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# THE COMBAT EDGE

March 1999





# The Combat Edge

Air Combat Command's  
Mishap Prevention  
Magazine

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#### Oops!

General "Chappie" James' name was spelled incorrectly on the back cover of the February 1999 issue. - Ed.



# Accent on Safety

**I**f you are younger than 30 years old, you can quit reading now.

If you are younger than 30, and you are still reading, take this magazine to the nearest guy (or gal) who is over 30 and make them read this article. Stand in their face until they can't ignore you.

It's not that what I'm about to say doesn't apply to the younger crowd, 'cause one day it surely will. It's just that I want to be absolutely sure that the older set gets the message, and gets it now. (It's even in big print so they won't have trouble reading it.) What's the message?

***Skill and cunning may overcome youth and enthusiasm, but they won't make you bulletproof.***

Yes, my aging but still "got it" compatriots, those of us who have drunk heartily from life's experience cup have recently been getting more than our share of opportunity to demonstrate handling the tough situations. Take, for instance, our ACC Class A flight mishaps — so far this fiscal year, all six crashes have included a Crusty Ol' Feller (COF) sitting at the controls. I'm talking about highly experienced aviators with something greater than just one or two bars sitting on their shoulders. These COFs have mostly been the best of our best — Commanders and Ops Os. Now, it's true that in some cases the COF may have had no more involvement than just happening to be in the wrong chair at the wrong time, but I think the numbers are what ought to grab your attention. Six of six makes a statement that defies mere coincidence. Even if just unlucky, I think we need to take some of our COF smarts and apply them to a little *personal risk management*.

Look at it this way, COF'ers... the young-un's look to us to set an example. They've got this idea that we gained all this incredible skill and cunning through really hard, dedicated efforts and an ability to zero in and focus on mission accomplishment. We shouldn't disappoint them. Sure, there's lots of other stuff people expect us to do. There are meetings to go to, there are folks to talk to, and there's the constant, unending cascade of paperwork that requires our attention. Those things are all part of the territory. But if we're going to keep our exemplary image with the kids, we need to know when to drop all the rest of that bunk and focus in on our basic skills. Shove it aside, "compartmentalize" it away, and get stubborn, old, and crotchety with anyone who tries to interrupt your focus. Don't be afraid to say no. Do what my Gran'pappy always did — when you are tired, say so; and go to bed. (You'll probably find people respect you more because you do recognize your limits and take action to address them.)

The same idea applies to getting over-extended on a mission. If the hairs are standing up on your head (okay, for some of us, the back of our head), say "no." One thing that all this skill and cunning lets us do is to be the ones who draw the lines that define the box. Keep the box one that you can get your arms around.

*Y'all take care and fly smart,  
Colonel Turk Marshall  
Chief of Safety*





The school of hard knocks

**H**ow do we learn our lessons in life? By experience... or by instruction? Unfortunately, many people prefer to be taught through the "School of Hard Knocks" (i.e., by painful, personal experience) rather than from written or verbal instruction in advance of a potential mishap (with no associated pain). Which teacher would you prefer... painful experience or painless instruction?

There I was, just outside the front gate of Howard AFB, Panama, on my usual Thursday afternoon bicycle ride. I asked myself, "Should I do the same old ride?" My answer was, "No." I was bored using the same route every week; it was getting too familiar to me. I wanted to start doing a ride that covered some new ground — from start to finish. Then I thought to myself, "How about if I take a quick shot down the busiest highway in Panama... before I take a side road back to the base?"

The traffic was light (which in Panama means... it is also traveling at near triple digit speed), visibility was good, and road conditions appeared favorable. I had the basic

safety equipment (helmet, safety vest, covered shoes, etc.). I even had my emergency equipment (tire patch kit, drinking water, etc.) for the unexpected.

I have years of bicycling and motorcycling experience behind me. In fact, I love bicycling so much that it is not uncommon for me to make a 13 - 15 mile "bike hike" every week. Riding on a busy highway has never really bothered me. In all my years of riding, I've never had to perform an "emergency egress" off a bicycle. Well, that's not totally true; when I was about 8 years old, I fell off my bike and took a dozen stitches in the chin. But now that I'm older and wiser, what could go wrong?

At this point, I should have made a classic Operational Risk Management (ORM) decision. Was the benefit of trying out a new bicycling route (simply for the novelty and newness of it) worth the risk of increased injury or even death? Hindsight always being 20/20, I can tell you the risk far outweighed the benefit and clearly was not worth taking. Here's the reason why.

Onward I went. As I left the front

gate, I noticed myself picking up speed going downhill. I got the bike in top gear and made the best of it. I was almost keeping up with traffic, thinking back to the good old motorcycling days when I didn't have to pedal so hard to enjoy such speeds. And then all of a sudden... there it was! On the safety report, I called it a pot hole. However, to simply call this depression in the road a pothole does not do it justice.

It was huge — even by Panamanian standards. In fact, if this pothole was named after an American state, it would carry the title of "Texas!" I'm not kidding, it was so large that the crater would look at home on the lunar surface. Well, when it came into view, I realized that it was only a fraction of a second before I would be swallowed up into it. There was nothing I could do to avoid it. To soften the impact, I immediately clamped tight on both hand brakes. Fearing what I knew was about to happen to me, coupled with the fact that my bicycle bears most of the weight on the front tire, I accidentally over did it. If memory serves me correctly, I did about a half-gainer



twisting flip... over the handlebars that is. I wish I had a video clip of this because I'm certain that if I didn't get style points in Olympic freestyle bike crashing, then I'd probably get at least some money for airing it on America's Funniest Home Videos television show. Needless to say, my body came down like a sledge hammer on the edge of the road with my hands and forearms taking the brunt of the blow.

My entire body was riddled in pain and ached everywhere — for the first time in my life, I actually felt like I was run over by a freight train. As I started crawling up out of the ditch adjacent to the murderous crater, I asked myself the question everybody does when they do something embarrassing, "Did anybody see that?" After regaining my senses, I was about to get back on my bicycle and continue the ride. However, when I looked at my right hand, I thought to myself, "Wow! I'm not an orthopedic surgeon; but up until now, I didn't appear to have another joint about 2 inches above the wrist. This could be a problem."

I assessed my situation and determined the front gate was only about a half mile away from where I was. So I started to walk toward the base with my bike in my left hand and my right hand hanging at a rather bizarre angle (about 60 degrees off from normal). After I reached the visitor's center, I leaned the bike against the outer wall, limped in like a hurt puppy, and reported to the guard on duty. When he looked up and saw the distressful look upon my face, that's when he noticed the disfigured angle of my hand. Thanks to the quick reaction on the part of this guard, another Security Forces member was dispatched to the visitor center to rush me to the hospital.

As I stepped into the police car, my hand was so badly injured that I couldn't even fasten my seat belt by myself. I was hurting pretty bad. Upon arrival at the emergency room, I was met by several dedicated medical professionals. After evaluation, they determined I had a "compression fracture" where the break oc-

curred from extreme pressure on the bone. Besides the physical deformity of my forearm, I had swelling at the fracture site, tenderness close to the fracture, numbness, tingling, paralysis below the break, bruising and bleeding, as well as weakness and inability to bear weight there. As far as pain on the first night, it was minimal due to the numbing shot the doctor gave me before he initiated the resetting procedure. It wasn't until the following week that I really discovered the meaning of pain.

After a short convalescent leave that was both boring and uncomfortable, I went back to replace my splint with a cast and get more X-rays. That's also when the real fun began — resetting the finer aspects of my fracture. For those who have not experienced this moment of bliss, it involves hanging a finger and thumb up in traction by a Chinese finger trap, with a weight hanging off your biceps stretching everything in between. (I'm certain something like this must have been used during the Spanish Inquisition.) The most unsettling part was when the doctor informed me he would have to push a few bones around, this time without anesthesia. (It had something to do about blood clotting that kept me from being able to receive a shot of pain killer the second time around.) When the doctor began squeezing both his hands on my right wrist, I nearly jumped out of the hospital bed. I felt like I was in a torture session. At that moment, if someone had asked me a question... I probably would have confessed to anything from the Lindbergh kidnapping to being the man on the grassy mound (read the Warren Commission due to a bookstore near you sometime next century). My bones being a little more stubborn than average, I got a chance to perform this procedure twice the same morning. (By the way, if my doctor ever reads this article, I hold no hard feelings. He is a true professional — a master in his field.)

After the resetting procedure was complete, I found myself wearing a cast half way up my biceps on my right arm. Everything from personal

hygiene to writing this letter is now a one-handed operation for me — the fact that I am right-handed makes things even worse for me. Well, am I out of the woods yet? Nope... next week I go in again for more X-rays. If any of my bones have slipped out of place, I've been informed I'll need an operation to attach an "external fixator." This is a device with several screws, nuts, bolts, and other comfortable items attached to force things back in place. Now isn't that a delightful thought!

What have I learned? First and foremost, accept no unnecessary risks — i.e., those that have no benefit and clearly are not worth taking. Second, when doing inherently dangerous activities, you need to be 100% focused. During my infamous bike ride, I have to admit that my mind was wandering and in a state of reduced conscious attention. I was thinking about my upcoming leave in the states to include my parents' 50th wedding anniversary and seeing my wife and children after being deployed for 6 months. Ironically, depending on how things go with my arm, I may have to postpone — or even lose — that opportunity. Third, safety equipment works. Even though I received a serious injury to my right arm in the accident, I want you to know that I was wearing a helmet during the crash. As a result, I didn't suffer any head trauma. Finally, when riding in unfamiliar areas, fast speeds are not advised. Your reactions may not be appropriate in an unfamiliar setting.

Am I fortunate? Yes, I definitely am. I'm still alive; and being a graduate of the School of Hard Knocks, I'm a much wiser person than I was 1 week ago. However, I still have to live with the long, painful process associated with recovery. After reading about my mistake, I hope you have learned not to accept unnecessary risks. To completely ignore this fundamental schoolmaster's principle of risk management is to open the door of being tutored by painful personal experience. Let me ask you... **"Which teacher would you prefer?"** ■



# Are You a "M

Wouldn't it be nice if we had 781s on all of our people that record just as meticulously the factors or stresses in their lives that may make them more vulnerable to human

breakdowns or accidents?

*Col Dave Williamson  
9 AF/SE  
Shaw AFB SC*

**I**n the flying game, you are either an operator or a maintainer. Operators fly the aircraft, and maintainers provide for the care and feeding of the aircraft. Part of that process is the trusty "781." We're all familiar with the Air Force Technical Order (AFTO) Form 781, the active aircraft forms documenting the status of the aircraft.

This series of forms is where the maintainers meticulously record all maintenance on the aircraft. It contains a written record of everything... from tire changes and avionics work to engine changes, etc. Operators carefully review the 781 before every flight to ensure the aircraft is ready to fly. From the study of the 781, we can quickly tell whether an aircraft has been flying well or if it's had recent problems. If it's had problems, we discuss it with the crew chief, line chief, or technical experts. If there's a

**AEROSPACE VEHICLE FLIGHT REPORT  
AND  
MAINTENANCE DOCUMENT**

**HOURS AND MINUTES TO HOUR AND TENTH CONVERSION TABLE**

1 or 2 minutes	- .0 hour
3 thru 8 minutes	- .1 hour
9 thru 14 minutes	- .2 hour
15 thru 20 minutes	- .3 hour
21 thru 26 minutes	- .4 hour
27 thru 33 minutes	- .5 hour
34 thru 39 minutes	- .6 hour
40 thru 45 minutes	- .7 hour
46 thru 51 minutes	- .8 hour
52 thru 57 minutes	- .9 hour
58 thru 60 minutes	- Next whole hour

**1. STANDARD REPORTING DESIGNATOR**

**2. ID NUMBER**

**3. DOD ACTIVITY ADDRESS CODE**

**4. CUSTOMER ID CODE** **5. MISSION DESIGN SERIES** **6. SERIAL NUMBER**

**7. ORGANIZATION** **8. LOCATION** **9. STATION CODE**

A. FUEL CAPACITY POUNDS, GALLONS OR LITERS	INTERNAL	EXTERNAL	TOTAL	11. INV DATA	
				COMMAND	CODE
B. OIL CAPACITY HALF PINTS, PINTS, QUARTS, GALLONS OR LITERS	EACH ENGINE		AUXILIARY TANKS	B. POSSESSION	

**11. INV DATA** **COMMAND** **CODE**

**A. ASSIGNMENT**

**B. POSSESSION**

AFTO FORM 781F, OCT 86 (EF-V1) (PUB-FORM PRO) PREVIOUS EDITION IS OBSOLETE.



# Maintainer?"

recently repaired component, we watch out for it and pre-flight and/or monitor that system extra carefully. In short, the 781 alerts us to potential problems; and because our "antenna" is up, we are rarely caught by surprise.

Wouldn't it be nice if we had 781s on all of our people that record just as meticulously the factors or stresses in their lives that may make them more vulnerable to human breakdowns or accidents.? If, as a commander, first sergeant, or supervisor, you could review a personal 781 on your people, you might see (for instance) that this individual has financial problems, that this one has marital problems, that this one parties too much, or a combination of all the above. If we found the "maintenance equivalent" of any one of these warning signs in a 781 for an aircraft we were about to fly, we certainly would be more attentive.

A case in point is where we recently lost a troop in a motorcycle accident who had marital and financial problems. Now if we had a 781 on this person, what would the entries be? Would someone in this person's chain of command have read it and taken special interest in this person and their troubles? I'm sure they would have because that's the way the vast majority of Air Force

people are. Oh, if it were only that easy...

My point is that those of us who have complicating issues in our lives, be they professional or personal, are more vulnerable to mishaps. Why? There are several reasons; but primarily, we can become distracted. Instead of concentrating on the task at hand, our mind wanders back to the fight we had with our spouse or wondering

A case in point is where we recently lost a troop in a motorcycle accident who had marital and financial problems. Now if we had a 781 on this person, what would the entries be?

how we're going to manage our budget to make the next car or house payment. As supervisors, we may be able to help our troops — especially those that have complicating stresses in their lives — to avoid accidents. By taking a special interest and getting assistance through

the appropriate support organizations, we can enable them to refocus on the job instead of the problems.

Unfortunately, we don't have 781s on our troops; and to be aware of everything going on in their lives is impossible for the average commander, first sergeant, or supervisor. It's not as easy as just referring to a book. However, if you use everyone in the chain of command to

monitor and mentor your troops, even without the help of a personal 781, you might be able to detect the warning signs and possibly prevent a serious or fatal accident.

We do a super job in the Air Force taking care of our "iron." We've driven our flying mishap rate down to levels that just a few years ago were believed to be impossible. We can improve our ground safety efforts as well. Each and every one of us needs to be a "maintainer;" not only maintainers of our aircraft, but of our people as well. By way of illustration, I recently talked with a senior leader in one of our wings who told me that his criteria for success was

"not to lose anybody." It wasn't to get an "outstanding" rating on some inspection or win some competition. His primary goal was to look out for or "maintain" all of his people — a simple and straightforward goal. If you can do that, mission success is likely to follow. ■





# Before Sparks Begin to Fly

*Lt Col Adrian D. Robbe  
HQ ACC/SEP  
Langley AFB VA*

**T**he following flight mishap is based on a true story. It occurred over 30 years ago. The incident happened during the dead of winter, in freezing atmospheric conditions. When the crew checked the weather forecast, I'm sure it was no surprise to them that they would be confronted with continued frigid temperatures on their flight. They would be traveling near the geographic area of the North Pole; and — needless to say — the weather in that region was unloving and indifferent to them and their assigned mission. The aircrew, assigned to Strategic Air Command (SAC), was directed to fly their B-52G Stratofortress on a mission at night over the Arctic Ocean... or should I say, over a "sea of ice."

In spite of the freezing cold environment, takeoff in the Buff was ops normal. The seven-member crew was comprised of a pilot, co-pilot, instructor pilot, navigator, radar navigator, electronic warfare officer, and gunner. All of the crew member positions had an ejection seat — that is, all except for one — the one belonging to the instructor pilot, who in the event of bailout was required to jump out of the aircraft through the navigator's hatch.

As a member of the SAC team, each crew member was well oriented to the requirement of following operational procedures... to the "letter of the law." As "SAC trained killers," there should be no doubt that this crew was well trained in their individual roles and responsi-

bilities in carrying out their assigned combat mission. In addition, SAC had an aggressive flying safety program in place that was built upon the concerted efforts of General Curtis E. Lemay when he commanded SAC between 1948 and 1957. Strategic Air Command was well known for emphasizing among its crews the reality that priceless lives and multimillion dollar assets simply could not be squandered through unsafe practices. SAC had an intense focus on safety and was committed to doing anything and everything it possibly could to reduce the number of aircraft mishaps that are caused through human errors.

One can confidently make the assumption that the majority of this





crew — if not all — had flown on similar missions in cold weather environments many times before. With a crew of seven aboard the aircraft, it is also safe to assume that they did not lack in operational experience — the crew was not comprised of novices. It is well known that the more experience an aircrew has in working together according to established procedures, the better prepared it will be to handle any operational flight problem in a safe and efficient manner. I believe the reality of this truism was pertinent to this particular crew... all except for the knowledge of one particular procedural area that was essential on this particular flight — and that was proper fire prevention and firefighting techniques.

### **Cabin Fire!!!**

After getting airborne, the pilot pushed the aircraft to 33,000 feet and was flying at maximum endurance. Little did they know that this flight over the Arctic would prove to be their nemesis — their cabin would soon turn into a raging inferno!

As they continued on with their mission, sufficient temperature for adequate cabin heating could not be obtained through the normal left hand bleed air. Therefore, the pilot switched over to the emergency setting (i.e., the right hand inboard bleed duct). However, approximately 30 minutes later, the crew noticed an odor of foam rubber burning throughout the cabin. The crew immediately went on oxygen, and the bleed select switch was returned to the normal position. Shortly thereafter, the navigator detected smoke and saw flames coming from the vicinity of the instructor navigator's position.

With the aid of a portable oxygen bottle connected to his mask for breathing, the navigator began to fight the blaze with a fire extinguisher. However, he inadvertently placed his oxygen supply selector switch to the emergency position which rapidly depleted all of the oxygen from his bottle. In desperate need of oxygen to breathe, he then reconnected his mask to the regulator at his crew position and attempted to fight the fire from that location.

Without removing the burning material from the vicinity of the hot air outlet, the navigator futilely emptied the contents of the fire extinguisher. Dense, black smoke began to fill the cabin, making it difficult to function or even see the flight instruments. The navigator then started using a second fire extinguisher to put out the flames, but to no avail. By this time, the pilot had already implemented a plan to land at an emergency base.

However, the fire continued to grow larger and larger. The cabin became so completely filled with smoke that it was now almost impossible to see. After depletion of the second fire extinguisher, the navigator reported the fire uncontrollable. Shortly thereafter, complete AC power failure occurred; and the crew commander ordered bailout.

Six of the seven crew members survived with various degrees of injury. However, the seventh member — the crew pilot who had been seated at the instructor pilot position — bailed out through the navigator's hatch at excessive speed and received fatal injuries. Eight minutes had elapsed from the initial detection of the burning odor until the fire became uncontrollable. The aircraft crashed on the Arctic ice bed and was completely destroyed.

### **Safety Lessons Learned**

This bomber aircraft mishap stresses the need and importance of: (1) detecting a fire early, (2) quickly and properly evaluating the situation, and (3) applying proper firefighting techniques. This incident clearly demonstrates how important it is to put out an onboard fire as soon as possible "before sparks begin to fly." Consequently, when confronted with a fire, work as quickly and safely as you can to snuff it out while it is in its "early" stages. Crew members of bombers, tankers, transports, and other heavy aircraft need to know the location of all fire hazard areas within their jet. In addition, they need to stow flammable equipment in areas where they are not exposed to extreme heat. Fire on an aircraft in flight is an unforgiving foe. Take the necessary time to become thoroughly familiar with proper fire prevention and firefighting techniques relevant to your particular weapon system — your life depends on it! ■



# Monthly Awards



## AIRCREW SAFETY AWARD OF DISTINCTION

*Capt Mark Woitas, Capt Christopher Causey,  
Capt Dennis Heinz, Capt Jerry Little, Capt Rim Cox,  
1Lt David Lyle, 1Lt John Edwards  
20 BS, 2 BW  
Barksdale AFB LA*

While flying a planned 9.5-hour training mission, a brush with fate nearly caused a mishap and the loss of a \$67 million B-52 bomber. The flight consisted of aerial refueling, high-level bomb runs, low-level activity to include bombing, airborne ECM with an E-3 AWACS and a return to Barksdale AFB LA for pattern work. Shortly after exiting IR 177 in Colorado, Jambo 33 was in a climb to flight level 250. While climbing and conducting airborne ECM with the E-3, Jambo 33's aircraft commander, Capt Woitas, was alerted by illumination of the #2 main and auxiliary rudder/elevator hydraulic failure and subsequent loss of aircraft control. Upon notifying the crew of the severity of the problem, Capt Woitas instructed the crew to find the nearest suitable landing field and to research the emergency procedures in the aircraft technical order. The entire crew knew that only one B-52 in the aircraft's 40-year history has ever successfully landed with loss of rudder/elevator control. Therefore, time was a critical factor. Within seconds, the navigator, Lt Lyle, gave an initial heading to the city of Colorado Springs Airport, which was 15 minutes and 90 miles away. As the aircraft leveled off, Capt Woitas discovered that the left outboard spoilers had stopped working. The offensive team, Capt Little, Capt Heinz (both instructor radar navigators) and Lt Lyle, worked on the precise routing to Colorado Springs and reviewed the aerodrome's details. The defensive team, evaluator electronic warfare officer, Capt Cox, and electronic warfare officer, Lt Edwards, established a phone patch through the radar bombing site to Barksdale and began researching the emergency procedures from the aircraft technical order. The Dash 1 procedure is to "immediately abort the mission and land ASAP." It then states that in the event of total system loss, "the only pitch control is thrust, airbrake, and stabilizer trim." The copilot, Capt Causey, declared an emergency with ARTCC, relayed their approach and landing intentions, and assisted Capt Woitas in controlling the B-52. Capt Woitas flew a perfect approach and flawlessly landed the aircraft onto a 150-foot wide runway (the distance between tip gears on a B-52 is 148 feet). Due to taxi obstructions, the offensive and defensive teams deplaned and marshaled the aircraft to parking during a 1.5 hour, 4-mile taxi. The investigation revealed a complete failure of the #2 main and auxiliary rudder/elevator motors, the #2 pressure indicating switches, the #1 engine driven hydraulic pump, and the pressure switch and valve for the left outboard spoilers. The crew's exceptional coordination, skill, knowledge, and team effort saved seven lives and a valuable national resource.





## PILOT SAFETY AWARD OF DISTINCTION

*Capt Mical Kupke, Lt (USN) Michael K. Devaux  
94 FS, 1 FW  
Langley AFB VA*

On 14 Oct 98, Lt Devaux (USN Flight Exchange Pilot) and Capt Kupke were flying as Red Air bandits during a 1 plus 1 vs 2 Air Combat Maneuvering (ACM) sortie in an F-15D. After the last engagement was terminated, Lt Devaux selected

military power on both motors and noted the right engine remained in full afterburner. Lt Devaux then selected idle power and noted no thrust change from the right engine. At the termination of the ACM engagement, the F-15D was approximately 80 NM off the east coast of Virginia and had 4,000 lbs of remaining fuel. Lt Devaux noted the high fuel flow on the malfunctioning motor and immediately attempted to shut the motor down with the throttle. Cut-off was selected on the right motor and no response was noted from the motor. The motor remained in full afterburner as the crew then turned west toward an emergency divert airfield along the east coast of Virginia. Lt Devaux was then able to shut down the motor by pushing the right motor fire warning light IAW F-15 emergency checklist procedures. When the motor finally flamed out, the F-15D had approximately 2,100 lbs of fuel remaining. A single-engine minimum fuel recovery profile was initiated. During the recovery, available fuel was re-evaluated and it was determined that a safe recovery at Langley AFB could be accomplished. A single-engine minimum fuel profile and approach were flawlessly flown, and the F-15D landed with approximately 800 lbs of remaining fuel. Post-flight inspection revealed a broken throttle cable had failed in a known failure location approximately 107 inches from the throttle sector box. This resulted in the motor remaining at its last power setting of full afterburner until Lt Devaux shut it down with the motor's fuel cut-off valve via fire warning light activation. Lt Devaux and Capt Kupke's excellent situational awareness, flawless crew coordination, and airmanship allowed them to quickly assess this time-critical emergency and shut down the malfunctioning motor before depleting the F-15's remaining fuel supply. Their flawless decisions and timely actions saved a critical combat Air Force asset.



## WEAPONS SAFETY AWARD OF DISTINCTION

*TSgt John J. Horst  
366 WG  
Mt Home AFB ID*

Since his recent assignment to Mountain Home Air Force Base, TSgt Horst played a major role in the reorganization and productivity of his element. Noting serious storage deficiencies and ineffective storage practices affecting 19 storage structures, Sgt Horst revitalized the storage plan section and devised a rewarehousing plan to accommodate the wing's \$187 million War Reserve Materiel and Aircrew Training Munitions authorizations. As an added effort to expand warehousing space, he co-led identification, tracking, inspection, and the ultimate shipment of 165 tons of serviceable excess munitions, thus opening up 4,000 square feet of storage space. His dedicated effort freed crucial storage space, reduced stockpile maintenance workload, and paved the way for future beddown of Joint Direct Attack Munitions in January 1999. His unyielding demand for safety and strong leadership style have resulted in marked improvements in the Munitions Flight with an unprecedented accident-free record.





## CREW CHIEF SAFETY AWARD OF DISTINCTION

*SSgt Verlyn G. Rogge, 390 FS, 366 WG, Mt Home AFB ID*

SSgt Rogge was the crew chief working with the End of Runway (EOR) arming crew as the squadron was conducting surge operations (with many aircraft needing to be armed in a short time). While performing a standard EOR inspection of an F-15, something drew Sgt Rogge's attention to the right main landing gear, an area which usually requires little attention. Looking closely, he discovered a missing retaining nut for the apex bolt on the jury link. The jury link is a critical component of the mechanical linkage which extends, retracts, and locks the main landing gear down. The apex bolt is the pivot point for the two halves of the jury link. He further discovered that the apex bolt had begun to back out. He ensured the landing gear safing pins were reinstalled and informed the pilot to ground abort. Sgt Rogge's discovery of the missing nut was remarkable considering its small size and difficult-to-see location. Furthermore, since no squadron level maintenance is performed on the struts other than normal servicing, EOR inspections do not normally include a detailed examination of the landing gear struts. Failure of the apex bolt is virtually unheard of and not an item often checked. Had the bolt continued to back out and subsequently liberate the joint, the right landing gear strut would have failed, probably without warning. If the right gear had collapsed during take off or landing roll, the aircraft would have been severely damaged and the pilot's life endangered. Sgt Rogge's diligence and attention to detail resulted in the discovery of an anomaly that would have been easily missed. His actions prevented a potentially catastrophic mishap and saved valuable Air Force resources.



## FLIGHT LINE SAFETY AWARD OF DISTINCTION

*SrA Scott M. Blizzard, 99 BS, 9 RW, Beale AFB CA*

During a routine high altitude U-2S pre-launch inspection, SrA Blizzard began the first of two 20-minute INS alignments. During this period, he noticed an unusual sound emanating from the aircraft. No one else could confirm the noise. Despite the lack of confirmation, he directed the removal of the equipment bay panel to facilitate further investigation. With the assistance of three technicians and two U-2 mobile aircrew members, Amn Blizzard led the group in troubleshooting the electrical components. Knowing full well that his actions would result in either a late takeoff or a maintenance abort, he aggressively attempted to resolve the problem. Amn Blizzard identified that the sound he heard was isolated to the INS cooling fan. Amn Blizzard directed that the upper equipment bay panel be removed so he could physically inspect the unit in question. Upon placing his hand on the INS cooling fan, he felt a slight vibration. This vibration and the unusual sound indicated an impending failure of the cooling fan assembly. The fan revolves at 16,000 RPM and is constructed out of cast iron. Failure of this component and subsequent separation of the impeller blades would cause catastrophic damage to the aircraft. Amn Blizzard notified the expeditor who had a 7-level verify that the cooling fan would have failed very shortly. All critical electrical wiring, electrical circuit buses, R/Ts, and flight control cables are routed within close proximity to this unit. Therefore, it is exceedingly probable that the impending catastrophic failure of the INS cooling fan could have destroyed a valuable national asset and severely endangered the life of the aircrew. The exceptional professionalism displayed by Amn Blizzard in dealing with this situation is the cornerstone to the Air Force core value of "Excellence, in all we do."





## **GROUND SAFETY AWARD OF DISTINCTION**

*TSgt Richard A. Grider, TSgt Stanley B. Perkins,  
SrA Steven L. Leonard  
20 SUPS, 20 FW  
Shaw AFB SC*



During a routine facility check of the Fuels Bulk Storage yard, TSgt Grider discovered a large fuel spill emanating from an underground storage tank belonging to the International Technical (IT) Corporation. He immediately informed TSgt Perkins, the NCOIC of Bulk Storage. The Fuels Resource Control Center was notified of the spill location and type. This information was immediately passed to the Fire Department and IT Corp. During notification procedures, Sgt Grider gathered on-duty personnel, isolated the fuel spill, and directed emergency response personnel to the site. During the isolation of the fuel spill, it was evident there was a malfunctioning fuel pump which led to a continuous cycling of pumped fuel into an overfilled tank. This led to the overfilled tank spilling its extraneous fuel onto the ground. Sgt Grider and SrA Leonard utilized an on-scene fuel spill kit and an engine-operated pump connected to a fuel bowser to reclaim the fuel. Their efforts resulted in reclaiming over 100 gallons of JP-4 aviation fuel. The safety awareness and quick reactions of Sgt Grider, Sgt Perkins, and Amn Leonard prevented a major environmental hazard from occurring and also prevented possible injury to personnel.





*SMSgt Abel Hernandez, Jr. , HQ ACC/IGIL-S, Langley AFB VA*

**M**unitions personnel have a tremendous responsibility for ensuring operations are conducted in a technically correct and safe manner. Upgrade training, on-the-job training, and experience all help in this endeavor. Managers document forms and check certifications, equipment listings, Consolidated Aircraft Maintenance System (CAMS) and Combat Ammunition System (CAS) products, Tactical Missile Records Systems (TMRS), and weekly maintenance schedules. Hours are spent ensuring personnel and equipment do not become overdue in satisfying periodic training and maintenance requirements. One

area, however, often gets overlooked. Yet it is one of the most important and critical areas to munitions operations... and that is explosive site planning.

The munitions flight relies on the weapon safety office to ensure explosive operating and storage locations are properly sited. Weapons safety personnel, in turn, rely on munitions flight managers to provide updated information on changes in operations, and storage practices, so explosive site plans can be amended and forwarded for approval. Flight line explosive operations are the responsibility of the weapons flight. However, the munitions flight plays an important

role in flight line safety in the transportation of explosives to and from the flight line. The weapons safety office has oversight responsibilities. In addition, civil engineers coordinate planned construction on the flight line and munitions storage areas with weapons safety and munitions personnel. As you can see, there are many people involved in "minding the store." However, sometimes that store is left unattended because everyone relied on someone else to watch over it.

According to Air Force Manual (AFMAN) 91-201 "Explosives Safety Standards," the Weapons Safety Office has an obligation to maintain copies of approved site



plans for the wing. The plans should reflect wing weapons safety coordination, commander's concurrence, MAJCOM approval, Air Force Safety Center (AFSC) coordination, and must have Department of Defense Explosive Safety Board (DDESB) approval. This copy acts as the approved source document, in conjunction with explosive licenses, for a base and wing to conduct explosive operations. The DDESB approved plan enables the base and wing to make decisions on explosive safety issues, construction projects, aircraft parking arrangements, contingency operations, host support agreements, as well as receipt of munitions from other bases (by ground or air). Therefore, an approved site plan has a significant effect on a wing's ability to conduct wartime operations.

Air Combat Command Instruction (ACCI) 21-201 "Non-Nuclear Munitions" specifies the munitions flight must maintain copies of approved site plans and all licenses pertaining to operations within the flight. Additionally, a base civil engineer map should be maintained in the munitions flight showing explosive clear zones, parking spots, movement routes, and reflect an annual review by Civil Engineering (CE). The purpose of this annual review is to give CE an opportunity to ensure that all future construction projects are included on the comprehensive base map. CE is not an explosive expert and relies on munitions flight and wing weapons safety personnel to identify explosive safety clear zones and any construction conflicts.

The munitions flight's level of responsibility extends beyond the munitions storage area (MSA) gate. When missiles, chaff, flares, 20mm ammo, bombs, rockets, and countless other explosives are transported to the flight line or base agencies, munitions personnel must ask the question, "Is the location

sited or licensed for the assets being delivered?" A common misconception is, "If the delivery location had missiles or bombs on it yesterday, last month, or even last year, it can still accept those types of assets today." However, this is not always true because changes can and do occur over time. Another false belief is, "All munitions are treated alike." For instance, many people think that if you deliver AIM-7 Sparrow missiles to a parking spot, you should be able to deliver AIM-120 Advanced Medium Range Air-to-Air Missiles (AMRAAMs) or AGM-65 Maverick missiles as well. But once again, this is not always true either. Many site plans have not been updated to reflect the AIM-120 and its unique blast and fragment hazard. If your site plan was produced before you came on line with the AIM-120, chances are you need to reaccomplish the plan.

Over the course of a year, five locations evaluated by the ACC IG had siting problems so extreme they could no longer meet their mission tasking for live uploads during a contingency. In each case, personnel and facilities were placed at risk. Because of the AIM-120 peculiarities, some bases cannot legally store AIM-120s in their munitions structures! Surprised?

The whole idea is to be familiar with your site plan. Don't just dust it off once a year or prior to an Operational Readiness Inspection (ORI) or Unit Compliance Inspection (UCI). If you move a bomb operation to a new pad or building, check the plan. If you get a new munition, especially a precision guided weapon, compare the plan to AFMAN 91-201 and determine if you are allowed to have the weapon system on your base. If you deliver to a holding area, is it authorized to accept the type and quantity of explosives you intend to place there? If new buildings or roads show up, ask the following question: "Does it encroach on any

explosive clear zones?" If you generate munitions loaded aircraft, look at your parking plan and consider where you are putting ready loaded trailers in relation to the explosive loaded aircraft. Whenever your operation changes, you should review your site plan and explosive licenses.

Now, a final consideration — maintain a copy of the site plan and the CE planning map for your deployed locations. Without a copy of this document, you could not adequately address munitions and explosive safety issues. At one recently inspected base, the unit was surprised to discover they could not load their Standard Configuration Load (SCL) at the "approved" sited parking spots! Get a copy and find out what you will or will not be able to do before you get there. You should be able to get a copy of the site plan from your wing weapon's safety office or Numbered Air Force (NAF)/Direct Reporting Unit (DRU). The most current planning map can be obtained through the local wing Weapons Safety Office.

Ask questions, look at the plans, and get to know your wing weapons safety people. Ensure you are storing and delivering only to approved locations. And keep a copy of the plan and map. It is our responsibility as munitions supervisors and managers to provide a safe working environment for all of our personnel and instill the importance of a proactive approach to accident prevention.

If all the people "minding the store" were asking the right questions, there would be little chance that someone left the door open and the store unattended. An explosive violation or incident could be averted by asking, "What does our plan look like, and does it meet our current taskings?" Who's minding the store at your base? ■



# Ask Orville!

## Until We Meet Again...

Well folks, we all have to go sometime! As *The Combat Edge* faithful were devising a plan for how to deliver my final edition of "Ask Orville," we contemplated some tight-hearted methods... like titling the article "Ax Orville" and having Orville meet some untimely demise as a result of his failure to properly use Operational Risk Management (ORM). But somehow that seemed a little irreverent for a figure that has been the symbol of ACC ORM for most of the past 2 years.

Instead, let me simply say that it has indeed been both a privilege and a pleasure to be a small part of the talented team that supported the "Ask Orville" series. I will miss the talents of Ron Smith, Adrian Robbe, Barbara Taylor, Dave White, and Eileen Bland; I will miss doing Basic Fighter Maneuvers (BFM) with the "ORM question of the month;" and yes, I will miss walking into a room full of total strangers and having a young airman say in surprise, "Hey, I know you; you're Orville!"

Finally, I would like to take this opportunity to thank General Richard Hawley, Major General (S) David MacGhee, and Colonel Turk Marshall for their confidence in selecting me to bring ORM on-line in ACC.

Happy trails!

*Orville R. Arnold*  
ORM Dogfight Veteran  
ACC Office of Safety







**Col Ronald Garhart** (AKA Orville R. Mudd - the columnist behind the "Ask Orville!" series of articles for the past 19 months in *The Combat Edge* Safety Magazine) has been the driving force for all Operational Risk Management (ORM) endeavors within Air Combat Command (ACC). As Chief, Operational Risk Management at HQ ACC, he has been the catalyst for developing and executing command-wide ORM implementation plans. In this capacity, he has pioneered the use of ORM tools and has armed us with the knowledge to achieve further dramatic reductions in ACC's mishap rates as well as improve the command's operational effectiveness. Retiring with over 25 years of service to the United States Air Force, Col Garhart has our grateful appreciation for his faithful and devoted service to our country. We bid him God speed in his future endeavors and offer our special thanks for a job well done.

**Col James Stanley, Jr.**, has been selected to serve as the new Chief of Operational Risk Management at HQ ACC. He comes to the Office of Safety from Air Combat Command's Directorate of Air and Space Operations where he served as Chief, Conventional Operations and Training Division for the past 16 months. In this capacity, he oversaw the development, coordination, and publication of the Combat Air Forces (CAF) guidance for formal and operational training, tactics development and evaluations, and weapons systems evaluations for active duty and Air Force Reserve component fighter, bomber, and rescue forces. In addition, he directed activities for ACC that encompass the command flying hour program, airspace issues, flight management, operation quality performance measures, aircrew life support issues, and CAF rated management and aircrew training devices. Col Stanley is a command pilot with over 2,500 hours flying time in the A-10A, AT-38B, F-4E, and T-38 aircraft. Welcome aboard, sir!







Don't ever put an infant in a rear-facing restraint in the front seat of a vehicle that has a passenger airbag. And don't simply turn the restraint around to face forward.

# Kids & Airbags

*Courtesy of the Insurance Institute for Highway Safety  
Arlington, VA*

**A**irbags are a success. They've inflated in millions of crashes, saved thousands of lives, and prevented many more serious injuries. But like some medications and other public health successes, airbags can cause unintended adverse effects. Nearly all of these are minor injuries like bruises and abrasions that are more than offset by the lives airbags are saving.

But some airbag injuries are serious, and they include some deaths. These occur when someone is on top of, or very close to, an airbag as it begins inflating. Infants in rear-facing restraints and unbelted or unrestrained children in the front seats of vehicles with passenger airbags are at the greatest risk.

You can eliminate this risk, and you can almost always do it with-

out the trouble of getting permission from the federal government for an on/off switch for your passenger airbag. Begin by putting children in the back and using appropriate restraints for youngsters' sizes, as the law requires in all 50 states.

## *The Back Seat is Always Safer*

Starting with a baby's first trip, put the newborn in the safest place — a rear-facing restraint in the center of the back seat. Make sure the restraint is tightly secured with a safety belt and the child is buckled snugly into the restraint. At first when a baby can't support its head, you may need to put rolled towels or foam inserts around the head to keep it from flopping from side to side.

Remember, it's safer in back compared with the front — even without passenger airbags; so the back seat is always preferred for infants. Many parents want to put their new babies in the front where they're easier to see. It may be tempting to put a baby right beside the driver when the driver is the only other person in the vehicle. But don't... because it isn't the safest place.

Don't ever put an infant in a rear-facing restraint in the front seat of a vehicle that has a passenger airbag. And don't simply turn the restraint around to face forward. Only if a vehicle has been equipped with a switch to turn off the passenger airbag is it okay to put an infant restraint up front.

If there's an on/off switch for your passenger airbag, you do have to re-



member to: (1) switch off the bag if an infant is riding in front, and (2) check the airbag's status every trip. And remember — the back is always safer.

### Transitioning from Infant Restraints to Child Restraints

Infants grow very quickly, and the restraints toddlers use differ from those for infants. Rear-facing restraints are for babies up to about a year old. When they outgrow these restraints, infants should graduate to child seats that face forward. These provide excellent protection when used properly and, like infant restraints, should be put in a back seat — not the front.

Be sure to secure your child in a restraint according to the instructions. This may not be easy because some vehicle belts, for example, may not be compatible with the restraint you're trying to use. It may be difficult to get the adult safety belt to hold the restraint tightly in place. Special clips available with child restraints and from car dealers sometimes are needed, so check your owner's manual for instructions. Some vehicles have built-in child restraints, making them easy to use correctly. Whatever type of restraint you use, remember to buckle your child into it.

### Transitioning from Child Restraints to Adult Lap/Shoulder Belts

Soon toddlers become big kids who outgrow their child restraints and can use the adult lap/shoulder belts provided in vehicles. A child may need a special booster seat at first. These do just what the name implies. They boost smaller children higher so they fit better and more comfortably into adult safety belts.

Once children graduate to adult belts, ensure the belts are used properly. Don't put a safety belt's shoulder portion behind a child or under the arm. Don't let a child do this ei-

ther, because it compromises protection. If necessary, get a booster seat to help fit the shoulder belt comfortably across the child.

The lap belt is equally important. Position it low and snug across a child's hips. Don't let it rise over the abdomen where the belt itself could become a hazard.

Make sure older children, just like infants, ride restrained in a back seat. Only if there are too many children for all of them to ride in back should one of them be allowed up front with a passenger airbag. Then it's essential to adjust the seat so it's as far back as possible; and, again, make sure the child is secured in a properly fitting lap/shoulder belt. A child riding in front also should sit back in the seat, not perched on the edge or leaning forward, for example, to fiddle with radio dials.

### Simple Precautions for Optimum Protection

Airbags don't have to pose a risk for kids, provided they're not positioned too close to an airbag — or positioned so they could get too close. Pay attention to this hazard because it's serious, and then take the right steps to eliminate it:

1. Proper restraint use comes first. Riding unrestrained or improperly restrained in a motor vehicle always has been the greatest hazard for children.

2. The safest place for kids to ride is in back. This was true before airbags, and now it's doubly true. Infants and children riding in back seats cannot be in the paths of inflating airbags.

3. Don't use a rear-facing restraint in the front seat. The only exception is if there's an on/off switch for the passenger airbag.

4. When it comes to buckling up, what's good for kids is good for adults, too. So use your own lap/shoulder belt. Belts provide important protection in crashes. Plus they keep people in the best position to be protected by their airbags. Another

reason to use your safety belt is to set a good example for your children.

Airbags plus lap/shoulder belts are the best protection for most people, but this system is designed primarily for adults. Younger people need special restraints, and following the simple precautions outlined here can ensure optimum protection for everybody.

*Should you get an on/off switch for your passenger airbag? The most likely answer is no.*

The federal government has established procedures and criteria for permitting people to get airbag on/off switches. These are needed in only a few cases when airbags may present a risk of serious injury.

Before you consider getting an on/off switch for a passenger airbag, remember the best way to eliminate injury risk among children is to ensure they ride in back. The back seat is safer anyway.

So when should parents consider getting on/off switches? Rarely is this necessary — for example, when an infant with medical problems requires observation and the driver is the only other person in the car. Then a baby would need to ride in front, and a passenger airbag would present a risk. Of course, paying attention to a baby is distracting and involves its own risks.

Another example is parents who often transport too many small children to put them all in back — and, even in this case, an on/off switch isn't necessarily the best option. An older child may ride up front if the seat is all the way back and the child is securely buckled in a lap/shoulder belt and sitting back in the seat. Leaning forward, for example, to fiddle with radio dials can put a child at risk from an inflating airbag. Only if there's concern about keeping a child sitting back in the seat would a parent need to consider getting an on/off switch for the airbag. ■





*Lt Col Walt Ledford, 2 BW/SE, Barksdale AFB LA*

**S**ometime ago, we finished one of those months. You know... the kind that begins badly and goes downhill from there. What went wrong? Well, our wing experienced three mishaps over a 1-month period of time. It was a tragic time for our organization. After reading about the following mishaps we experienced, I'm sure you'll agree.

### **Mishap 1**

We started the month with the Air Force losing two troops in Southwest Asia when the driver (our guy) rolled his vehicle; both he and a passenger were thrown out.

### **Mishap 2**

Less than a week later, we nearly lost another one of our troops when he tried to pass too many vehicles on a wet highway, couldn't quite negotiate the curve, left the road,

and rolled into a ditch. This driver left through the T-top of his Firebird and (doing his best impression of Superman) flew nearly 75 feet through the air before returning to earth. Amazingly, this fortunate soul only received a few broken bones, bruises, and cuts.

### **Mishap 3**

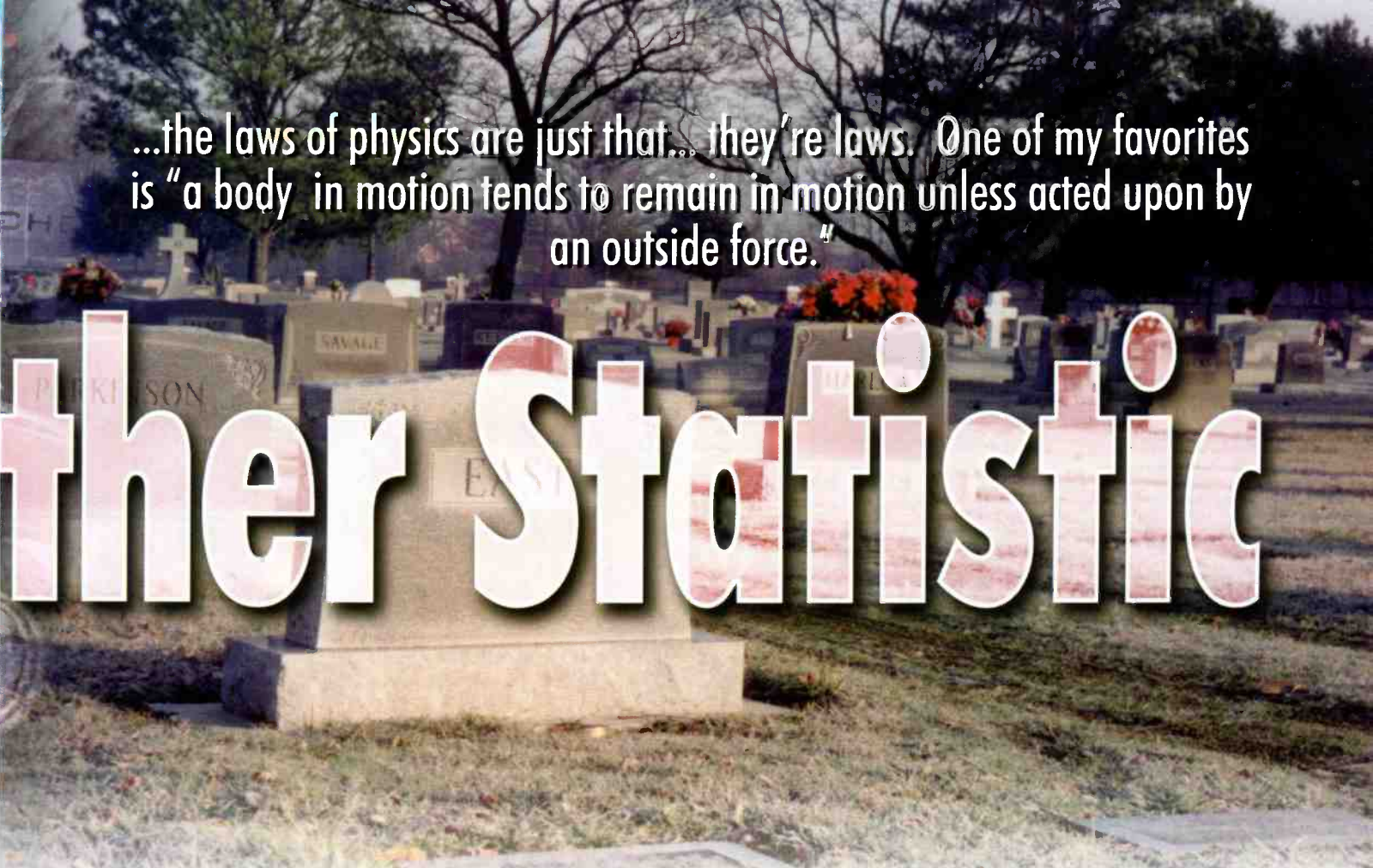
On the last day of the month, our wing lost a second person when the Corvette he was driving left the road and struck a couple of parked trucks with their boat trailers attached.

Imagine, three serious mishaps and three fatalities (two of which were our people) in 30 days... not a good month however you slice it. Although the three mishaps took place in very different environments, the safety lessons learned are very similar in nature and can be summed up as follows:

- Excessive speed is a bad thing. Notice I said "excessive speed" — not "high speed." For instance, while 40 mph isn't "high speed," it may be excessive when going from an unpaved to a paved road (or vice versa). And 60 mph may not be "high speed," but it might be "excessive speed" on a wet, twisting, mountain highway... even in a Firebird. In our last mishap, the exact speed is unknown; but witnesses reported seeing the Corvette being driven recklessly at "high" rates of speed.

- Seat belts really do work. The three mishaps involved a total of seven people. Of the seven people, four were wearing their seat belts; and 75% of them survived. Only one of the three not wearing seat belts lived, and he'll be recovering from his injuries for quite awhile. The lone seat belt-wearing fatality oc-





...the laws of physics are just that... they're laws. One of my favorites is "a body in motion tends to remain in motion unless acted upon by an outside force."

# Other Statistic

curred when an outside object struck the driver at or near the time of impact. Due to the nature of the accident, this driver would have died with or without the seat belt. However, all three non-belted members would probably have escaped serious injury or death had they been buckled up.

- Younger isn't always better. All of the drivers were "young." The oldest was under 25, and the other two weren't even 21 yet. I know many young folks think they're invincible; but hey, the laws of physics are just that... they're laws. One of my favorites is "a body in motion tends to remain in motion unless acted upon by an outside force." Seat belts provide that outside force in a sudden stop or jolt (i.e., like in a mishap). Unrestrained projectiles, like folks without seat belts, tend to continue in motion until they hit

something... like a steering wheel, windshield, trees, rocks, or the ground. These "laws" have no regard for age... they're true from the day we're born till the day we die.

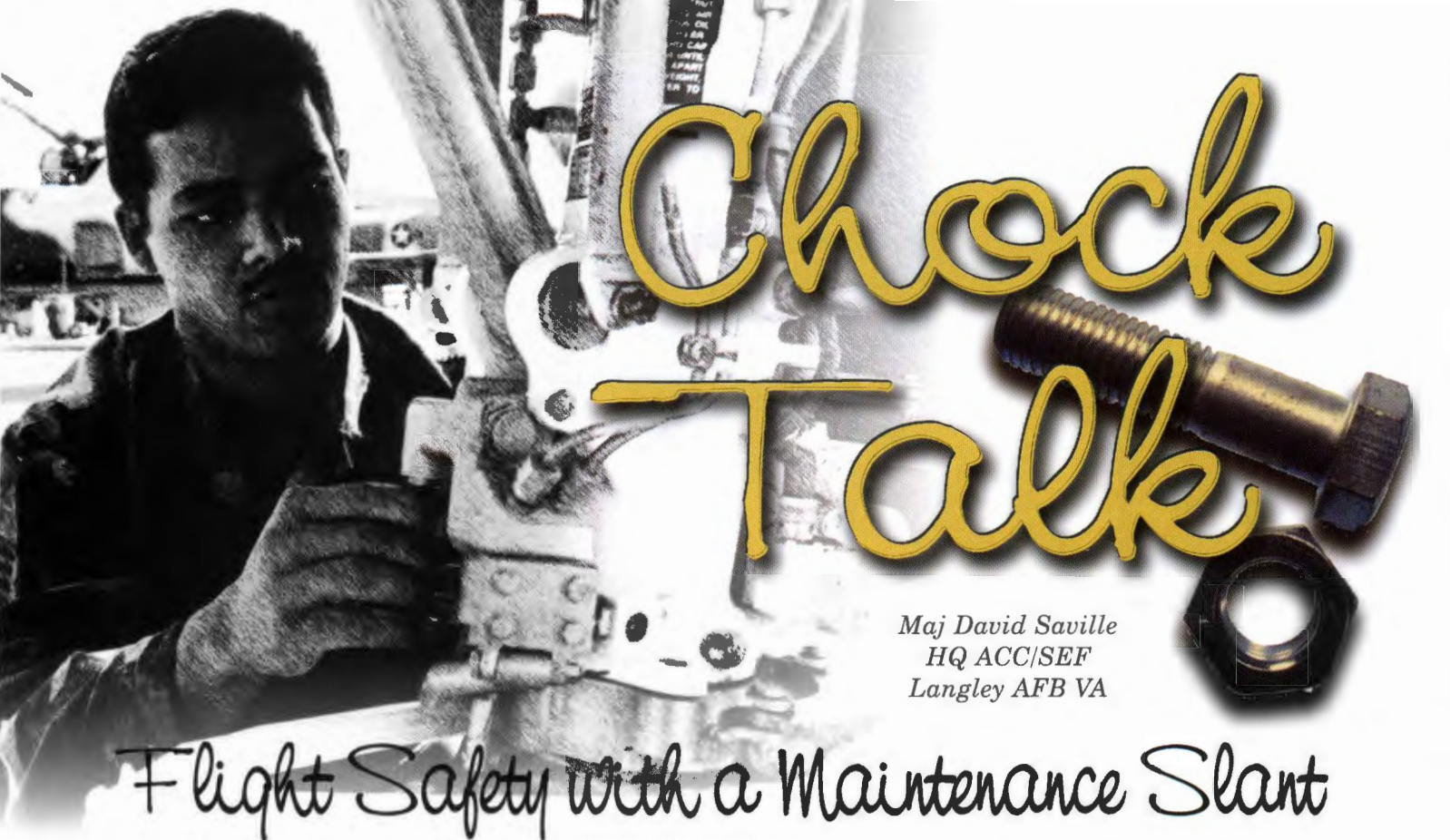
In addition to these safety lessons learned, here are a few other common sense things that might keep your folks from becoming just another statistic:

- Don't drink and drive or ride with those who do.
- Everyone inside the vehicle should use a seat belt.
- Speed limits reflect the MAXIMUM speed allowed; they're the law, not a suggestion.
- "Pink" traffic lights don't exist (i.e., don't run red lights).

- Adjust your speed for hazardous driving conditions (e.g., wet, icy, snowy, dusty, sand, or gravel roads).

Like I said at the outset of this article, that was a particularly bad month for our wing. Hopefully, it was just a spike and not a trend. Since that time, our wing has taken a quantum leap forward by using Operational Risk Management (ORM) for on-duty hazards. We're trying to get our folks in the habit of "THINKING" before "DOING" something dangerous or risky. Knowing hindsight is always 20/20, we are now attempting to focus our efforts on developing foresight. Only then can we really begin to enjoy the benefits of ORM and achieve further dramatic reductions in our mishap rates. ■





Maj David Saville  
HQ ACC/SEF  
Langley AFB VA

## Flight Safety with a Maintenance Slant

# The Mishap Review Panel

If you've ever participated in a safety investigation, big or small, you may have wondered, "Why bother? Does anyone really read all these safety reports? Does it fix anything? Is it worth all the time and effort?" There's a lot of work that goes into a good safety investigation and the report that follows, and you may wonder if your effort is really going to make a difference. I'm glad to tell you that your efforts in conducting thorough Class A, B, and C safety mishap investigations really do make a difference. The reports not only get read, but the recommendations get attention and action. Before I came to work in HQ ACC Flight Safety, I was suspicious about what really came of all that work out in the field. When I got here, however, I was able to see "first hand" the safety mis-

hap prevention "end game," and how the recommendations from the investigations get handled and brought to closure. The primary vehicle for ensuring this happens is the Mishap Review Panel (MRP). I was very encouraged to see what the MRP program accomplishes, and thought you might also be encouraged if I explained it in this month's *Chock Talk* article.

I honestly had never heard of the MRP process before I got hired to run the program for ACC a few months ago. Like many of you, I was out there on the flight line and in the back shops with my nose to the grindstone, with no clue as to the entire process of how these safety recommendations get handled. I suppose if I was really interested, I could have read AFI 91-204, "Safety Investigations and Reports," and ACCI 91-251, "Mishap

Review Panel (MRP)," and learned it all, but I was busy enough with my own subject area regulations and never read them until getting formally into the safety business. I indirectly participated in various safety investigations throughout the years, but always wondered if the recommendations were being seriously considered. Well, if this describes you too, let me introduce you to the MRP program.

After a Class A or B safety investigation is completed and the report of findings and recommendations is written, the ACC Commander usually gets a briefing from the Safety Investigation Board (SIB). The SIB's report then gets staffed and scrutinized by dozens of subject area experts on the headquarters staff. The final result is an "ACC Addendum," which is the published ACC position on the



SIB's mishap findings and recommendations. This is sent to the Air Force Safety Center (AFSC) at Kirtland AFB NM. They scrutinize it at the USAF level and months later publish a document called the Memorandum of Final Evaluation (MOFE). This is the USAF's official position on the mishap, confirming what caused it and what the USAF is going to try to do to prevent future similar mishaps. That's when we get it back in ACC and insert it into the MRP process. Simply put, I take the recommendations and their status and build a slide presentation that gets briefed to the ACC Commander (COMACC) three times a year. Several coordinating and prebriefing events occur among the headquarters subject area experts, so the final product is very sound. No one likes to ignore risk.

Each mishap recommendation gets labeled "ON TRACK," "RECOMMENDED CLOSURE," or "PROBLEM." Recommendations that are "on track" are progressing adequately, like a Time Compliance Technical Order (TCTO) generated from the mishap that continues to get 30 aircraft modified per month. As some recommendations reach their goal or the risk is mitigated in some other fashion, we initiate "closure." Only COMACC can approve a closing action on a recommendation, so it can't slip through the cracks without action. Sometimes, especially when it comes to very costly issues that the budget simply cannot accommodate quickly, we label the recommendation a "problem." Here's the real power of the MRP process. Because of the attention that "problem" recommendations get through the MRP briefings, the visibility they receive in the next budget cycle also increases.

As you would imagine (and have probably lived through), many of the recommendations from SIBs get im-

mediate action right after the mishap at the unit level; and even across the fleet, depending on the issue. Other recommendations, however, can't move forward that fast. For example, without a big chunk of money for an aircraft modification, a recommendation from a SIB could stay in a holding pattern until it gets the push it needs through the MRP process and other avenues contributing to the solution. The reality is that we can't have every safety modification we ask for because there simply isn't enough money. Through the MRP process, however, the real priorities get highlighted, researched, and worked.

So far, this MRP process sounds like a lot of boring staff work, doesn't it? Well, allow me to put MRP in terms that might interest you. Since the MRP process began in August 1992, over 658 recommendations have been closed in ACC alone. Those represent countless TCTO modifications to aircraft, Technical Order (T.O.) changes or improvements, pilot and maintenance training syllabi adjustments, new tools designed, hazardous materials replaced, software upgrades, inspections initiated, unit training devices designed and fielded, engine and ejection seat improvements... and the list goes on. One of my favorite MRP success stories is currently our oldest open recommendation.

Since the early 1980's, a SIB's recommendation to put Crash Survivable Flight Data Recorders (CSFDR) in every F-16 met with consistent funding problems. However, the MRP program helped keep the initiative alive and now all but a handful of our fleet are equipped. This effort has already reaped huge dividends! Subsequent mishap investigation teams involving CSFDR equipped F-16s usually enjoyed a plethora of available critical information that led them right to the cause. It ensured

these crashes were not repeated. Similar recommendations naturally followed to put CSFDRs in other fighters and even helicopters. Rarely do these initiatives fair well in tight budget battles; but over time, the persistent MRP process gets results. There are so many exciting examples of SIB recommendations getting processed through the MRP program that I couldn't describe them all in this short article. Hopefully, however, this summary gives you a flavor of the value of MRP.

So, be encouraged! The MRP program oversees the recommendations to closure. I hope this quick look at the MRP program builds your confidence in the whole safety mishap prevention effort. It did mine! Please realize the positive influence you have on events when you participate in a safety investigation. Whether you are a fully trained Flight Safety Officer (FSO) investigating a Class B mishap in your wing, an Aircraft Maintenance Officer on a Class A SIB, or a local engine expert asked to help a SIB with their investigation, you are really making a difference. There's a solid chain of events that occur after you finish your job investigating and writing a report. It may take a few short months or sometimes even years to see the results, but the difference you make positively affects countless lives, important assets, and otherwise impossible missions. That makes it all worthwhile.

If you would like to contribute an idea, a short story, or an article to the monthly Chock Talk column, please do! Please e-mail me at [david.saville@langley.af.mil](mailto:david.saville@langley.af.mil) or call me at DSN 574-8816. I'd love to talk with you about your ideas for the column. By sharing your knowledge, you can make a positive contribution to many readers in the flight safety arena. ■

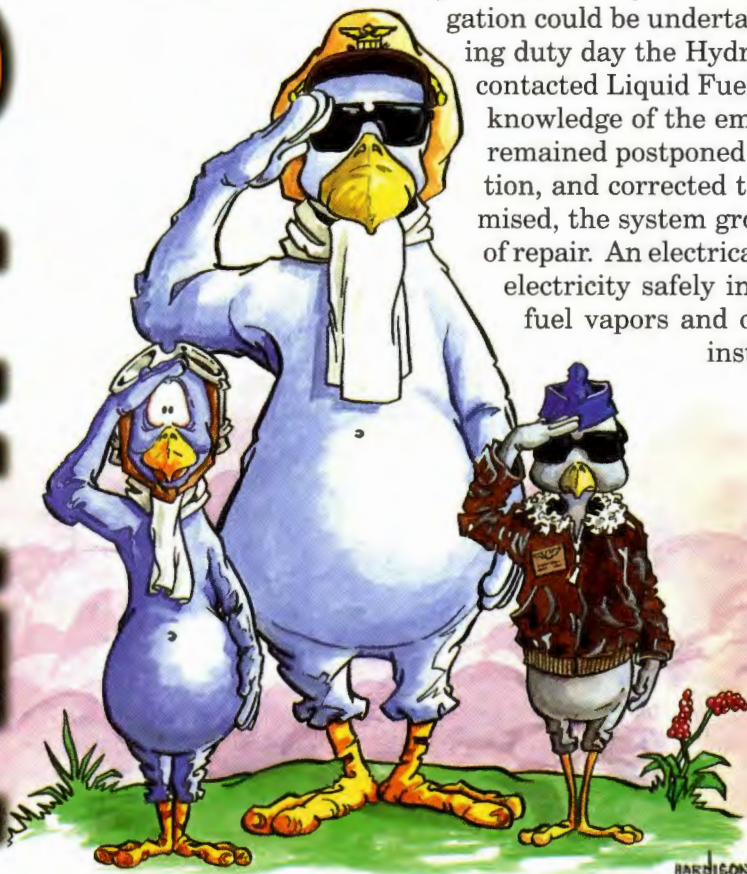


The HQ ACC TEAM SALUTE recognizes a person, group of people, or unit for notable displays of quality performance in the area of mishap prevention. Recipients are selected by the ACC Safety Awards Board from the monthly nominees for ACC safety awards and are featured periodically in *The Combat Edge* magazine. Our congratulations to these superior performers.

## A1C Kenneth L. Scrivner, 99 SUPS, 99 WG, Nellis AFB NV

During an Eastside jet fuel (JP-8) transfer operation, A1C Scrivner observed a static arc emanating from a valve stem located on a section of JP-8 piping in the receipt valve control pit. Understanding the significance of any spark within the fuels environment and concerned of potentially defective system grounding, he immediately terminated the fuel transfer operation and contacted his supervisor, TSgt Scriven, who suspended transfers to the Eastside for 24 hours. During the following evening, Amn Scrivner was sent back to observe the same transfer pit under flow conditions and again discovered electrical arcs originating at the valve stem. Without delay, he halted the fuel transfer operation. He then telephoned an emergency work order to Base Civil Engineering. All fuel operations involving the Eastside system were suspended until a complete investigation could be undertaken to correct the hazard. The following duty day the Hydrants day-shift supervisor, SSgt Smith, contacted Liquid Fuels Maintenance (LFM) to verify the acknowledgment of the emergency work order. Fuels operations remained postponed until LFM arrived, assessed the situation, and corrected the discrepancy. As Amn Scrivner surmised, the system grounding was indeed faulty and in need of repair. An electrical ground wire, designed to funnel static electricity safely into the earth and away from ignitable fuel vapors and other possible petroleum sources, was installed connecting the arcing valve stem

to the main valve which, in turn, was grounded to earth. The new grounds alleviated the static arcing, as close observation determined. This simple fix to a menacing problem eliminated a potentially disastrous situation—a static induced fire/explosion with devastating results to both personnel and equipment. Thanks to Amn Scrivner's attention to detail and close monitoring of his area, this serious safety hazard was discovered and resolved without incident.





### **SSgt Michael Jones, SrA Gerad Pieper, SrA Jason Lively, 726 ACS, 366 WG, Mt Home AFB ID**

Safety is not just a meaningless word in the 726th Air Control Squadron, but an everyday process of completing our Air Force mission. Many people seem to turn their heads when “safety” is mentioned, but it takes effort from every member of the team to ensure a safe working environment. SSgt Jones, SrA Pieper, and SrA Lively exemplify that spirit of teamwork. Working together they saved millions of dollars worth of equipment and calmly controlled a potentially deadly situation.

Every Tuesday is “tactical Tuesday” at the 726 ACS—generating tactical power for equipment operation instead of using commercial power. On Tuesday, 2 Jun 98, the aerospace ground equipment shop was preparing to use backup -8 generators (AE24U-8 turbine generator) for their weekly tactical operations to ensure capabilities for an upcoming field deployment. They had two -8s operating in parallel—sharing power loads evenly to supply the AN/TPS-75 radar van with the proper electrical requirements. One of the six electrical cables that supplied power to the power distribution box internally shorted out causing a very loud popping sound. Amn Lively heard the popping noise and yelled to get the attention of his co-workers, pointing in the direction of the area concerned. Sgt Jones immediately surveyed the area and noticed that one of the power cables was on fire. He quickly removed power from the cable thus removing the source of ignition and any potential hazard to himself and others nearby. While shutting down the power, he directed Amn Pieper to grab a fire extinguisher. Amn Pieper’s extensive knowledge of the location and use of all safety equipment enabled him to quickly find and operate the fire extinguisher, putting out the fire in a matter of seconds. Damage was minimal and there were no injuries. These three professionals’ safety training and attention to detail paid off—the equipment they saved is worth \$5.2 million—saved lives are priceless.

So the next time the word “safety” is mentioned, don’t look the other way or complain it takes too long—take the time to get smart on safety, you could be saving expensive equipment or a priceless life.

### **MSgt James R. Freeman, 1 ACCS, 55 WG, Offutt AFB NE**

On 21 May 98, MSgt Freeman exhibited exemplary vigilance, superior judgment, and excellence in “action taken” while performing duties as the E-4B Production Superintendent. The primary alert E-4B aircraft was taxiing out for a higher headquarters sortie; and as the aircraft turned onto the taxiway, Sgt Freeman noticed hydraulic fluid leaking from the tail area. He immediately contacted the 55th Wing Maintenance Operations Center and instructed them to call the aircraft back to the parking spot for inspection. Once the aircraft returned to the parking spot, further inspection revealed a check valve on the main hydraulic power unit for the lower rudder assembly had failed and was leaking profusely. In fact, the aircraft had lost over 3 gallons of hydraulic fluid just during taxi out.

With impending severe weather quickly approaching, the decision to hangar the alert aircraft was then made which allowed crucial maintenance to continue inside the hangar, while simultaneously protecting this vital national asset from possible damage. The check valve was replaced and the alert E-4B was returned to full mission capable status.

Sgt Freeman’s superb attention to detail and follow-on actions undoubtedly prevented an in-flight emergency which would have resulted after loss of control of the lower rudder. His quick, clear-thinking decision quite possibly averted a potential catastrophic mishap with a full crew onboard.

### **Amn Timothy R. Stehn, 4 EMS, 4 FW, Seymour Johnson AFB NC**

Amn Stehn was preparing for a canopy installation on an aircraft belonging to the 336th Fighter Squadron. During his preparation and inspection of support equipment, he discovered a frayed support cable on the boom of the canopy crane. Amn Stehn immediately notified the 4th Equipment Maintenance Squadron Aerospace Ground Equipment (AGE) section of the discrepancy. After further inspection from AGE, the canopy crane was taken out of service. Had this young airman not gone the extra step and taken an extremely hard look at the serviceability of his support equipment such as this, it could have caused serious damage to the aircraft and possible death to a valuable Air Force member. Amn Stehn’s phenomenal motivation and drive ensuring the support equipment was safe for him to produce a reliable product proved worthy again. Amn Stehn’s keen sense of safety proved invaluable to the 4th Fighter Wing and the Air Force’s resources of equipment and personnel.



SMSgt Gary Reniker, USAFR  
442 FW/SE  
Whiteman AFB MO

# Fearless Freds and Hysterical Harrys

Fearless Freds are  
the trainees who do  
not take  
occupational hazard  
warnings seriously....  
Hysterical Harrys  
represent the other  
extreme.





**M**any Occupational Safety and Health Administration (OSHA) regulations — notably the Hazard Communication Standard (29 CFR 1910.1200) — require management personnel to notify subordinates of the risks associated with their work. In particular, this standard mandates that trainees be informed of the hazards of exposure to chemicals and other substances used on the job.

The most common way to present this information is to review each of the respective chemical Material Safety Data Sheets. Many of the sheets, even for substances considered relatively harmless, are quite alarming when describing the consequences of overexposure. Words and phrases like carcinogen, hepatotoxin, neurotoxin, blindness, and severe injury or death abound. Most trainees understand the context of these terms relative to overexposure; but oftentimes, there are exceptions.

I classify these exceptions into two classes of workers: Fearless Freds and Hysterical Harrys. Fearless Freds are the trainees who do not take occupational hazard warnings seriously. Consequently, they are a threat to themselves, their co-workers, and the Air Force as a whole. They are the ones who casually poke a hole in their respirator to permit entry of their cigarette or wash their hands in the nearest available solvent.

Hysterical Harrys represent the other extreme. These type of people are workers who overreact to perceived threats to their health and safety. Often their concerns are heightened after hearing reports

about occupational hazards on the news media. This unfounded anxiety about occupational hazards may hamper productivity, undermine morale, and even cause work stoppages. Hysterical Harrys, for example, may refuse to proceed with a job because: (1) they are in the vicinity of wrapped insulation that “may” contain asbestos, (2) they smell a “slight” odor from working with a solvent and conjure up in their minds the situation to be extremely dangerous, even though they are in a vented area, or (3) they are afraid to do any typing on a computer keyboard because they think that the monitor may be emitting excessive amounts of harmful radiation.

The key to maintaining a proper balance regarding our reaction to potential hazards (i.e., avoiding underreaction as well as overreaction) is to thoroughly train workers in the concepts of dose and the associated risk. Why is a proper understanding of these industrial hygiene concepts necessary to workers as part of their safety and health? Well, because workers need to realize — both for their personal protection as well as unit morale — that they are not being exposed to hazardous doses of chemicals. A proper assessment of the risks involved is very important; after all, any substance — even water — can be hazardous at too high of a dose.

On the other hand, maintaining morale, worker health, and productivity requires that jobs be designed so that workers are not exposed to chemicals at unsafe levels. In addition to this, training needs to be designed so that workers understand they are not being exposed at unsafe dosage levels. Only then... will the num-

bers of Fearless Freds and Hysterical Harrys be eliminated in the workplace.

### **Editorial Comment**

*Sounds like the Fearless Freds and Hysterical Harrys among our midst need to take a crash course in Operational Risk Management (ORM). After all, isn't that really the bottom-line here? In order to prevent mishaps while maximizing mission success, individuals at every level must understand risk management concepts and apply them to their part of the mission. That's what ORM is all about! Once potential hazards are identified, a determination of the level of risk associated with each hazard needs to be accomplished. This assessment should never be based simply on "gut feel." It should be established on the best factual information available. Therefore, in doing our jobs from day to day, we should never accept unnecessary risks; however, at the same time, we should never be afraid of risks. You can't run away from it; risk is involved in everything we do — and I mean everything! While Fearless Fred may view driving his sports car 1,000 miles "non-stop" as an intriguing adventure, Hysterical Harry wouldn't even think of taking his car for a fill-up at the local gas station without getting a full night's sleep. When it's all said and done, balance in risk management is the key; and this balance is found in... you guessed it... ORM! In closing, remember the inspiring words of Orville R. Mudd — our ORM Dogfight Veteran — "Be smart, and apply risk management today!" ■*






# Ground Safety Stats

## ACC Losses for FY 99

(1 Oct 98 - 31 Dec 98)

*Practice the principles of Risk Management both on and off duty.*

### Ground Mishap Fatalities

<b>8 AF</b>	
<b>9 AF</b>	
<b>12 AF</b>	
<b>DRU</b>	

### Number of Ground Mishaps/Dollar Losses

	<b>Class A</b>	<b>Class B</b>	<b>Class C</b>
<b>8 AF</b>	2/\$407,240	0/0	29/\$119,104
<b>9 AF</b>	1/\$125,000	0/0	35/\$319,839
<b>12 AF</b>	1/\$125,000	0/0	55/\$455,373
<b>DRU</b>	0/0	1/\$894,548	13/\$60,189
<b>FY 99 Totals</b>	4/\$657,240	1/\$894,548	132/\$954,505
<b>FY 98 Totals (for comparison)</b>	5/\$1,715,000	0/0	173/\$640,444

Class A - Fatality; Permanent Total Disability; Property Damage \$1,000,000 or more  
 Class B - Permanent Partial Disability; Property Damage between \$200,000 and \$1,000,000  
 Class C - Lost Workday; Property Damage between \$10,000 and \$200,000



**Fleagle**







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representative views. In addition, we'll withhold your name if you desire. We'd like to hear from you — good or bad. Please send your cards or letters to:

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Editor, The Combat Edge  
175 Sweeney Blvd  
Langley AFB VA 23665-2700

If you prefer, you may fax your comments to us at (757)764-8975/DSN 574-8975 or e-mail them to us at: [adrian.robbe@langley.af.mil](mailto:adrian.robbe@langley.af.mil)

### "Good Job"

I just reviewed The Combat Edge, December 1998 edition. Good job, from the eye-catching picture on the front to the articles inside. I particularly liked the creative "Ask Orville" article, suicide prevention material, and stress on Operational Risk Management (ORM) complementing Gen Hawley's lead-in note.

**Col Terry Young**  
1 SPTG/CD  
Langley AFB VA

*Thank you, Sir. It is always a great joy to receive favorable comments like yours from our readers. Our magazine staff sincerely appreciates the kind words of encouragement you have conveyed. The December Combat Edge is one of our favorite issues, as well. Thanks again for taking the time to share your thoughts with us.*

**- Ed.**

### Aggressive Driving Quiz

While I do not claim to be an expert on driving, at the age of 54, I have had some experience. In reviewing your Aggressive Driving Survey (July 1998 issue), I noticed one item missing: "Do you have/use a radar detector to avoid speed traps?"

It is my contention that anyone who uses such a device, to deliberately avoid the penalties of excessive speed in driving, is not only an aggressive driver, but one who is unsafe! The only reason a driver has one and uses it is to avoid the consequences illegally avoiding maximum speed restrictions. If he/she is not above using a radar detector, what other attitudes towards safe driving practices are ignored?

We extol the habits of safety through magazines like The Combat Edge and articles in base newspapers. I think it's time we took a look at the issue of radar detectors and the kind of mind set it takes for a military member or dependent to decide to use one. If he/she tries to avoid the consequences of obeying a "rule" in this fashion, what

about on the flight line, or elsewhere on the job? Do you want such an individual as your crew chief or life support technician?

While it is my understanding that radar detectors are not allowed to be used on military bases, the fact that a military member has one installed in their vehicle should trigger a response of some kind as to the rest of their safety practices and, indeed, their standard of ethics.

After all, if we obey the rules, as in the case of our nation's speed laws, we have no reason to worry about "speed traps," do we? In the process of improving our ethical and professional behaviors, we will also improve our safety standards as well.

Very respectfully,

**Everett K. Thompson, GS-05**  
366 CS/SCX  
Mountain Home AFB ID

*Thank you for your comments regarding the article in our July 1998 issue entitled "We All Need to Take the Test: Aggressive Driving."*



*The point you made concerning the use of radar detectors to avoid the consequences of illegally exceeding the speed limit and how this directly contributes to unsafe driving practices is a very good one. Obviously, your thoughts are something that the National Highway Traffic Safety Administration (NHTSA) did not happen to think of when they put their driving survey together. Rest assured we will forward your comments on to the NHTSA for their information. Hopefully, when their next Aggressive Driving survey comes out, your question relative to possession of a radar detector on a person's vehicle will be included in the test. Thank you for taking the time to write us. Your interest in helping us fulfill our mission of safety education and awareness is greatly appreciated.*

**- Ed.**

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## **Aggressive Driving Quiz**

*(comments from another reader)*

While I agree with the premise of your quiz in trying to enlighten drivers to potentially poor driving habits, I have to take issue with some of your categories.

First, it asks whether or not I yield and move to the right for emergency vehicles? Everywhere I have lived, people are supposed to pull over and stop if emergency vehicles are approaching. This quiz may encourage those who read it that it is OK to just give way to an ambulance and not pull over. As far as taking more than one parking place, you're right... if it's Christmas at the mall. But to label as an aggressive driver the person who parks across two spaces at the far end of an empty parking lot isn't right.

Finally (and this is the one that really bothers me), flashing to pass is not a sign of an aggressive driver.

It's the sign of an educated driver. Good driving schools teach that when you're overtaking another vehicle you should flash your lights to indicate that they should move out of your lane to allow you to pass. It's an awful lot more dangerous to begin changing lanes to maneuver around a vehicle than to pass on the left (as your own quiz points out in another question). As anyone who has lived in Europe can attest, this is the standard on European highways. Yet in America, it qualifies as aggressive driving. Furthermore, this idea encourages those holding up traffic in the left lane to blame [label] the other drivers as aggressive. I understand the quiz was developed by the NHTSA, but I would expect that someone at Combat Edge would have reviewed it more carefully prior to publishing it.

One final point. Yes, I am currently stationed in Idaho where there has never actually been "traffic." However, I grew up in New Jersey and was also stationed in San Antonio; so I'm not speaking only from a theoretical point of view. In any case, I appreciate the time you took in reading my letter. Thank you.

**Capt Steven C. Ziomek**  
**389 FS/SE**  
**Mountain Home AFB ID**

*Many people — especially those who are used to the driving standards in Europe — would agree with you regarding the appropriateness of flashing your lights to overtake a slower moving vehicle that is holding up traffic in the left passing lane. However, in the United States, when you flash your lights at another driver... it is normally received as an aggressive action (i.e., just as if you had made an unkind hand or facial gesture). Therefore, I don't believe we can take what many people view as the best of another world (i.e., Europe) and bring*

*it over here to the United States — it's not that simple. Furthermore, if our military personnel stationed in the United States were to abide by the driving norms like those in Europe, many would be arrested... or even killed.*

*Don't forget, American military personnel are constantly confronted with the following challenge throughout their career — the need to adapt to the many different driving cultures throughout the world. This is true regardless of where they are stationed — whether it be in Saudi Arabia, Europe, or — even for that matter — the United States. Let's face it, every country has its own peculiarities relative to driving on its nation's highways. I won't even bother to mention here some of the unique driving challenges being experienced by deployed military personnel serving in many third world countries today.*

*Lastly... regarding your expectation "that someone at Combat Edge would have reviewed it [i.e., the Aggressive Driving Quiz] more carefully prior to publishing it," be advised that when we reprint information that has already been published in another magazine (such as was the case with the Aggressive Driving Quiz previously published by the National Highway Traffic Safety Administration), we do not have the authority to revise their work. Reprint permission is provided to us on the condition that we reproduce the article as originally written in its entirety.*

*In closing, let me say that I truly appreciate your taking the time to write us. Exchanges like these with our readers are much appreciated and beneficial to all concerned. Reflecting on the words of one of our Safety staff personnel who was recently confronted with an aggressive driver while on the way to work, he believes... "Road Rage and Our Nation's Highways Don't Mix!"*

**- Ed.**



Without your articles, this is what your safety magazine would look like. ***Write one today!***