1977
MAJOR ACFT. ACCIDENTS ▶	2	12	9	2	4	4	0	1	1
AIRCREW FATALITIES ▶	1	9	2	1	1	0	0	0	0
TOTAL EJECTIONS ▶	4	13	8	0	2	3	0	1	1
SUCCESSFUL EJECTIONS ▶	3	11	8	0	2	3	0	1	1



TAC Flight Safety Trophy Winners

474TFW
NELLIS AFB, NV
8 APR 77-7 APR 78

132TFW(ANG)
DES MOINES IAP, IA
8 APR 77-7 APR 78

121TFW(ANG)
RICKENBACKER AFB, OH
16 APR 77-15 APR 78

128TASW(ANG)
TRUAX FIELD, WI
28 APR 77-27 APR 78

WINNERS OF USAF SAFETY PLAQUES FOR 1977 HAVE BEEN ANNOUNCED.
OUR CONGRATULATIONS TO THE ACTIVE TAC AND TAC-GAINED UNITS!

FLIGHT SAFETY

35TFW GEORGE AFB, CA
56TFW MACDILL AFB, FL
150W EGLIN AF AUX FLD #9, FL
114TFG(ANG) JOE FOSS FIELD, SD
188TFG(ANG) FT SMITH, AR

184TFTG(ANG) McCONNELL AFB, KS
301TFW(AFRES) CARSWELL AFB, TX
302SOS(AFRES) LUKE AFB, AZ
919SOG(AFRES) EGLIN AUX FLD #3, FL

EXPLOSIVES SAFETY

33TFW
EGLIN AFB, FL

FLEAGLE

WHEN HANDLING CHEMICAL AGENTS-BE SURE TO WEAR PROTECTIVE CLOTHING.



HAH ! WHAT'S A LITTLE TEAR GAS.

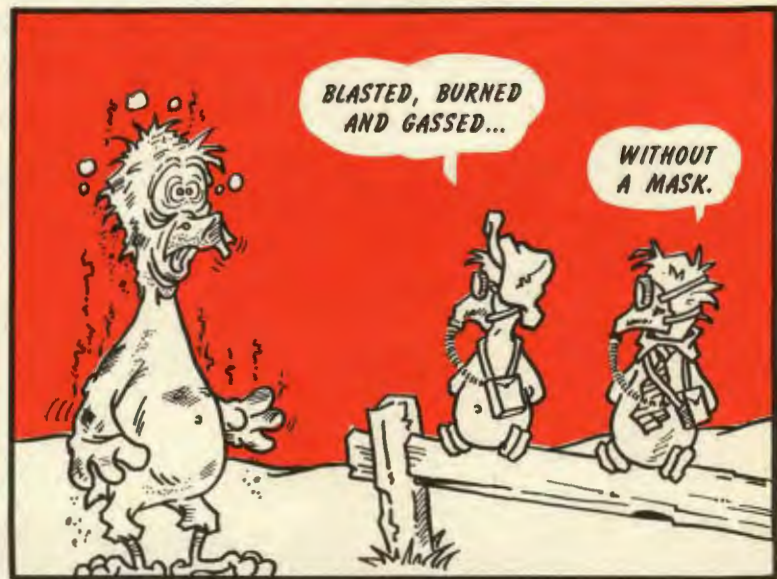
HARDISON

WHEN I POP THIS BABY, IT'LL MAKE THIS EXERCISE MORE REALISTIC.



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LET'S SEE...INSERT FINGER IN RING AND PULL. KEEP WELL CLEAR OF FLAMMABLE...



BLASTED, BURNED AND GASSED...

WITHOUT A MASK.