

# THE COMBAT EDGE

NOVEMBER 1996



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# The Combat Edge

AIR COMBAT COMMAND  
SAFETY MAGAZINE

**Gen Richard E. Hawley**  
*Commander*

**Col "Turk" Marshall**  
*Chief of Safety*

**Ron Smith**  
*Editor / Art Director*

**Barbara Taylor**  
*Awards Administrator*

**SrA Dave White**  
*Electronic Design & Layout*

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**CONTRIBUTIONS:** Articles, comments, and criticisms are welcome. Write:

Editor, *The Combat Edge*  
HQ ACC/SEP  
130 Andrews St Ste 302  
Langley AFB VA 23665-2786

Telephone: (757) 764-3658  
DSN 574-3658  
FAX: (757) 764-6362  
E-Mail: smithr@hqaccse.langley.af.mil

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# ACCent on Safety

Ahhh, Thanksgiving.... Boy, you just say the word and you can already smell the turkey roastin'. Up North, the leaves have dropped and the morning mist is now a glistening frost. Down in the Deep South, the birds, both the feathered and the rest, have come back to take up their winter roosts. It's a time of the year well suited for just the type of holiday that Thanksgiving is. This most uniquely American holiday is probably our most introspective, as it is our one specific opportunity to reflect on and give thanks for the blessings which we have enjoyed.

In ACC, we were particularly blessed by a FY96 that brought record low mishap rates in ground and flight safety. In plain language, that means we bent fewer machines and we broke fewer bones and that's certainly something to be thankful for. But this blessing wasn't just handed to us — it took a lot of hard work and it often meant "doing the right thing," vice "doing the easy thing." Supervisors not only watched as closely as ever, but they listened better and they also took more time to teach than ever before. At the "knuckle-busting" level, from the flightline to the highway, we paid closer attention to what we were doing so that less often than ever before we found ourselves asking, "How'd that happen?" Yes, there's certainly much to be thankful for and there's an even more compelling reason.

You see, we achieved this safety performance despite being involved in more operations, in more places with more of our people than ever before. Like a good family, we took honest stock of our problems. Meeting our challenges took TEAMWORK, FOCUS and DISCIPLINE. And though we may not have always been successful in preventing a tragic loss (and that's why we must continue to strive) we can take pride in each other for what we did accomplish. So, as I count my blessings this Thanksgiving, I count each of you. You know, I'd like to shake the hand of each of you. But since that's not very practical, I'll ask that when you finish reading this, you take the time to shake the hand of the next ACC team member you see. Thank 'em and congratulate him (or her) on a great job. If they act like you've lost all your marbles, just tell them that you were just overcome by the smell of turkey roastin'!

*Colonel Turk Marshall  
Chief of Safety*

# Safety Day

Col Vinnie Noto  
HQ ACC/SED  
Langley AFB VA

In response to a series of recent mishaps, General Hawley, ACC Commander, directed a Safety Day be taken on 23 August 1996. Units were directed to stand down for one day and utilize the time to evaluate their operations for risks and to report back their findings to HQ ACC. The draft AFI 91-213, Operational Risk Management (ORM), was to be used as a tool to complete this task.

ACC's Office of Safety was tasked with putting together a headquarters Tiger Team to review each unit's report, do an executive summary, and make recommendations on which directorates in the command would make the appropriate risk reduction effort.

The response to the 23 August Safety Day was overwhelming. Some units identified over 2,000 internal risks which needed consideration and prioritization for their resolution. It was easy to see that many had done a complete top-to-bottom risk assessment. Internally units identified slipping and driving hazards, weather, DUIs, facility maintenance, road repairs, environmental concerns, personal security, and many others as risks which needed evaluation. This was a positive and comprehensive first step for ACC units as most did a total look at what they do both on and off duty. Units should now use this data to prioritize funding if required or take actions to mitigate the risk if necessary. The headquarters took for action those issues outside your span of control. Nearly 40 separate action items were identi-



fied during the review. Many of the same items were identified by several units wholly or in part. The types of risks identified varied from the specific adaptability of cockpit lighting for night vision goggles to the very general "not enough manning to cover daily operations." These risks are

now being studied and evaluated by the ACC staff. Most units used the overarching term "Ops Tempo" to relate many of their risks. During the review we separated these risks in three very broad categories. These were Manning/Personnel, Scheduling/Tasking and Equipment issues. There were a few others which did not fit in any category. The short-term effect for the command was an instant snapshot of what we do and the risks involved. The long-term effect will be an acceptance of risks in many cases or a prioritization of dollars or resources to resolve or mitigate these risks.

Neither ORM or Safety Days are new ideas or concepts. We've used both before in one form or another. The concept using ORM to look at what we do for a single day was new.

ORM is a unique way of looking at how we do business. According to the Transportation Safety Institute, "Risk management provides the practical tools to allow line management to reconcile safety with other organization objectives." It is another tool we can put in our toolbox. As ACC develops an implementation plan and we begin the education and training process, we hope to see the types of results many other organizations have seen that have implemented the principle of ORM into their operations. ■

*Anonymous, Adapted from a true story in the ACC News Service*

# PAINFUL REFLECTIONS



**T**here I was, back in my hometown in Ohio on a week-long leave for my best friend's wedding. We'd been friends for along time; and even though I was stationed six states away, I wouldn't miss his wedding for anything.

My wife and I arrived the Sunday before the wedding scheduled for the following Saturday. We had plenty of time to visit with my family and friends. We spent Tuesday with my parents. Around 6:30 p.m., my dad asked if I would help him put up one of the portable signs he rents out as part of his business. "It won't take too long," I told my wife, "and when I come back, we can go visit our friends." Well I never made it back that night. In fact, I never even made it back for my best friend's wedding. That night I became the victim of a drunk driver.

Since it was November, it was getting dark as my father and I pulled out of the driveway on our way to deliver the sign. As we pulled off the street and parked in the front yard of the church where the sign was to be placed, I instinctively knew what had to be done. I had helped my

father do this hundreds of times before I joined the Air Force. I walked to the back of the truck and started untying the rope holding the sign to the truck. My father went to check over the site where the sign was going to be set up. Everything was going like clockwork and I thought we would be home in 20 minutes. Then it happened.

## *The Accident*

As I was stepping up onto the truck, a drunk driver came off the road and crashed into the back of my father's truck.

*As the police took the drunk driver away, he kept repeating to my father how sorry he was and how he didn't mean to hurt anyone. I was then put into the ambulance and remember spitting out pieces of teeth before they put an oxygen mask over my mouth to help me relax.*

I never saw or heard the car coming. Luckily, I had gotten one leg up on the tailgate and started lifting myself up before the collision. Unfortunately, my left leg had been caught in between the two vehicles. I bounced off the drunk driver's car windshield and landed 20 feet away on the cold, hard ground. My father ran up to his truck looking for me, but I wasn't near it. It took him a while to find me in the dark; and when he did, I was unconscious on the ground. For a while, he didn't know if I was dead or alive. He held my head and kept calling my name, hoping for a response. I was unconscious for about five minutes before I came to though I'm sure it seemed longer to my dad. When I opened my eyes, there were people all around me looking down, asking questions, talking and yelling. The ambulance technicians arrived and I remember them telling me they were going to have to straighten my leg to put me on a stretcher. I raised up to see what they meant and saw bones sticking out of my leg at a 90 degree angle between my knee and ankle. Two men then knelt on my chest to keep me from moving as the ambulance technician straightened out the leg.

#### *The Aftermath.*

As the police took the drunk driver away, he kept repeating to my father how sorry he was and how he didn't mean to hurt anyone. I was then put into the ambulance and remember spitting out pieces of teeth before they put an oxygen mask over my mouth to help me relax.

My injuries included a severe concussion, two crushed teeth, two broken vertebrae, 22 stitches sewn into my head and my left leg was broken in four places below the knee. I required emergency surgery that night and many more surgeries since then. My father couldn't sleep for almost a week after the accident because of nightmares and my mom had to worry about both of us. My wife slept

in my hospital room every night. When I got home 24 days later, she had to wash me and do things that nobody should have to do for a 27-year-old man. I didn't walk without help for more than two months, was put on convalescent leave and didn't return to work for 41 days. When I did return, I was on crutches and had numerous appointments with the physical therapists, doctors and surgeons. I used to play sports all the time, and I often remember the time when I'd really get out there and play. And when I'm with my friend, his wedding is something we can never reminisce about.

#### *The Lesson*

The story I just told is true. It may be too graphic to some, but I wanted it to read that way. A toned-down version wouldn't reflect the way it happened, and it isn't the way it will happen if it happens to you. I wrote this article and asked it to be printed for two reasons. Many of you will be taking leave to enjoy time with friends and family, and many of you will be out there enjoying the holiday festivities in the local area—and some will be drinking.

First, for those who will be out there somewhere enjoying the holidays and not drinking, be aware of those who are. They're out there and they aren't thinking about the pain and damage they may cause us. Don't think you're safe because you're not drinking. I wasn't drinking either.

Second, for those who will be drinking this season, please, please don't operate a vehicle of any kind. I know you'll think you're OK to drive, if you've only had a few and it's not that far; but so did the driver who caused me so much pain.

Now, let me hit this from a different perspective. Drinking and driving is illegal. It's a crime. I'm now a commander and I may be in your squadron. How do you think I'm going to deal with a drunk driver? Enough said. ■

# Fleagle

THIS IS THE ONLY PART OF FALL I HATE.



I'LL NEVER UNDERSTAND WHY A LEAF CAN'T STAY GREEN FER TWO OR THREE YEARS.



OKAY, WISE GUY. GIT ON DOWN HERE.



HARRISON

DERN IT...



HEH! HEH!  
HEH!



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SPLAT!



THIS'LL BREAK YOUR SORRY LITTLE STEM.



CLICK!  
HISSSSS....



?



# Landing the F-16

Joe Bill Dryden

Senior Experimental Test Pilot

Reprinted with permission from CODE ONE

The following article - a Joe Bill Classic- originally appeared in CODE ONE in 1987. Joe Bill Dryden died on 24 May 1993 when his F-16 crashed during a company acceptance flight over north central Texas.

-Ed.



Probably the most frequently asked question during any of my discussions about how to fly the F-16 involves how to land one of these sleek little beauties. For some reason, people are intimidated trying to land the F-16. Let me make the following statement concerning the F-16 and the ability to land the same: *the F-16 is not hard to land* (i.e., get it on the ground in a safe, professional manner). *However, the F-16 is probably one of the hardest airplanes I have ever flown to repeatedly, consistently, predictably get a "grease job."* Although I've been at

it a few years, I'm still not happy with my ability to do it. There are several reasons for this phenomenon (from a purely technical standpoint—before anybody makes any smart remarks).

Let's go through a typical approach. I hope to cast a little light on what is going on here and what you can do to try to improve your "grease job percentages." Reread what I said earlier in this series about the flight control system (how it is *different* from anything you have ever flown before), as this system has a very definite bearing on your ability to land. Also recall the little subtleties about not staring at the HUD during the flare. Instead, make sure that you are making a conscious effort to look at the runway and the surrounding terrain so as to be able to judge your

height above the ground accurately. (It's easy to get sucked into this trap.)

Let's start at the break. First of all, I like to fly—or watch—a crisp (read *rapid*) break. But be aware! If you pull the airplane as tight as it will fly, you're building in a lot of problems for your turn to final. Nobody wins a pattern-tightness contest, just as nobody wins a low-flying contest. But that's no excuse to fly a cross-country around the pattern, either. So use your head during the turn to downwind. As always, the usual requirements to lower the gear still apply sometime about now. It seems like there are still those among us who cannot remember to lower the landing gear. And raising the gear-warning tone airspeed to just under Mach one is not going to help, either. If you can't remember to massage the gear handle an even number of times on every sortie, then you should be looking for another line of work. Also, I recommend using the speedbrake—especially with the F100-PW-200 engine—as it allows you to carry a little higher power setting for a little better engine response on short final. Both the F100-PW-220 and the F100-GE-100 engines are better in this respect.

You have read in the dash-one and heard about the recommended 11- or 13-degree approach for the F-16. You can use either one with the same success. It does not really say at exactly what point you have to have the angle of attack established. If the test point requires, I can fly a constant 11- or 13-degree approach throughout the whole pattern. Left to my own devices, however, I usually fly an approach that results in a slowly increasing AOA from the time I roll off the downwind (or "180"—I mustn't overlook our new Navy pilots) until touchdown.

I usually have about 6 or 8 degrees as I start to turn final. About halfway through the turn (the "90" for our Navy friends) I pass through about 9 to 10, 11, or 12 on short final, and 13 degrees at or just prior to touchdown. You will usually be making a slow power reduction throughout the approach—

but there are exceptions, depending on the configuration—and slowly increasing backpressure until you set 13-degrees AOA.

At this point, stop making pitch changes (unless gusts, jet wash, etc., require a correction) and use power to control the touchdown point and/or sink rate. As with up-and-away flying in the airplane, I recommend that you do not trim. I do feel like I want to trim off the pressure during the final turn, but I have found that I always have to run the trim in the other direction on final—right back to the neutral position. As a result, I still believe that the statement about not having to trim the F-16 unless the airplane is asymmetrical is always valid.

Anyway, I am now on short final (usually over the overrun) with 13-degrees AOA, slowly dragging the power to idle, looking for the ground effect (seldom a pitch change) to cushion the touchdown, and rolling the aircraft on the ground.

Well ... not always. Why? One of the main reasons why you seldom feel you made a smooth touchdown is in the landing gear. It is a *very* stiff landing gear, without very much travel. Several other airplanes I have flown have oleos in the gear that give the

*Make a conscious effort to look at the runway and the surrounding terrain to judge your height above the ground accurately.*



impression they are about 18 inches in diameter and have a stroke of at least 4 feet. Such a cushion will cover up a lot of sins and is probably why you could do such a good job of landing your previous aircraft. Unless you do a nearly perfect job, you're going to come away with the impression that you had a firm (sometimes *Firm*, or even **FIRM**) touchdown in the F-16. Worse yet, the airplane bounced. Most of the time it hasn't really bounced. The aircraft is moving up slightly on the gear, but not enough to actually pull the wheels off the ground. Have some of your squadron mates

look at your landings and then collate their observations with what you remembered or recorded on the HUD film. You will find that, quite often, what felt like a less-than-perfect landing really did not look too bad from the outside.

But once you get the impression that you bounced, you open Pandora's

box for a plethora of possible mistakes that make the landing seem like it is hard to accomplish.

Let's take a second to go off on a slight tangent and talk about some aerodynamics. Just bear with me and we'll get back to the bounce. The F-16 will fly as slow as about 105 knots at 25 to 26 alpha. (It used to be even slower, before the airplane started getting its "middle-age spread." We never seem to learn anything from history.) But we're forced to land the airplane at only 13 alpha because of the geometry as to where the landing gear is located and where such things as engine nozzle, speed brakes, ventrals, etc., are placed. The point is that the F-16 is nowhere near ready to stop flying when it touches down. Remember this. You'll see it again.

Now, back to the bounce. Whether you did bounce or not, if you now get in and stir the controls (i.e., pull back on the stick) the airplane will come off the ground for sure. Also—as I discussed in the first part of "Semper Viper"—you do *not* have to increase back pressure after touchdown to maintain your attitude, as you've had to do in the past with other aircraft. If you insist on doing so, you'll pull the aircraft off the ground even if you made a perfect touchdown.

So, any combination of slight to moderate bounce—plus not paying attention to the amount of back-pressure you're using—can complicate an otherwise normal landing. Because of the stiff gear, you can expect a slight bounce (or at least an impression of one) on nearly every landing. Just hold the attitude and the aircraft will touch down again shortly

thereafter in the same attitude. Of course, if the touchdown has been complicated with an asymmetrical main gear touchdown (i.e., one wheel before the other), a gusty crosswind, or jet wash, etc., then you're going to have to make a series of control inputs as well as a power change. But if the approach has



*As always, the usual requirements to lower the gear still apply about now.*

*The F-16 is nowhere near ready to stop flying when it touches down.*



been otherwise normal, you should have to do nothing but watch the aircraft touch down again shortly thereafter.

There is also the matter of crosswinds to consider. The airplane is no problem in crosswinds. It has a large margin built into the dash-one limits. All you have to do is crab into the wind and fly a wings-level approach as you do in normal winds. Again, if the winds are gusty, you're going to be making more control corrections than normal. Go ahead and touch down in the crab, using the power and flight controls as usual. The only real difference is that, as the nose comes down, be ready for the upwind wing to want to come up. Add whatever roll command is necessary. The airplane will usually align itself with the runway as you lower the nose. If not, then use whatever rudder is appropriate.

For you guys flying those airplanes with the drag chute, the same holds true. Make a normal landing using whatever crab is necessary, then deploy the chute. The airplane doesn't care if you're in a 2- or 3-point attitude. It actually doesn't care if you're on the ground yet. Notice that it takes about 2 full seconds for the chute to deploy fully after you move the switch. If stopping distance is really critical—due to glare ice, combat damage shortening the runway, or whatever—then hit the switch about 2 seconds short of touchdown. Use a little caution, however, the first few times you try this, because the airplane stops when the chute comes fully open.

With a full chute just at the touchdown point, and the proper braking procedures, it's easy to produce landing rolls of less than 1,000 feet on dry runways with a light airplane. If the crosswind is near the limits, you can expect some directional control problems; but the technique is still to use the chute. Just keep your hand on the switch. You can realize the nice feeling of deceleration as the chute opens, then release it immediately if it looks like directional control is becoming a problem—regardless of the RCR.

Let's digress again and talk about alpha at touchdown. How much is too much? If the aircraft is sitting on the ground in a static condition, parts of it will start hitting the ground not too much past 13 degrees. But if

the airplane has anything near flying air-speed, you can sometimes get away with almost 15 degrees without problems. A big GOTCHA, however, is sink rate: if you touch down with too much of it, the clearance angle starts to come back toward 13 degrees again. A lateral/roll input at the same time (to compensate for a gusty crosswind) is also a big pitfall. The moral is that it's not a good idea to be touching down above 13 degrees—unless you want to become famous with your supervisor. But once you're firmly on the ground, you can go to 13, or even slightly beyond, without hitting anything. This is important if getting stopped on a slippery runway is the item at hand (i.e., aero braking).

While we're talking about AOA at landing, you guys who are just checking out in the airplane will want to note that the F-16 is one of the few aerospace vehicles where you can see the touchdown point while you're in a landing attitude. In many other airplanes you've flown, you sometimes can't see the runway—much less the touchdown point—once you establish the landing AOA. The lesson here is that there's a different (that word again!) sight picture associated with landing the F-16. Resist the temptation to

*Bring the nose gear to the runway with the brakes and not with the stick. You can do it with forward stick, but you're asking for problems.*



keep pulling the nose up as the ground approaches. This is a sure-fire way to get the kind of attention none of us needs.

Like the book says, the maximum braking occurs in a 3-point attitude with maximum anti-skid braking. This is true on a dry runway but is not necessarily the case if the runway is slick for whatever reason. The unfortunate part is that, once you let the nose down, you cannot get it back up without adding power (not recommended). So it helps to practice the same technique on every landing. I've found the following works best: touch down in the manner we've already discussed, and hold 13 degrees—or, if you feel real confident, a little more than 13 (the point is that aero braking with less than 13 degrees doesn't buy you very much). Then start down on the brakes at a controlled rate. If the braking action is good, the nose will immediately start down; but if the runway is slick, you'll find you can hold the nose up and the resulting zero braking is more than you would obtain in a 3-point attitude. The "moment" of the brakes will try to bring the nose down, but you can control it by adding backpressure. It's important to realize that I am not adding any backpressure until *after* I start wheel braking. If you get too eager, you'll sure as hell pull the aircraft off the ground, just like we discussed a few lines ago.

Regardless of the RCR, the nose will eventually come down, even if you're using full back stick. This will happen real quick on a dry runway, but sometimes involves a long delay if the buffers and polishers have had much time to work on the runway. But don't insist on holding the nose up much below 80 knots, as a gust can rapidly increase the deck angle without your being able to do much about it—in much the same way as you depart if you're slow while airborne and insist on forcing the issue.

As soon as the nose gear approaches the runway (you don't have to wait for it to get completely on the runway, but don't get too eager), hold the override to get the speedbrakes full out, keep the stick full back (every little bit helps—

even if it's only 2 feet), and bury the pedals if you haven't already done so (if stopping distance is a problem).

Notice that I bring the nose gear to the runway with the brakes and not the stick. It can be done, but you are asking for problems if you try to pin the nose gear to the runway with the brakes and not the stick. Doing so can induce a lot of other problems, not the least of which is that the hook will very likely miss the wire if a barrier engagement is in the cards. But if you still have 8,000 feet to go on a dry, 12,000-foot runway, use your head and disregard the last instruction about burying the pedals—just go for a reasonable taxi speed. This technique is the best way to stop the airplane. And it works the same, regardless of the runway conditions. You don't have to use several different techniques as the conditions change.

So, a lot of words for what appears to be a simple task. Think through the pattern as you approach the break. Avoid further pitch inputs once you get 13 degrees established—unless conditions really call for them—and control the touchdown/sink rate with power. As you get really conversant with the airplane, you'll find that you can continue to make pitch corrections all the way to touchdown—but they're tiny. Expect a slight bounce, or at least the impression of one, and resist the temptation to continue making stick inputs unless they're really necessary. The airplane will touch down again just fine in about 100 feet. Think about your braking and the sortie should be just about over.

Check six.... ■

*The F-16 is not hard to land!*





# **A BAD DECISION, A SLEEPY HUNTER AND A DEAD FRIEND**

*Gary Johnson  
9 RW/SEG  
Beale AFB CA*

**I**t has been 7 years since the mishap and 3 years since I have written about the death of one of my closest friends. Even though I try not to, I think of it often! In the night before consciousness gives way to sleep, or sometimes when I'm doing something that we used to share, like fishing or hunting, it sneaks in. I

realize that much of it has to do with a realization of my own mortality, but I also wonder what paths our lives and those of our families would have taken were he still here. Although I was several hundred miles away on the 5th of November 1989, I was, in a sense, there with him in the sage and mesquite of that public hunting area that morning. We had hunted and fished regularly when we were not separated by our military assignments. Our families had become very close and his three children were closer to me than my own nieces and nephews. It was all the more the shock when I learned that his 15-year-old son had witnessed the whole event.

Leaving before sunrise to get to the hunting area, Richard, who always wore a "hunter's orange" vest, didn't recall that he had taken the vest off in the house after the last hunting trip. Assuming that the vest was in the truck, he and his son departed for the area. The hunting area was a section of federal land, one of the few places in the state where the general public could hunt. The majority of private landowners in the state require a person to lease "hunting rights." With the shortage of accessible land, this area received significant use. The area, therefore, was restricted to "shotguns only," even for deer hunting. Unwritten safety measures had been adopted by the local hunters in that, if you arrived before sunrise, you would walk in waving a flashlight over your head until arriving at your spot, then wave the flashlight around for 5 more minutes. This would alert the other hunters to your location.

When my friend and his son arrived at the area, he realized that he had forgotten his vest (his son's vest was in the truck), but rather than giving up a chance for his son to take his first deer, he chose to proceed on with just a flashlight. They followed the normal routine of waving the lights during the hike in and from their positions (a few yards apart) and settled in to wait for daylight. Other hunters had done the same before their arrival. In fact, three

hunters from a town some 150 miles distant had arrived 2 hours before my friend and his son. They had walked in and positioned themselves in tree stands, to the rear of Richard's hunting spot. Two of these hunters had watched Richard and his son as they walked in, found their hunting spots, and waved their flashlights. Unfortunately, the third hunter in their party was asleep during these events!

As any hunter or nature photographer can attest, waiting for an animal to appear can make minutes seem like hours and regardless of your position, uncomfortable beyond belief. Slight shifts in body posture, although seldom offering more than momentary relief, are mandatory. As darkness gave way to dawn the sleepy hunter in the tree stand awoke, noticed a slight movement beyond some brush 30 to 40 yards in front of his position, drew a bead and fired. My friend's son, looking at his dad, saw Richard lean forward. This caused no alarm since it was standard to lean forward and duck when you heard a gunshot. When he failed to sit back up, his son realized what had happened. Three 30 caliber buckshot pellets fired by an individual who had no idea what he was aiming at had ended his father's life.

Since that day I have wondered many times whether the "hunter's orange" vest would have made a difference. Would that piece of highly visible material have caught the attention of the shooter through the bushes or was Richard's death the inevitable price to be paid for a violation of one of the cardinal rules of weapons safety, identifying your target? Unfortunately, the only control we have in life is over ourselves. We can't guarantee that the people around us are trained, or even if they were, that they would follow the rules. We can't even make sure they're awake! Watch out for yourselves, wear your high visibility clothing, follow the weapons safety rules, and have a safe hunting season! Good friends are few and far between! ■

# Your Comms or Mine?

SrA Joseph J. Sailer  
7 TRNS/LGTR  
Dyess AFB TX

**A**s it sometimes happens “in the field,” there are more jobs to get done than personnel properly trained to do them. When the entire mission of a base is to close down, you find a hefty supply of volunteers at your disposal, but problems arise due to situational inexperience. The situation was to load 30-50 flatbed trucks for over-land convoy transport of WRM assets. The two squadrons involved were Supply and Transportation with neither squadron really having the manning to perform up-load operations while keeping up with other necessary closure operations. The natural course of action was for the two squadrons to combine forces to get the job done.

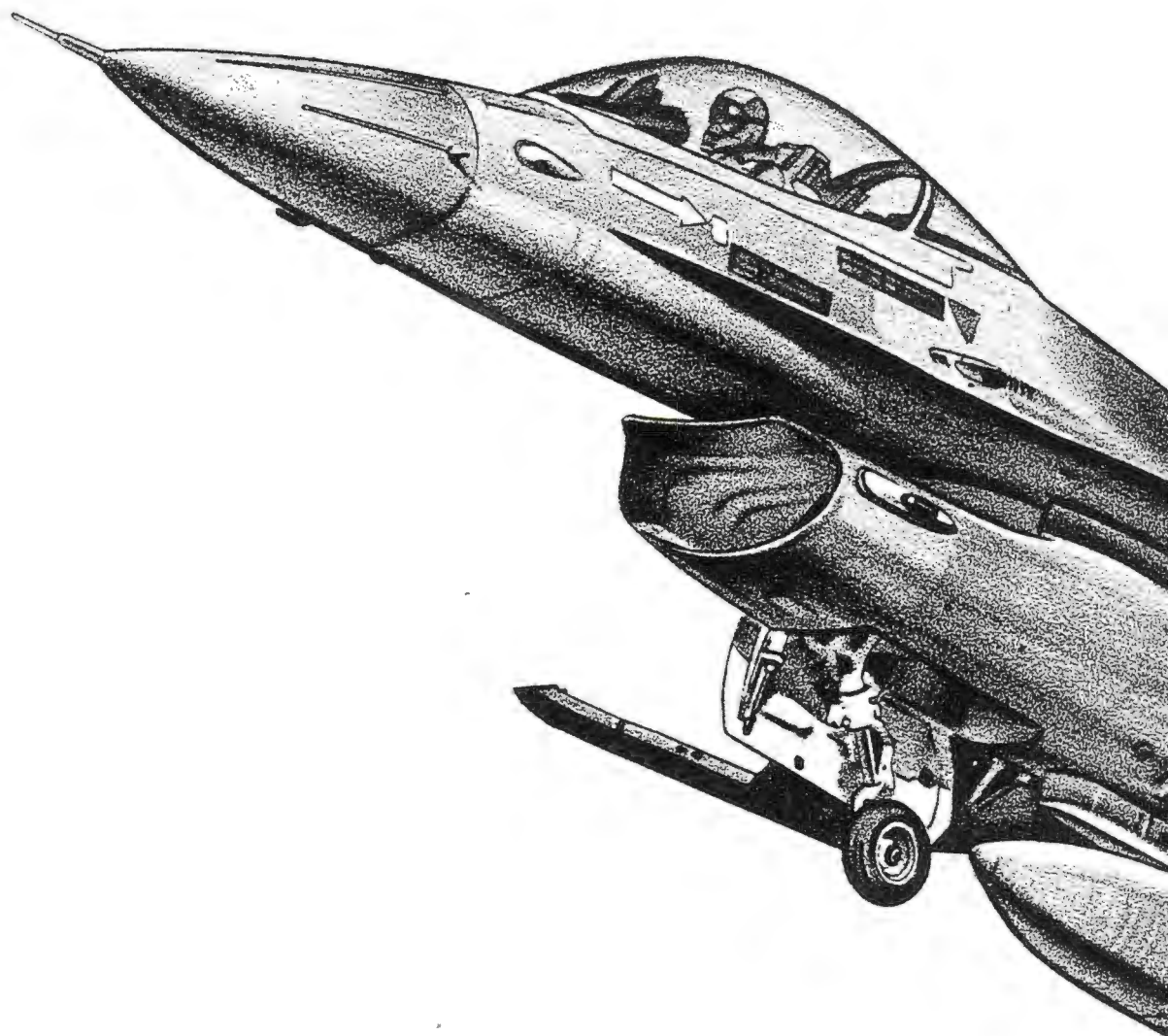
During all of the enthusiasm of this joint effort a crucial assumption was made; the supply and transportation personnel had the same experience base. In my experience, supply folks tend to use warehouse forklifts and rarely have the opportunity to up-load flatbeds, unlike transporters, particularly Air Freight and TMO personnel. In this situation supply and transportation personnel, many newly qualified, were operating the 13K All-Terrain (AT) forklift that the sandy conditions demanded with

spotting duties falling primarily to supply personnel. Anyone who has worked with forklifts knows that the spotter is the single most important entity in the universe, especially when lifting an object that completely obstructs your view. “Basic” knowledge that Transportation takes for granted, the use of hand signals and single spotters, essentially blew up in the face of the load teams as the first joint up-load commenced. Many times Material Handling Equipment (MHE) drivers had up to four spotters attempting to give directions to them, creating a confusing and dangerous environment for all involved. Compounding the problem was the numerous “dialects” of hand signals both transportation and supply personnel used.

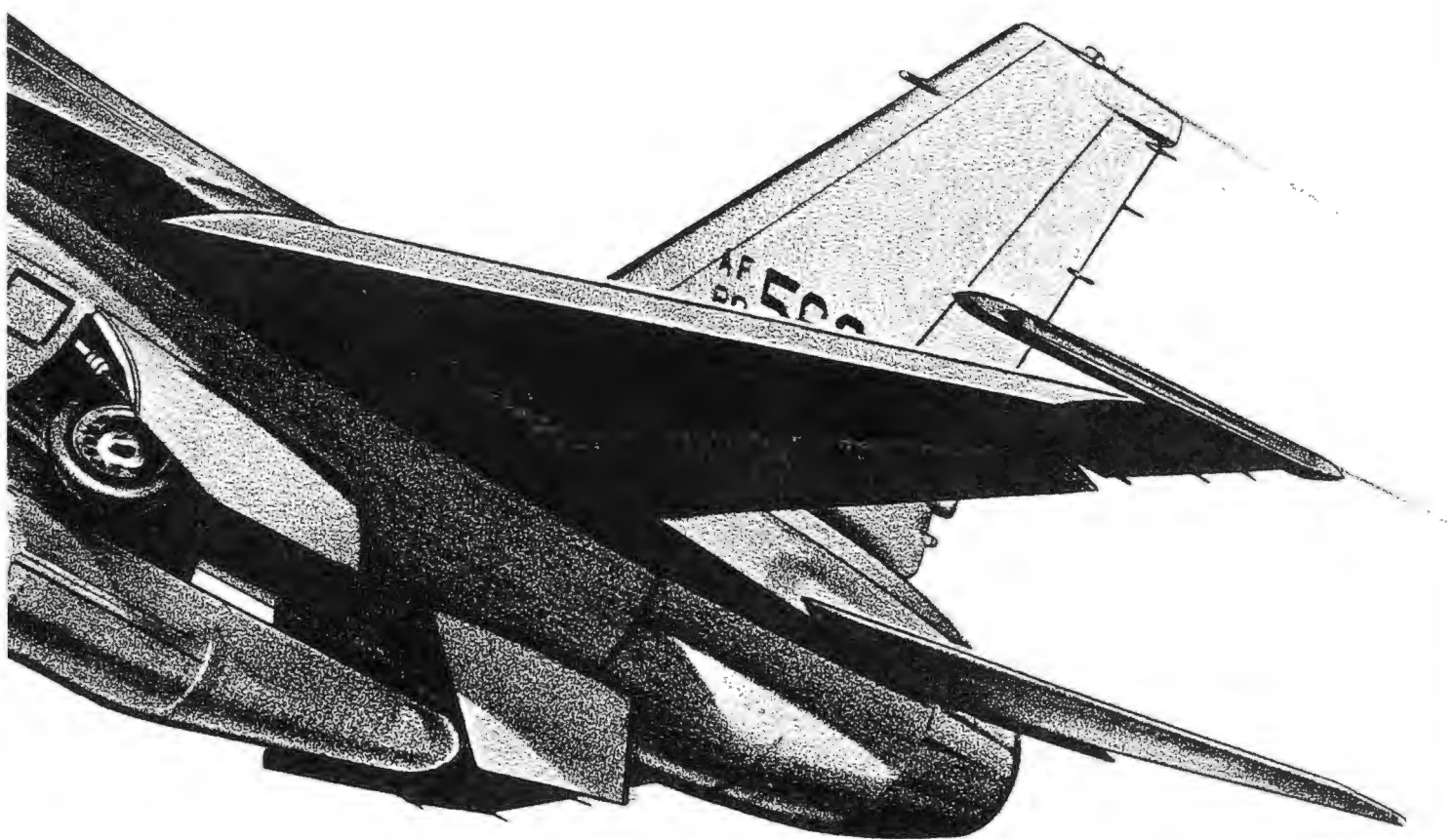
The solution, in 20/20 hindsight, is fairly easy to see. Ensure that a communication and training system is in place to provide personnel with the necessary information and experience to perform work not usually associated with their AFSC. Fortunately the problems ironed themselves out quickly without any injuries and with only a few flared tempers. If that initial, crucial assumption had not been made, the operation would have been much safer and easier. ■

*The people involved in this operation were lucky. Serious injuries and property damage could have occurred because the supervisors failed to plan. Proper planning and using the appropriate guidance could have made this a safer operation. AFOSH Standard 127-46, Materials Handling And Storage Equipment, and AF Manual 52-4, Special Purpose Vehicle Training Manual, establish the training requirements for materials handling equipment.*

*-Ed.*



***F-16 Fighting***



Falcon

*Fuller*

# Monthly Awards



## PILOT SAFETY AWARD OF DISTINCTION

*Capt Gary Cooper, Maj Crismon Brayman  
523 FS, 27 FW  
Cannon AFB NM*

After an uneventful basic fighter maneuver sortie in the local MOA, Capt Cooper was leading his two-ship of F-16s back to Cannon AFB when he heard a loud noise and felt a shudder as if the jet had hit a large bird. The jet began an immediate yawing motion and Capt Cooper felt a low frequency airframe vibration. He checked his engine instruments, then began a visual inspection of the aircraft while controlling the rolling and yawing motions. The problem was immediately obvious; the right leading edge flap had broken loose and was standing almost vertical in the airstream. Capt Cooper immediately declared an emergency and slowed to approximately 250 KIAS. Maj Brayman, his wingman, assisted with the checklist while Capt Cooper performed the steps, slowing the aircraft and locking the leading edge flaps as close to symmetrical as possible. They climbed to 15,000 feet and accomplished a controllability check while continuing direct to the airfield. Due to the condition of the aircraft, Capt Cooper flew his final approach at 195 knots, approximately 40 knots faster than normal. Capt Cooper controlled the jet through the flare and touchdown, successfully bringing the jet to an uneventful full stop. This is an exceptionally rare and dangerous emergency in the F-16, this being only the 12th occurrence. Three of these twelve incidents have resulted in loss of the jet, and in two cases loss of the pilot. Capt Cooper and Maj Brayman's excellent systems knowledge, strong airmanship skills, and formation teamwork enabled them to successfully bring home a crippled multi-million dollar combat asset.

## AIRCREW SAFETY AWARD OF DISTINCTION

*Lt Col Rick Ferguson, Capt Butch Allen (no photo),  
Capt Kenny Duck, Capt J.M. Janukatys  
28 BS, 7 WG  
Dyess AFB TX*

On 10 Apr 96, the crew of Hawk 84 was #2 in a two-ship formation of B-1Bs in IR-178BG, a high-speed, low-level training route. Each aircraft was scheduled to drop 4 BDU-50 practice bombs in the Melrose Range for an initial qualification sortie for Capt Allen. The mission proceeded uneventfully until Hawk 84 entered low level. Approximately 10 minutes after entering the route, while flying automatic terrain following at 600 feet AGL, 550 KIAS, the crew experienced a sudden vibration on the aircraft. The instructor pilot, Lt Col Ferguson, took control of the aircraft and began an immediate climb to IFR altitude. As he added power for the climb, the aircraft shuddered and experienced significant control problems, jammed rudder pedals, throttles, and control stick.

As the crew climbed to IFR altitude, the Oxygen Caution Light illuminated followed by an immediate loss of oxygen airflow. Once level at 9,000 feet, Col Ferguson began slowing the aircraft to 350 KIAS and began sweeping the wings forward. The vibrations in the flight controls continued, despite this reduction in airspeed. The crew made the decision to land at the nearest emergency airfield. While heading to Midland International Airport, Col Ferguson noticed a significant degradation in lateral control stick authority, with stick movement limited to 1/2 to 1-inch from center, requiring 60 to 80 pounds of stick force to achieve stick displacement.

After slowing down to 300 KIAS and sweeping the wings forward to 25 degrees, the crew initiated fuel dumping procedures to adjust the aircraft gross weight to 250,000 pounds for immediate landing. During this time, numerous caution lights illuminated for environmental overloads due to reduced air availability. Capts Duck and Janukatys began shutting down all non-essential equipment to prevent damage to the offensive and defensive equipment IAW the Dash 1, Section 3 procedures. As the crew approached the airfield, Col Ferguson experienced complete stick lockup in the lateral axis for 3 to 5 seconds. He directed the crew to prepare for ejection, while utilizing the rudders to maintain a wings-level attitude. During repeated attempts to move the control stick, a small amount of lateral stick authority was regained.

Avoiding populated areas, the crew managed an extended straight-in final and Capt Allen lowered the landing gear. While waiting for the red light in the gear handle to extinguish, a loud thump was heard and felt in the cockpit and the aircraft immediately pitched up. Col Ferguson lowered the nose to regain level flight. With limited lateral authority, he used rudder inputs to fly a visual straight-in approach. Landing and rollout were uneventful, and the crew performed an emergency egress once the aircraft came to a complete stop.





## CREW CHIEF EXCELLENCE AWARD

*SrA Robert Denton  
523 FS, 27 FW  
Cannon AFB NM*

Senior Airman Denton was the crew chief for F-16C 87-277 during a phase one generation. During the flight control check, Amn Denton noticed the right stab was slow to return to the normal position. He told the pilot what he saw and requested the pilot repeat the flight control input, asking if the flight control system had generated any Maintenance Fault List items. The pilot replied in the negative and noted that the flight controls had passed the self test. After the pilot called for a redball, Amn Denton explained the discrepancy to the specialist who quickly agreed there was a malfunction. The pilot shut down the jet and maintenance troubleshot the problem. Investigation revealed a bad Integrated Servo Actuator which had managed to pass the flight control self test. Failure in flight could have resulted in loss of aircraft or life and would have caused an air abort and in-flight emergency at the very least. Amn Denton's excellent aircraft systems knowledge and attention to detail allowed him to discover a subtle but serious aircraft malfunction, thus potentially saving a multi-million dollar combat asset. Amn Denton is a credit to his shop, an excellent example to his peers, and is truly deserving of this award.

## GROUND SAFETY INDIVIDUAL AWARD OF DISTINCTION

*MSgt Charles L. Golloher, TSgt John Sackett  
TSgt Albert R. Deleon, SSgt Timothy B. Jankowski  
SSgt Terry L. Lane, A1C John A. Davis  
A1C Joseph W. Rogers  
12 AF  
Davis-Monthan AFB AZ*

On 3 Jun 96, at approximately 1730, while deployed to Logan Heights TX for Joint Exercise ROVING SANDS 96, maintenance personnel were walking past the Systems Control (SYSCON) building when they heard a loud snapping noise. They saw that a commercial power line was arcing (phase to phase) and had fallen down and was touching equipment. TSgt Sackett and A1C Rogers ran inside the SYSCON to sound the alarm and request controllers call the fire department and civil engineering to get commercial power cut off. Racing back outside, Amn Rogers noticed the power line had fallen on top of the Central Nodal Communications Element tent. Amn Rogers ran inside the tent and directed personnel to evacuate because there was a live power line on the tent. The arcing wire ignited a small patch of dry grass next to the stand-by Tactical Quiet Power Plant generator. The Tactical Quiet Power Plan generator fuel lines were in the burning grass with the live power line arcing all around the fuel lines. A 1,200-gallon M-49 refueling truck was parked no more than 20 feet from the arcing line. SSgt Lane and A1C Davis removed the fuel lines and grounding cable from the back of the truck and MSgt Golloher climbed in and drove to a safe area away from the fire. TSgt Deleon and SSgt Lane and Amn Rogers removed fire extinguishers from the back of the truck and gave them to SSgt Jankowski who was already working to extinguish the fire. Sgt Lane and Amn Davis provided detailed information and the location of the live power lines to the post fire department personnel upon their arrival. After the fire was out and power was shut off, Sgt Deleon explained the cause of the mishap to site leadership and outlined safety measures to help in the event a similar incident should occur in the future. Sgt Deleon suggested a fire extinguisher be placed at each tent and shelter, to include a site electrical safety board. These safety items were installed on site shortly thereafter.



## **WEAPONS SAFETY AWARD OF DISTINCTION**

*SSgt James A. Peddicord, SrA Jeffery D. Lunsford (no photo)  
A1C Brian J. Garrett, A1C Thomas R. Marr, Jr. (no photo)  
7 EMS, 7 WG  
Dyess AFB TX*

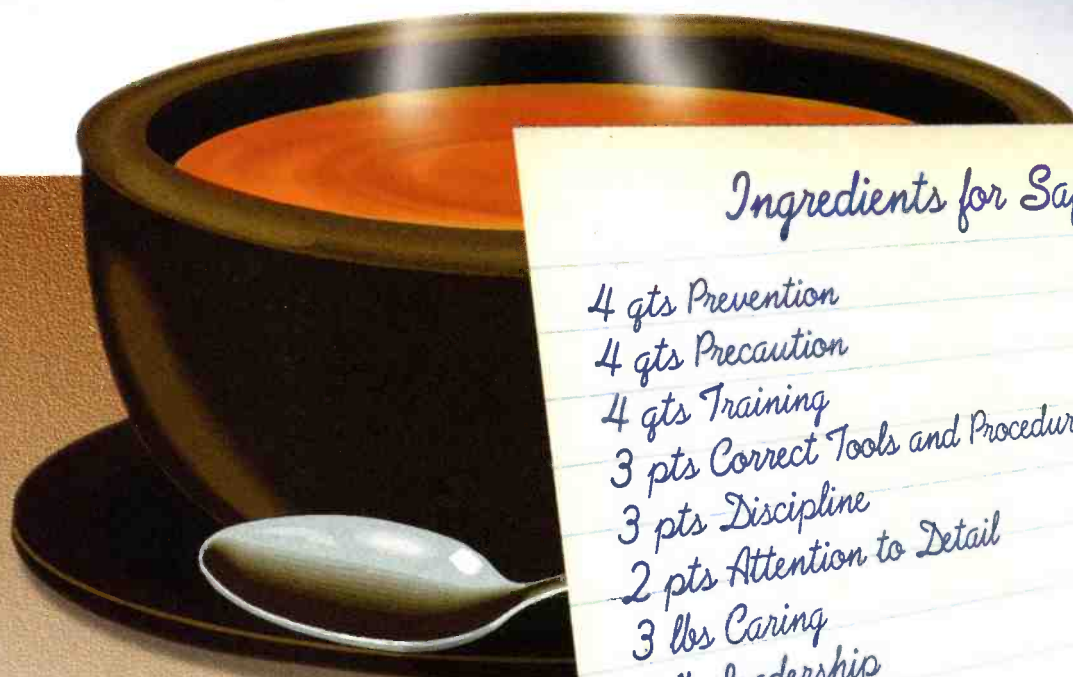
On 29 Apr 96 at 2300 hours, SSgt Peddicord and his Combat Munitions Team began downloading "live" MK82 General Purpose bombs from 40-foot rail trailers onto dunnage at the munitions railhead/buildup pad. As the first three bombs were loaded on the forklift, Sgt Peddicord noticed thick smoke billowing from the engine compartment of a nearby light cart. He immediately stopped the explosive operation and secured the forklift. He and A1C Marr inspected the smoking light cart and discovered fuel spurting from its engine onto the generator and red hot exhaust manifold. Sgt Peddicord directed Amn Marr to notify munitions control by radio of the situation while he began emergency shut-down procedures. SrA Lunsford and A1C Garrett quickly pushed the smoking cart away from the 147 bombs (over 28,000 pounds of high explosives) positioned on the pad. The selfless actions of Sgt Peddicord and his crew averted a potential catastrophe and reflect favorably on their training and dedication to duty.

# A Recipe for Safety Soup

**Method:** Combine equal parts of Prevention, Precaution, and Training in a large pot and bring to a boil over high heat. Mix in thoroughly the Correct Tools & Procedures, Discipline, and Attention to Detail and continue to boil. Sauté Caring, Leadership, and Teamwork and add to the boiling mixture. Season with Hindsight/Lessons Learned and Tact and Diplomacy. Mix well and serve generous portions daily.

Although this recipe takes a look at safety from a lighter side, the message is still clear. This "soup" is made up of several important ingredients. Without any one of them, it would not be authentic or as effective. Unlike a watery broth, this soup provides the balanced nourishment each of us needs in our daily mission accomplishment. Amazingly, this recipe serves individuals, squadrons, and wings alike. Quantities may be adjusted to suit your needs, situations, or environments, but all of the ingredients must be present.

Safety must be an ingrained part of the way we do our jobs. It must be stressed in everything we do until safety considerations become "second nature." When taken for granted or neglected, the results are all too predictable—a serious mishap with injuries and/or death. ■



## Ingredients for Safety Soup

4 qts Prevention  
4 qts Precaution  
4 qts Training  
3 pts Correct Tools and Procedures  
3 pts Discipline  
2 pts Attention to Detail  
3 lbs Caring  
1 lb Leadership  
1/2 lb Teamwork  
4 ozs Hindsight/Lessons Learned  
3 dashes Tact and Diplomacy

Mrs. Barbara J. Taylor  
HQ ACC/SEP  
Langley AFB VA

# Carbon Monoxide

## Poisoning Risk

## Increases with

## Advent of Cold

## Weather

*"The trickiest aspect of carbon monoxide is that you can't tell, through smell or sight, that you've been exposed until it affects you."*

Reprinted with Permission from OSHA Week

Cold weather brings with it an increased risk to workers from carbon monoxide poisoning. OSHA has urged workers and employers to be aware of and to take precautions against the hazards posed by this odorless, colorless—and lethal—gas.

"The trickiest aspect of carbon monoxide is that you can't tell, through smell or sight, that you've been exposed until it affects you," OSHA Area Director George Kilens said, noting that carbon monoxide is a common substance in many types of workplaces. "That's why we are reminding employers and workers of the risks posed by undetected and unintended overexposure and asking them to contact OSHA or other resources for information and assistance on reducing the risks associated with this gas."

Carbon monoxide is a chemical asphyx-

iant. Exposure to it restricts the ability of the blood system to carry necessary oxygen to body tissues. Even limited exposure will often result in headache, dizziness, or nausea, while large concentrations of the gas can kill within minutes, sometimes without significant warning symptoms. The more carbon monoxide there is in the air and the longer the exposure, the greater the danger.

The risk of overexposure increases in winter because traditional sources of ventilation—windows, doors, vents, garage doors, bays—are often closed to insulate against low outside temperatures. If carbon monoxide is present in the workplace, restricted airflow may contribute to its accidental buildup.

Carbon monoxide gas is produced by the incomplete burning of any material that

contains carbon. These materials include gasoline, natural gas, propane, coal, and wood. Machinery and appliances that burn these fuel sources include forges, blast furnaces, gas-fire water heaters, space heaters, and coke ovens.

### **Carbon Monoxide In The Workplace**

The most common source of carbon monoxide in the workplace is the internal combustion engine. Any machinery or appliance powered by fossil fuels such as gasoline or propane—trucks, cars, forklifts, floor polishers, pressure washers—generates carbon monoxide. Thus, many jobs may involve potential exposure to the gas.

The OSHA health standard governing carbon monoxide restricts the amount of the gas in the workplace to no more than 50 parts of the gas per million (ppm) parts of air over an 8-hour workday. If the gas level goes above 50 ppm, employees must be removed from the work area and the employer must take steps to reduce the carbon monoxide level. This can be accomplished through engineering controls, altering existing work practices, or by using non-carbon monoxide producing equipment.

### **Symptoms And Risks**

The human body, especially the brain, the lungs, and the heart, requires a steady supply of oxygen. Carbon monoxide, if inhaled, severely restricts the blood's ability to carry the oxygen.

Initial symptoms of carbon monoxide poisoning may include headaches, tightness across the chest, nausea, drowsiness, flushed face, dizziness, inattention, or fatigue. Increased exposure may result in lack of coordination, confusion, weakness, or loss of consciousness. The poisoning may be aggravated if an individual has a heart

condition, smokes, consumes barbiturates or alcohol, or is pregnant.

Poisoning can be reversed if caught in time, but acute poisoning may result in permanent damage to parts of the body that may require large amounts of oxygen, such as the heart or the brain. Overexposure also carries a significant reproductive risk.

If carbon monoxide poisoning is suspected, get out of the work area and into open fresh air immediately. If people are overcome, remove them into the open air, call a doctor, and administer artificial respiration.

### **Steps To Reduce The Risks**

#### **EMPLOYERS:**

Install an effective ventilation system. Maintain appliances in good working order to reduce carbon monoxide formation. Consider switching from fossil-fueled to battery-powered machinery where possible. Install carbon monoxide monitors or regularly test air levels. Provide initial and periodic medical exams for exposed workers. Instruct workers in the hazards of carbon monoxide.

#### **WORKERS:**

Inform your employer of any condition that may lead to the formulation or

accumulation of carbon monoxide. Report complaints immediately. If made sick by carbon monoxide, notify your doctor. Reflect on your smoking habits (burning tobacco also produces carbon monoxide, resulting in a higher carbon monoxide level before going to work). If the hazardous workplace condition is not corrected, the workers should contact OSHA.

More information: John M. Chavez, OSHA, 617-565-2075. ■

*Carbon monoxide gas is produced by the incomplete burning of any material that contains carbon. These materials include gasoline, natural gas, propane, coal, and wood.*

# FLIGHT SAFETY AWARD OF THE QUARTER

*MSgt Michael Janca  
55 WG  
Offutt AFB NE*



Master Sergeant Janca has truly set the standard for Flight Safety personnel. As Flight Safety Superintendent for the largest wing in ACC, Sgt Janca has directly contributed to Offutt's phenomenal safety record while the wing has maintained a fast-paced operations tempo providing global reconnaissance, peacekeeping and treaty verification, battle management, airlift and command and control support to USSTRATCOM, the National Command Authorities (NCA), and Presidential and SECDEF support operations. Through his strong leadership and tenacious quality management of the flight safety program, the wing was recently awarded its first-ever annual Air Force Flight Safety Award. Moreover, the wing has received the prestigious ACC Flight Safety Award for the last 4 consecutive years without a single command-controlled Class A or B Class B flight mishap. Sgt Janca singularly rebuilt and revitalized the wing's dated Bird Aircraft Strike Hazard (BASH) program into what is possibly the best in the Air Force. During a recent inspection by the ACC Flight Standards Agency, Offutt's BASH program was recognized as a model plan. Furthermore, the recent results of a technical assistance visit by HQ ACC and HQ AFSC's BASH Team gave Offutt's BASH program high marks for its "aggressive, effective, and innovative approach" to minimizing the threat at Offutt AFB. The team commented that they were extremely impressed with Offutt's BASH management efforts and that Sgt Janca's cross-functional approach, bringing together a multitude of both on- and off-base agencies to work the issues, is key to the program's success. An example of his innovative methods to combat the bird threat was his installation of ACC's first-ever kevlar wire-grid system over wetland areas to help keep them free from geese and other waterfowl. This approach to BASH prevention is now being considered by other Air Force bases. He also planned, organized, and executed a "goose round-up" in which 50 Canadian Geese were captured, physically removed, and relocated 6 hours from the base to help reduce and eliminate a resident flock which lives near the base lake area. Additionally, Sgt Janca developed our first-ever trends analysis program entitled "Safety Spotlight." The cornerstone of this trends program is Offutt's Aircraft Incident Worksheet he co-authored which allows the flight safety office to record and track all aborts, inflight emergencies, bird strikes, and other significant events that were previously undocumented. The "Safety Spotlight" has been an instant hit with commanders since it allows them to better assess their quality performance in mishap prevention. Without a doubt, Sgt Janca's hard work and dedication to mishap prevention has earned him the respect and recognition of the men and women of Air Combat Command afforded by this award.



# WEAPONS SAFETY AWARD OF THE QUARTER

*1Lt Donald A. Supon, Jr.  
4 EMS, 4 FW  
Seymour Johnson AFB NC*

Under the leadership of 1Lt Supon, the members of Munitions Flight accomplished some tremendous feats. For example, the 4 FW has continued to excel in the area of munitions safety by achieving 22 consecutive months without a reportable incident, zero Class A mishaps ever, no Class B reportable incidents since Oct 90, and no Class C reportable incidents since Aug 90. During the third quarter of FY 96, the Munitions Flight moved over 72,000 pounds of Net Explosive Weight (NEW) including over 1,710 tons of munitions to flight line aircraft. Included in this management feat was a live missile account of 180 AIM-120, 244 AIM-9M, and 69 AIM-7M missiles. The unit was tasked through Executive Orders to maintain an alert posture to provide defense for a civilian flotilla off the coast of Cuba, code name STANDOFF FOUR, which produced the assembly and delivery of 48 GBU-12 guided bombs, 22 AIM-9M and 22 AIM-120 missiles, 1,680 chaff and flare countermeasures, 5,100 rounds of 20mm High Explosive Incendiary (HEI) ammunitions in less than 9 hours—3 hours ahead of deadline! This same period included a highly successful Phase II exercise, CORONET EXTEND 96-03, which included a breakout, assembly, and delivery of 840 tons of munitions to support 294 combat sorties in just 3 days. Finally, the men and women of the 4 EMS Munitions Flight were tasked to provide munitions support to 19 aircraft as the 4 FW set out to test the newest concept in Air Force Doctrine, the Air Expeditionary Force (AEF). This support included 2 AIM-9M, 2 AIM-120, 4 RR-170 chaff modules, 4 MJU-10 flare modules, and 500 rounds of 20mm HEI to each aircraft.

Lt Supon also noticed overdue inspections on the lightning protection system of several storage facilities. Through his persistent demand for safe working conditions, the 4 CES adjusted their work scheduled to correct this critical oversight and were energized to conduct safe munitions operations and provide continuous uninterrupted service to meet the 4 FW's combat and training mission requirements.

4 EMS Munitions Flight also found a critical flaw in the technical orders of chaff buildup procedures while preparing for the aforementioned AEF deployment. After complete buildup of the RR-170 chaff modules, it was identified that the incorrect face plate was added to the modules. The reason for the incorrect match of modules to face plates was ascertained to be a lack of coordination between technical orders 11A16-37-7, and 12P3-2ALE-102. These technical orders outline the procedures for building chaff modules and with proper reference to each other could have prevented the incorrect matching of chaff modules to face plates. To correct the problem for other units, an AFTO-22 change to T.O. 11A16-37-7 has been initiated.

Lt Supon has proven he is a true leader with a mind for safety. To ensure his people have accomplished what they have is a task in itself, but add to that an impressive safety record and it is apparent Lt Supon rightly deserves this award.

# GROUND SAFETY AWARD OF THE QUARTER

*SSgt Gary S. Lawrence  
966 AACCS, 552 ACW  
Tinker AFB OK*



Staff Sergeant Lawrence is the cornerstone of the 966 AACCS ground safety program. His performance during the last 6 months has been superb. He is a model NCO and proactive unit safety representative who has made innumerable contributions to the overall effectiveness of the 966 AACCS ground safety program. His training program for the unit is outstanding. He has structured the program to include a comprehensive job safety training outline, detailed unit self-assessment checklists, and a periodic after-hours spot inspection program. The driving force behind his unit's ground safety inspection program, Sgt Lawrence has revised inspection procedures and developed in-house worksheets with overview checklists. This ensures that all required safety procedures receive the appropriate level of attention. Additionally, Sgt Lawrence took the initiative to revamp the unit AF Form 55 process, develop a unit safety process book, and streamline administrative procedures. While improving the safety program, he discovered that numerous computerized safety files could not be retrieved easily. Sgt Lawrence promptly corrected this deficiency. His actions contributed directly to the unit's "Outstanding" rating during the wing's Quality Air Force Assessment (QAFA).

The 966 AACCS commander personally relies on Sgt Lawrence's sound judgment to enhance unit safety. Highly organized, he continually provides the management tools necessary for his commander to effectively conduct the unit safety program. His efforts contribute significantly to overall mission accomplishment. During the QAFA, one of Sgt Lawrence's programs was singled out by the inspection team and received the highest score ever awarded. As a direct result the safety branch was rated "Outstanding."

The distinctive accomplishments of Sgt Lawrence make him most deserving of this highly prestigious award.

# Thought for Food

**F**ood poisoning, also called foodborne illness can affect anyone and strike at any time. The holidays are no exception to this grim fact. In fact, with parties and large family gatherings, the incidence of foodborne illness can go up when persons preparing food are preoccupied and forget to follow basic food handling procedures. In order to enjoy an office party or a holiday dinner at home you should follow these simple rules:

- Thaw meats and poultry in a refrigerator at temperatures below 40° F. Thawing meat and poultry on the counter is a dangerous practice because the temperature of the outside part rises rapidly in the warm air while the core thaws more slowly. The outside of the product will be in the danger zone (40° - 140° F) allowing for rapid bacterial growth.

- Maintain foods at proper temperatures. Hot foods should be above 140° F and cold foods should be 40° F or below. This prevents growth of foodborne illness causing bacteria and viruses. Foods should not spend more than 4 hours total time (preparation, holding, serving) in the danger zone. Turkey, ham, dressing, and gravy are among the most hazardous foods.

- Cook foods to the proper temperature. Poultry is particularly subject to salmonella

contamination. Cook turkey to an internal temperature 165° F. If the stuffing is made "in the bird," then it too should reach a temperature of 165° F.

- Clean all utensils, cutting boards, counters, etc., thoroughly immediately after contact with raw meat or poultry. This prevents cross-contamination of ready-to-eat foods.

- Handle leftovers quickly and properly. It's always a chore to pack up leftovers; but if you want to save them for midnight snacking or leftover meals, it's important that it be done. Separate meat from the bone and divide into small portions for rapid cooling. Store stuffing separately from meat. If any food has been at room temperature for more than 4 hours, discard it.

- Wash your hands often when working with food. Washing your hands thoroughly and often is the best method of preventing human contamination of food.

Following these simple guidelines will go a long way towards making your holiday eating safe from foodborne illness. If you have any questions or would like more information, call your Public Health office. Happy Holidays, and Happy eating! ■

*Courtesy of The Eifel Times*

# WHAT KIND OF "CAR" IS THAT?

MSgt Donald L. Bigelow  
HQ 8 AF  
Safety Superintendent  
Barksdale AFB LA



**T**he unexpected, unplanned event occurred. I've thoroughly investigated the mishap, and I'm almost at the end of the tedious process of reporting the mishap. I've actually identified the findings and causes of the mishap - why it happened. All of a sudden, I find myself looking back into AFI 91-204, Safety Investigations and Reports, at paragraphs 3.14.2 through 3.14.4 wondering 'what da heck' is Category-agent-reason (CAR) methodology? It directs me to Table 3.1 and Attachment 2 of the book and now I'm definitely going "HUH?"

If you're a safety professional by trade, you've been there - right? Attempting to figure out how this process works and fits into your mishap investigation and report. In fact, if you ask the average Joe what CAR you should use, they'll say "Ford? Chevy?" CAR is actually a very logical tool to determine and identify accountability, responsibility and the reason a mishap occurred. Well again this process can be subjective and there's probably a 50 percent chance that 10 people could come up with a different CAR for the same mishap. I've owned 26 or so myself - Fords, Chevys, Pontiacs ... Oops, my gear-head mind started wandering.

Back in gear and hands on the wheel ... as an experienced safety professional, I decided to offer some insight into this CAR methodology road course. It's actually simple to drive, because if we've conducted a thorough investigation, we've answered all the who, what, when, where and especially the why questions. We know the Accountable Category (the "what"), the Responsible Agent (the "who") and the Reason (the "why"). The CAR! Oldsmobile, Packard, Dodge ... Whoa! Where was I?

So, now you're thinking, "this guy is out there - it's not that easy!" You're right, as I mentioned before people process information differently and the CAR may not be the same in each investigator's mind. And you're right, Table 3.1 and Attachment 2 can be hard to maneuver through. It's time we turned on the headlights. Don't run any stop signs that pop up. Watch

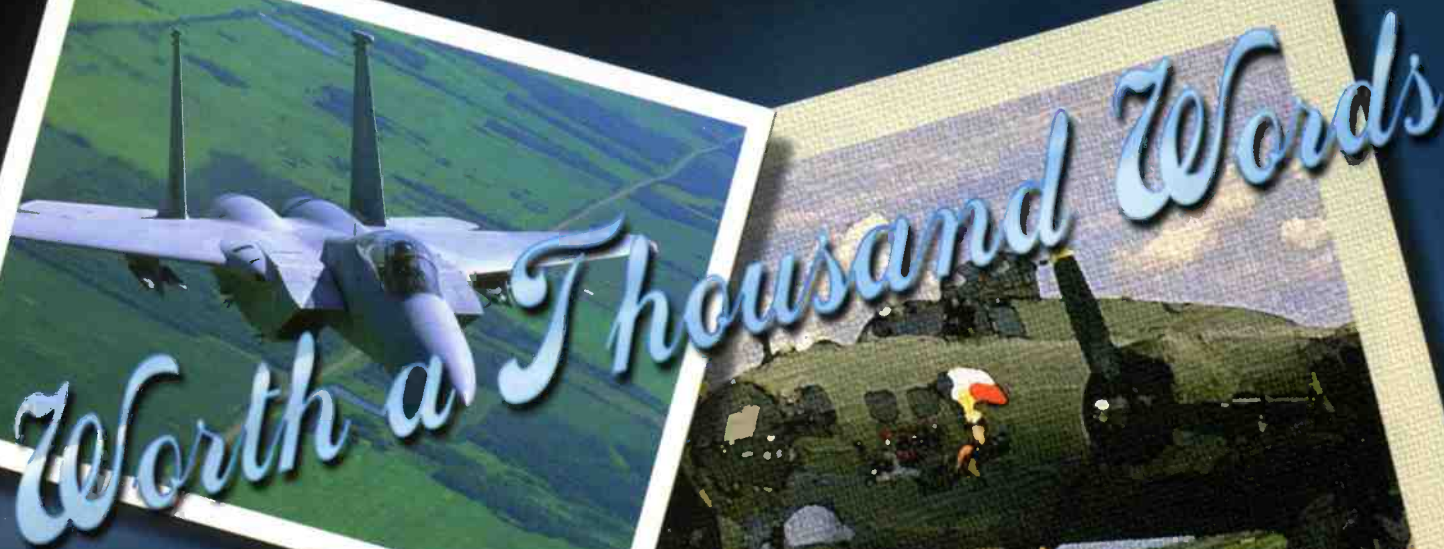
for speed traps - don't rush. The way is clear - Mishap Prevention! Is the CAR driving in the right direction??? Some say "Yes" - Some "No," because it can be subjective. I say it's the investigator's call. Who better to determine the proper CAR for the trip.

The CAR can drive us right to the area where action can be taken to prevent a similar mishap in the future. The Category, such as Maintenance or Ops and the Agent, such as Supervisor/FLT/LGM, are the areas where we want to go. The Reason is the gear we must find to make the CAR work. Whether it be people, parts, paper or other, we must travel the road to the "ROOT" cause. Why was the person complacent or used poor judgment? Why were the parts improperly modified? Why was the T.O. inadequate? Why didn't someone take precautions for the bad weather? Until we start doing this, the mishaps will continue and we'll never travel the "Zero Mishap Road."

We must use the CAR to drive home to the Accountable Area and Responsible Agent with the Reason. Then we must make sound recommendations for action to prevent future mishaps. The road may get long and rough, so a big Cadillac, lots of fuel and seat belts may be needed to get the message delivered to the right driveway. When we get there and the door opens, it's time to sit down, communicate the root cause, offer advice and work with the front parts of the CAR to make the R's disappear and prevent future mishaps.

So we're done - closed the door and drove back to the sanctuary of our Safety Street. Wrong! We must always make a return trip to ensure the CAR is working and the reason never returns. In other words, this is one time we must tail gate, check the gears and ensure the CAR is preventing mishaps.

Well, that's it. I have a CAR to find. Hopefully, it's not a lemon and gets me where I want to go - the "Zero Mishap Road." Good luck with your CAR, whatever it may be, and I'll see you there! ■



# Worth a Thousand Words

## Attention Photographers and Artists:

*We* at THE COMBAT EDGE need your assistance! We need photos, lots of photos and art work. We are always looking for new and exciting pictures to breath a little life into your articles. Your photos or artwork could be used in the magazine or on the cover! We'll be sure to give you credit. This is great if you want worldwide exposure.

Pictures often make the difference between an article that is read and one that is ignored. Readers see the photo or art and want to know more. We need current photos, but we can also use old historical ones. Photos or art of U.S. Air Force or Air Combat Command resources (people, places, equipment or any type of mishap scene) would be especially useful.

Try to make your photo or art interesting. Avoid the traditional static display shot or the posing-for-the-camera shot. Take photos from interesting angles; don't forget to focus! Photograph people actually doing something instead of pretending to do something. Don't forget to document what is going on in your picture. We need the who, what, where, and

when.

There are a few stipulations to all of this. We prefer your photos to be at least 5" x 7" or 35mm slides. They must be sharp and clear throughout. They can be color or black and white. Don't forget to protect your prints or slides in the mail. Label them photographic material, and use rigid card board to protect them from bending. Include your full name, address, and DSN number. Let us know if we can keep the photo or art for later use, if not we will return it to you undamaged after the magazine is published.

Tell your friends and co-workers what we're looking for. Thanks, and be safe. ■

**STAFF ARTIST  
THE COMBAT EDGE  
HQ ACC/SEP  
130 ANDREWS ST, STE 302  
LANGLEY AFB VA 23665-2786**

# ACCOLADES

QUESTIONS OR COMMENTS  
CONCERNING DATA ON THIS  
PAGE SHOULD BE  
ADDRESSED TO HQ ACC/SEF,  
DSN: 574-7031

	TOTAL			ACC			CANG			CAFR		
	SEP	THRU SEP		SEP	THRU SEP		SEP	THRU SEP		SEP	THRU SEP	
		FY96	FY95		FY96	FY95		FY96	FY95		FY96	FY95
CLASS A MISHAPS	0	15	16	0	10	11	0	5	4	0	0	1
AIRCREW FATALITIES	0	9	10	0	8	3	0	1	1	0	0	6
* IN THE ENVELOPE EJECTIONS	0	10/1	12/0	0	7/1	9/0	0	4/0	3/0	0	0	0
* OUT OF ENVELOPE EJECTIONS	0	1/0	0/1	0	0	0/1	0	0	0	0	0	0

\* (SUCCESSFUL/UNSUCCESSFUL)

## CLASS A MISHAP COMPARISON RATE

(CUMULATIVE RATE BASED ON ACCIDENTS PER 100,000 HOURS FLYING)

ACC	FY 95	2.1	1.1	0.7	0.6	0.9	1.6	1.6	1.7	1.6	1.6	2.3	2.0
	FY 96	0	1.1	0.8	0.6	0.9	1.2	1.0	0.9	1.0	1.4	2.1	2.0
8 AF	FY 95	0	0	0	0	1.8	1.5	1.3	1.1	1.0	0.9	1.6	1.5
	FY 96	0	0	0	0	0	0	0	0	1.2	1.0	1.7	1.5
9 AF	FY 95	0	0	0	0	0	1.2	1.0	0.9	0.8	0.7	1.9	1.8
	FY 96	0	0	0	0	0	1.1	1.0	0.8	0.8	2.1	1.9	1.9
12 AF	FY 95	6.5	3.3	2.3	1.7	1.4	1.2	2.0	2.6	2.4	2.1	2.6	2.4
	FY 96	0	3.4	2.4	1.8	2.9	2.3	2.0	1.7	1.5	1.4	3.1	2.9
DRU	FY 95	0	0	0	0	0	5.3	3.7	3.5	3.3	5.6	5.6	4.9
	FY 96	0	0	0	0	0	0	0	0	0	0	0	0
CANG	FY 95	0	0	0	0	0.8	0.7	0.6	1.0	1.4	1.6	1.5	1.4
	FY 96	0	1.9	1.3	2.2	1.8	2.2	1.9	1.7	2.0	1.8	2.0	1.9
CAFR	FY 95	0	0	0	0	0	0	0	1.3	1.2	1.1	1.0	0.9
	FY 96	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	FY 95	1.3	0.7	0.4	0.3	0.8	1.1	1.1	1.5	1.4	1.5	1.9	1.8
	FY 96	0	1.3	0.9	1.0	1.1	1.4	1.2	1.0	1.2	1.1	1.9	1.8
MONTH	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	

