

THE COMBAT EDGE

November 1998



The Combat Edge Magazine

The Combat Edge

Air Combat Command's
 Mishap Prevention
 Magazine

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About the Cover:

The delta-wing B-58 Hustler was the first USAF supersonic bomber put into production. The B-58 made its initial flight on 11 November 1956 — over 4 decades ago — at Fort Worth, Texas. Distinctive features included a sophisticated inertial guidance navigation and bombing system, slender "wasp-waist" fuselage, and extensive use of heat-resistant honeycomb sandwich skin panels in the wings and fuselage for lower weight and greater strength. Crew members included a pilot, navigator-bombardier, and defensive systems operator. The USAF ordered 86 Hustlers which were operational in the Strategic Air Command between 1960 and 1970. Being the first bomber capable of exceeding Mach 2, the B-58 Hustler set 19 world speed and altitude records and won five different aviation trophies — more than any other combat airplane.

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Accent on Safety

It was one of the best safety briefings I can recall. The young officer had clearly done his homework; he spoke briefly with conviction and a confidence borne of knowing his subject well. Simple and straightforward, he presented a well thought out hazard identification, assessment of risk, potential control measures, and a definitive course of action. And the amazing thing was that this was years before we ever began to speak about Operational Risk Management! Let me tell you more...

It was clear the briefer had spent time defining the hazard. In a focused manner, he was able to address just that hazard and not become bogged down in trying to solve too many problems all at once. He avoided distracting side issues and stated the hazard in a succinct, factual manner that was neither judgmental nor emotional. This allowed him to then clearly assess the risk by factoring both the severity of the hazard and the likelihood of its occurrence. In doing this, he'd even taken the time to gather together some historical data and the results of some scientific research. This gave credibility to both his hazard identification and the need for risk control measures.

In his risk control discussion, he did his best to provide options that were practical and could be implemented at the audience's level. Each control was analyzed in relation to its benefit in minimizing the risk and in its cost — whether time, effort, or money. Moreover, in presenting his recommended plan of action, he recognized the potential for change and even included essential risk controls should the original action plan be set aside.

I tell you, it was a thing of beauty that could easily stand as a perfect example of our current Six-Step ORM Process. And because of that briefing, I know that ORM is something each and every one of us can do. It didn't take a lot of fancy training, nor had he spent an especially great deal of time or effort in preparing the analysis. In fact, I imagine this fellow had never even seriously thought about the subject before. But charged with presenting a pre-holiday safety briefing to his squadron mates, he chose a topic that carried a valid message that still did not forsake his sense of humor. You see, the briefing was about the dangers of eating leftover turkey.

Yes, that's right. In all honesty, this is a potentially deadly hazard that causes sickness far more often than you might imagine. (Note: Check out some good tips on page 19.) You see, quite often the turkey is left sitting out long after the holiday meal is finished; and bacteria rapidly begins to grow. Even though later refrigerated, the bacteria has already taken hold; and the unsuspecting "leftovers" consumer soon develops a horrible bellyache. The best answer is to avoid eating leftovers. However, most of us won't; so we at least need to control the risk. Don't dawdle after supper; get the carcass cleaned off and the leftovers in the fridge. If you suspect it's been left out too long, it probably has; and you'll be better off not keeping those leftovers around.

Make ORM a personal way of life, and have a great Thanksgiving!

*Colonel Turk Marshall
Chief of Safety*

Making it All Come Together

*Captain Mark Kowal
1 AMDS/SGPT
Langley AFB VA*

“**T**he first step to a successful search and recovery is to convince your wingman to eject.” This nugget of wisdom was provided by the flight leader in an F-15 mishap where his wingman was forced to bail out over rough seas, 60 miles out over the Atlantic. At that point and beyond, proper coordination, communication, training, and experience became key factors in the rescue effort... ensuring that everything, including people, procedures, and equipment would “all come together” to bring about the pilot’s safe recovery.

The mission profile was an offensive basic fighter maneuver (BFM) training sortie for the wingman, a new addition to the squadron. Pulling down in pursuit of lead from a 9,000-foot offensive perch setup, his jet went into a spin thereby descending out of control toward the cloud deck below at 7,000 feet. He recalls the moment very clearly. “I began trying to make recoveries during descent, but I didn’t have too much altitude to work with. After that failed, I was in the clouds.”

Unable to recover the aircraft upon reaching 6,000 feet — the minimum uncontrolled ejection for the F-15 aircraft — he knew what had to be done next. “As I began reaching for the handles, my flight lead was telling me to ‘Bail Out!’ Just saying those two, short, simple words out loud to me at that particular moment of time was the best thing that ever happened because it more or less erased any problem I had with pulling the handles right then and there.”

Ejection and descent in the para-

chute went normally; but with 40-knot winds and seas at 15 to 20 feet, he hit “pretty hard.” His helmet, which stayed on through the ejection, was knocked off upon impact with the water. Not wearing an anti-exposure suit (because of a previous erroneous weather forecast), he suddenly found himself in a sea state that was now out of limits. The water temperature was 61 degrees.

The flight leader lost sight of him once he entered the cloud deck; but he heard the beacon go off and gave coordinates to the local control agency to get the search and rescue forces inbound. The flight lead said, “Once I got the search and rescue forces coming out, I figured he had time to parachute down to the wa-

ter, so I set up below the cloud deck.”

The parachute disconnected automatically upon contact with the water, and the wingman pulled the raft over and climbed in. He looked for the radio in the main seat kit, but eventually found it in the hit-and-run kit that’s attached to the seat kit straps. He contacted flight lead (who by this time was below the clouds) trying to get a visual fix on the downed wingman’s location.

“My flight lead couldn’t get a ‘tally-ho’ of me in the water — blue water, blue raft, and no sunshine at all — so I dropped the sea dye marker to help him out.” However, at this time, the flight leader developed another concern. “I wasn’t going to be able to stay out there all that much

Pictured below is a simulated search and rescue operation for an F-15 pilot. The proficiency and knowledge of every crew member is critical to “making it all come together.”



DoD Photo by: SSgt Lance Cheung, 1st Combat Camera SQ

longer because of my fuel state... but the Navy heard on the guard frequency that we had an ejection. So they launched a couple of F-14 Tomcats out, really for the sole purpose of helping us out. They checked in and relieved me for the search and rescue CAP. They did a real good job.”

The Coast Guard also scrambled a UH-60 Black Hawk helicopter off a frigate about 25 miles away. At the same time, the Navy launched a rescue helicopter along with the F-14s to help with the search and recovery. Approaching bingo fuel, flight lead got the F-14s vectored in for a visual fix. He then departed the area leaving the F-14s to coordinate with the downed pilot in the water and the incoming UH-60.

Roughed up by the sea, the wingman was keeping busy. “I got tossed out of the raft once or twice from the waves. Every time I tried to empty out the raft, another wave crashed in and filled it up. So eventually, I just gave up on that. I tried to stay as warm as I could covering up with the spray shield.”

Circling above, the F-14s had a hard time picking up the downed pilot’s transmissions on the PRC-90 radio. “My flight lead could hear me fine. The other rescue aircraft could not hear me, so they thought I was unconscious.” There was also another problem with the radio. “Every time I would key the mike, it would shock me. Throughout that whole time, I turned off the radio for awhile just to save the life of the battery. But it ended up being a no-factor deal because they couldn’t hear me anyway.”

A little later, a C-130 Hercules was sent in to fly by and drop a smoke flare on the wingman’s position; but the high wind and waves rendered it virtually invisible. The F-14s maintained visual contact with the surviving pilot and vectored the UH-60 into his position. About 58 minutes after the ejection, the UH-60 arrived on the scene. At 1500 feet out, they establish visual contact. Hovering 40

feet above the waves, they lowered in a rescue diver with a basket, thinking the survivor was unconscious. Despite the rough conditions, both the survivor and the rescue diver were pulled up into the helo within 5 minutes. One hour later, they were safely returned to solid ground.

With several agencies involved, many factors needed to come together to ensure a successful outcome in this mishap — including coordination and communication, experience, and training. The flight leader said, “We had the coordinating agency, we had the Coast Guard, we

With several agencies involved, many factors needed to come together to ensure a successful outcome in this mishap — including coordination and communication, experience, and training.

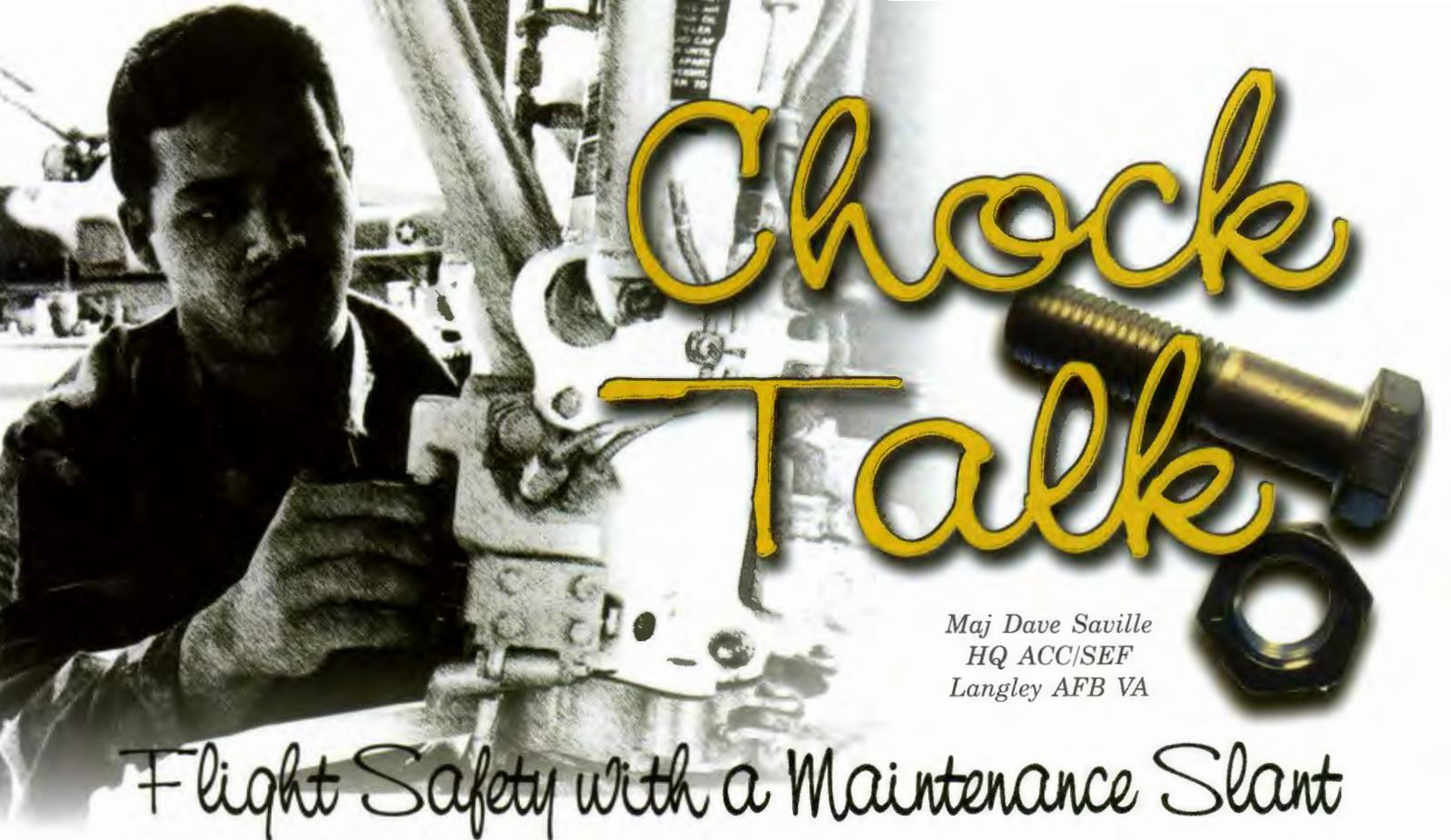
had the Navy, and the Air Force all out there with real good cooperation going on.” Furthermore, with so many rescue forces at work, clear communication also became a key factor. According to the wingman, “The radios got a little busy; and the F-14 eventually said, “Everybody on this frequency who is not a survivor or me, get off!” At that point, everybody shut up; and it went fine from that point on. Other than that, it was very well coordinated and very timely.”

The flight leader credits experience as being another big factor that

led to their successful search and recovery operation. “The guys who were involved were competent. As a matter of fact, the F-14 who relieved me had done a search and rescue effort not too much prior to that; so he had experience. I’ve also done it before, so I think that helps greatly when you have experienced people.” In addition, the flight leader gives the Coast Guard team a lot of credit. “The recovery forces had a fairly sporty time getting him out of the water, but they were able to do so. Good job on them, and good job on the F-14s.”

For his part, the wingman believes that realistic training was essential to the success. “The whole thing seemed like one big training event ... it went exactly as training tells you it’s gonna go.” Do you think what he learned at water survival school helped him out? You bet it did!

In summary, proper coordination and communication in a military exercise are fundamental to the most basic level of command and control. These factors are key to accomplishing any operational task more efficiently. When there is no systematic interchange or division of subtasks between crew, flight members, or supporting agencies to accomplish a larger task (such as in this particular case — a search and rescue mission), the door is left wide open for an unsafe situation to develop. In addition, the technical and procedural knowledge acquired through formal training and experience should never be minimized. Knowledge of the capabilities and limitations of weapon systems — as well as the tactics used to employ them — in various environmental conditions are essential to safe and effective mission accomplishment. Therefore, these operational considerations are crucial for eliminating, reducing, and controlling risks associated with any military exercise. Properly applied, they serve as the basis for “*making it all come together.*” ■



Chock Talk

Maj Dave Saville
HQ ACC/SEF
Langley AFB VA

Flight Safety with a Maintenance Slant

“Aviation in itself is not inherently dangerous. But to an even greater degree than the sea, it is terribly unforgiving of any carelessness, incapacity, or neglect.”

-Source unknown

In typical USAF fashion, I am learning my new job... while having never met my predecessor. The other guys in the office have spun me up just fine, but nothing is quite as helpful as getting a little face-to-face turnover from the person you are replacing. I'm speaking of Maj "E.T." Moore (now retired). Like "E.T.," I am the lone aircraft maintenance officer in an office of flyers; so I was naturally drawn to one of his unique contributions to ACC flight safety: his monthly "Chock Talk" column in *The Combat Edge*.

In his first article (May 97), he explained that he was reintroducing an idea from the old *TAC Attack* magazine — the sharing of aircraft maintenance lessons learned in the flight safety arena. After reading through all of his monthly articles (see note below), I realized it was an extremely

worthwhile editorial and should be continued. So even though it has been missing since the Feb 98 issue, "Chock Talk" is now back!

Through this monthly column, I hope to continue with the same approach and purpose as "E.T." Moore. To briefly restate it, I hope to highlight maintenance lessons learned in the various safety mishap or "near miss" reports that funnel through our office (sanitized... of course) and supplement with an occasional "war story"

scratching their heads. The photo looks like it was taken around 1920. The quote caught my eye: "Aviation in itself is not inherently dangerous. But to an even greater degree than the sea, it is terribly unforgiving of any carelessness, incapacity, or neglect." That's the nature of the business we're in... terribly unforgiving of mistakes, or of half-effort, or of shortcuts.

I see the clear application of this quote to maintainers. While maintainers aren't exposed to the

hap. Yes, it is terribly unforgiving for maintainers — as well as operators.

But the good news is... since so many stick with it and continue to meet and exceed that standard, we have the most remarkable air force in this globe's history. That's why I love maintainers. They succeed in the risky, unforgiving aviation arena. They are very special people. And because these maintainers are so special, I would be thrilled if this column could somehow contribute



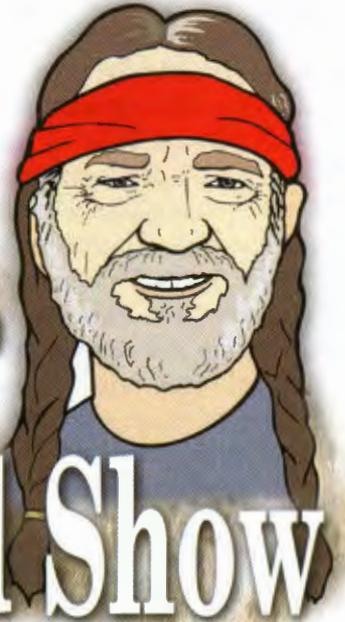
from time to time. Furthermore, I would love to get inputs from you folks in the field. I may be reached at DSN 574-8819 or e-mail address: david.saville@langley.af.mil. Please contribute; the column will be so much better with your concerns and stories included — after all, *The Combat Edge* is really "your magazine."

Having said all that, here's this month's "Chock Talk" subject: There's a quote with a picture hanging in my boss' office. It shows an old biplane crashed into a tree with a few guys below it,

same "Bail-out! Bail-out! Bail-out!" arena as aircrew, they are exposed to uncommonly dangerous forces on the flight line and in the shops. Also, there are very few career fields in the military so strictly governed by Technical Orders (T.O.). Failing to follow a step in a T.O. can bring a maintainer face-to-face with the UCMJ. Compare that in your mind with other career fields. There are dramatic examples in the past few years of maintainers facing court martial for failing to perform follow-on ops checks on the aircraft system that led to a Class A mis-

to more aviation safety from the maintainer's perspective. At its best, it could be a forum to increase the safety culture in your maintenance unit by focusing on issues that need to be voiced. After all, maintainers are worth it! Furthermore, by sharing your knowledge, you'll make a valuable contribution to those who need your information to do their jobs in a safer manner. It may sound trite, but your article might be the very key to saving someone from injury. It might even save a life. ■

*(Note: I realize the statement "after reading through all of his articles" begs the witty question, "Why didn't you read them when they were published?" Okay, I deserved that! Let me hide behind the weak excuse that I was a USAFE puke for the past couple of years and **The Combat Edge** was from a different MAJCOM... and, therefore, not readily available.)*



On the Road Again... With the ORM Road Show

Over the past 2 years, we've all been challenged with the task of introducing ORM into our unit's day-to-day operations. Since ORM is everyone's job, each of us has a responsibility to further the awareness of the benefits and principles of risk management at every level of our organization. As we continue pioneering the use of ORM tools throughout ACC to systematically make dramatic reductions in mishaps as well as improve operational effectiveness, we can all benefit from each other's efforts. This can be done by finding and adapting the best practices of other organizations to improve our own unit performance. The following article is a benchmark example for all of us to consider and gain some insight from lessons learned. Read on and see how The Mighty Eighth Air Force is tackling the job of promoting the understanding and implementation of ORM to their part of the ACC mission. The continued integration of risk management into all phases of our operations will take a focused effort on our part, but the results will definitely be worth it! - Ed.

Background. ACC units were introduced to Operational Risk Management (ORM) in August 1996 after a series of ACC/DoD-wide Class A flight mishaps. During that period, COMACC directed a safety stand-down day to assess the risk of daily flight operations and all associated direct support processes. At that time, very few organizations within the USAF were using a formalized ORM structure to perform risk assessment and decision making. As a result of the commander directed stand-down day, one issue surfaced immediately — ACC units needed to be educated in the basic principles of ORM. The lack of understanding regarding the principles of risk management at the unit level

planted the seeds for development of an Eighth Air Force ORM Road Show.

COMACC directed and funded ACC's Phase I training, which included an initial 5-day ORM training course (Jan - May 97) and the ACC ORM Computer Based Training (CBT) program. Although 300 personnel were trained with the 5-day course, it proved to be somewhat cumbersome and difficult to comprehend and apply. COMACC also directed 100% participation of ACC personnel in the CBT program NLT Jul 97.

ORM Tools and Application Course Revisited. HQ Air Force Safety Center (AFSC) retooled the 5-day ORM course into a leaner 4.5-

day Air Force-oriented ORM Tools and Application Course. This course focused on the 6-step ORM process as well as its practical application and implementation for Air Force issues. Although a quantum leap beyond the initial 5-day ORM course, AFSC could only provide ACC 40 training slots per fiscal year. As a result of COMACC's existing directive for ORM implementation and training, coupled with the limited availability of training slots, the only logical alternative for Eighth Air Force headquarters was to take ORM training directly to its active duty units. Thus, the Eighth Air Force ORM Road Show was born.

The Concept. The concept of the ORM Road Show is two-fold. Our

first aim is to train a significant number of Eighth Air Force personnel with the same information from the ORM Tools and Application Course offered at AFSC. Second, we believe it is necessary to expose the unit's senior leadership to the principles of ORM through the AFSC ORM Executive Briefing. Through this exposure, our desire is to impart a basic understanding of ORM principles and give insight into the information being presented to their personnel during the ORM Tools and Application Course.

The Goal. The primary goal of the ORM Road Show is to train no less than 450 personnel from Eighth Air Force units (i.e., 50 personnel per unit) in only 6 months. The secondary goal is to provide cost-efficient training for all active duty units, with the only unit expense being the reproduction costs of the course materials — approximately \$1,000 for every 50 personnel. Currently, AFSC offers the ORM Tools and Application Course in a Road Show format through a civilian contract at a cost of approximately \$10,000 for 25 students.

Lagniappe — Cajun for “something given or by way of good measure.” In addition to offering commanders the opportunity to have the AFSC primary ORM courses taught to their personnel at their home station by Eighth Air Force personnel, the ORM Road Show also offers a “little something extra” not offered through AFSC or the civilian contract. The ORM Road Show incorporates locally wing-identified hazards and processes into the exercise and application section of the ORM Tools and Application Course. This allows students to analyze local real-world hazards and processes as a backdrop for the course. Likewise, some instructors of the AFSC contracted training are now incorporating this

practice into their Road Show Application Course as well.

This concept provides the students and the wing with a vested interest in the practical application section of the course. By the end of the course, each hazard and process will have been “risk assessed” by no less than three separate “focus groups” comprised of class personnel. The class is rounded out with the unit's senior leadership receiving a formal outbrief from the ORM Road Show team. This outbrief includes a consolidation of the class's recommended risk control measures for the unit's identified hazards and processes.

Much of the information presented to the unit leadership provides an excellent starting point for follow-on action to control or mitigate the identified hazards. Many of the wings take advantage of the opportunity to perform “initial” risk assessments. Several of the hazards and processes assessed during the course include: (1) wing-level options to reduce OPSTEMPO for wing personnel, (2) hazards associated with outdoor operations in harsh (i.e., extreme hot and cold) temperatures, high winds, etc., (3) mission degradation resulting from record manning shortages as well as high numbers of inexperienced personnel, and (4) continued flight operations during segmented runway repair times.

ORM — Our Perspective. As we sat through the initial classes on ORM, we immediately realized that the lack of Air Force ORM examples would make it difficult to legitimately present ORM to our Eighth Air Force counterparts. We felt it was important to use our collective experiences in operations and maintenance to develop valid examples of how ORM is used everyday throughout the Air Force. Our previous experiences and duties from the Khobar Towers bombing, RED

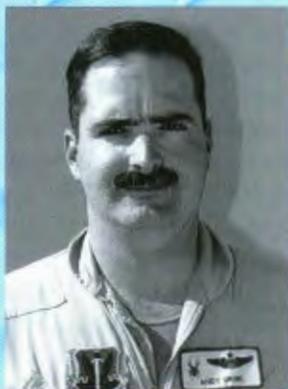
FLAG operations, and Operations SOUTHERN WATCH and PROVIDE COMFORT gave us numerous examples of ORM use.

Our premise is that ORM is not a new concept — many people currently understand and use ORM concepts as their normal way of doing business. However, not everyone possesses a systemic approach to risk assessment or risk management. Statistically, approximately half of all mishaps are caused by human error, which often result from a lack of proper or adequate risk assessment. We believe ORM can provide a template, which can be used in all aspects of daily operations to maximize mission accomplishment. Additionally, ORM can be a very effective tool to help manage the ever-changing elements of the Air Force.

“You can take a horse to water, but you can't make it drink...”

The Road Show merely brings the AFSC ORM courses to Eighth Air Force personnel. We are not in the business of forcing implementation. Our Air Force culture is familiar with change and can readily adapt to the tenets of ORM. Unfortunately, many people believe ORM is just another “feel good paperwork” program that leadership thought up and will eventually go away. We have heard it all, from “I've always done it that way — and I don't need to change,” to “Our OPSTEMPO is too high to take the time to learn this stuff!” Rest assured, ORM is not solely an Air Force concept; it's DoD-wide, and it's here to stay. We sincerely believe ORM works and will be an extremely important tool and mindset in our Air Force of the future. The ORM Road Show is Eighth Air Force's first step down the ORM-implementation road, and we are committed to making it work. We trust you are, too! ■

Monthly Awards



PILOT SAFETY AWARD OF DISTINCTION

*Capt Andy Uribe
421 FS, 388 FW
Hill AFB UT*

On the afternoon of 8 Jun 98, Capt Uribe was leading a 4-ship of F-16s on an Operational Southern Watch (OSW) combat interdiction sortie. He was also the package commander. While pre-strike refueling with Boiler 32, a KC-135, he was informed by the boom operator that they were having a problem and would have to disconnect. He disconnected, moved to the wing of the tanker and directed the rest of his 4-ship to "stand by." Capt Uribe queried the tanker on the radio and was told they had a fire and was directed by Boiler 32 to move his aircraft one-half mile away from the tanker. After doing this, Capt Uribe tried to ascertain the status of the fire, but the radio transmission from the tanker was unreadable. It was at this moment that the Command Reporting Element (CRE) attempted to contact the tanker on UHF Guard frequency, which Capt Uribe was monitoring. The CRE said that the tanker was squawking an emergency code. Capt Uribe coordinated for another flight to assume command of the OSW package and execute it as fraggged. He also tried to coordinate for fuel for his other flight members, who were at this time getting low. CRE advised that there were no tankers with additional fuel. Realizing that two of the members of his 4-ship did not have the fuel to return to their home field, Capt Uribe arranged for them to divert to a suitable alternate field in Kuwait. It was also at this time that he directed his wingman to return to base. He then told the CRE that he would be escorting the tanker. The crew of the KC-135 rocked its wings signaling Capt Uribe that they needed him to rejoin to a closer position. When rejoined, the tanker crew passed a signal indicating that they could neither receive nor transmit on their radios. It was at this time that Capt Uribe noticed the tanker was dumping fuel. The tanker turned in the direction of Prince Sultan Air Base (PSAB). Capt Uribe instructed his #2 man to expedite his recovery to land in front of the emergency tanker and to also relay to the Supervisor of Flying what he and the tanker crew were doing. For the rest of the flight to PSAB, Capt Uribe coordinated with the applicable Air Traffic Control (ATC) agencies keeping them informed as to their intentions. This enabled ATC to clear traffic out of the way and inform PSAB fire/rescue crews to prepare for what appeared to be an in-flight fire on the KC-135. Capt Uribe relayed visually to the tanker crew which runway the field was active at PSAB. On a 10-mile base, Capt Uribe obtained clearance for the tanker crew to land, which he then passed to them visually. He chased them until landing and then went around. The KC-135 crew exited the runway and egressed the aircraft. Capt Uribe then landed his F-16.

AIRCREW SAFETY AWARD OF DISTINCTION

*Maj Charlie Woodrow, 2Lt Richard Dodge, Capt Todd Arvidson
SrA Jesus Rivera, A1C David Hargis, SrA Robert Young
A1C Steven Plotner, SrA Aaron Jennings, Maj James Maunsell
Capt Kenny Kniskern, 1Lt Adam Metcalf, SSgt Thomas Murray
SSgt Gary Kehoe, SSgt Demario Alcaez, Capt Chris Stoner
Sgt Don Turner, SrA Allan Shields, SrA David Duckworth
SrA Patrick Vanwormer, A1C Thomas Cotten, SrA Stephen Quinn
964 AACs, 552 ACW
Tinker AFB OK*

While flying an Operational Southern Watch sortie at 32,000 feet, CYCLOPS 01, an E-3B Sentry AWACS, aircraft 71-1407, experienced a loss of cabin pressure which brought the cabin altitude up to 18,000 feet. The Weapons Controller Team had a critical 10 plane High Value Airborne Asset package in Iraqi airspace and six additional aircraft on the Iraqi border relying on their threat warning and separation calls. The crew quickly got on oxygen and the Airborne Radar Technicians



(ART) ensured the same for the flying maintenance troop. The Flight Deck, in coordination with the ARTs, ensured that the aircraft structure was sound before starting a descent. The maintenance troop was assisted forward on a portable oxygen bottle in order to help the flight crew

isolate the cause. The Mission Crew Commander (MCC) advised ground agencies of the emergency while the Senior Director coordinated with the Package Commander inside Iraq. At the same time, under instruction from the Senior Director, the Weapons Team was coordinating the hand-off of the other aircraft to either ABSOLUTE (Ground Radar Unit) or ATC as applicable. The Flight Deck initially leveled off at 20,000 feet to preserve aircraft cooling required for E-3 systems that ensure the safety of themselves as well as aircraft under their control. The Communications Technician advised the MCC that his radio equipment cooling lights were illuminated indicating that they were overheating. The MCC restricted radio usage to minimum essential communications, then ordered the shutdown of all nonessential equipment. Throughout the emergency, the Surveillance Team continued to keep track of the busy air picture, as well as provide oxygen bottles. It took 40 minutes of flying toward Prince Sultan Air Base before Saudi ATC was able to pick up the crippled aircraft on its ground radar to maintain safe separation from other air traffic. The Flight Deck and Mission Crew coordinated the quick and efficient shutdown of mission systems while descending to 10,000 feet, where the crew was able to come off oxygen. The Flight Deck coordinated with E-3 Operations on the ground to have a flight surgeon meet the airplane upon arrival at Prince Sultan Air Base. During approach and landing at Prince Sultan Air Base, another in-flight emergency required the Flight Deck to increase pattern spacing by executing a 360 degree turn. This allowed an F-16 with oil pressure problems to land as soon as possible. The aircraft completed an uneventful landing and shutdown. The outstanding professionalism and effective execution of pro-active Crew Resource Management resulted in the safe recovery of the incident aircraft, an F-16, as well as the 16 aircraft under the E-3's control.



FLIGHT LINE SAFETY AWARD OF DISTINCTION

*Mr. Paul Hodgdon
20 FS, 49 FW
Holloman AFB NM*

On 22 May 98 while troubleshooting a malfunctioning J-79 engine on an F-4F, Mr. Hodgdon was carefully following the appropriate technical order to isolate the cause of the engine malfunction; but this did not yield any discrepancies. Rather than accepting a Could-Not-Duplicate (CND) situation, he instead continued to investigate deeper, using his considerable J-79 engine knowledge accumulated over a 30-year period. As a result, he discovered the existence of a foreign object inside the main fuel control unit which led to its malfunction. Had this condition gone undetected, an in-flight flameout would very likely have occurred due to the sensitivity of the metering system within the main fuel control unit. As a result of this incident, the technical order will be modified to expand the troubleshooting procedure and increase the likelihood of detecting this condition in the future. The tireless dedication Mr. Hodgdon displayed went above and beyond the normal call of duty and likely saved a valuable Air Force asset.

CREW CHIEF AWARD OF DISTINCTION

*SSgt Carson Smith
95 RS, 55 WG
Offutt AFB NE*

On the 15th of April 1998, SSgt Carson Smith, an RC-135 crew chief assigned to the 55th Wing, was awaiting the return of his RC-135 from an operational sortie. Prior to his jet landing, a KC-135 landed and was parked next to his location on the NSA Souda Bay ramp. The KC-135 shut down engines, both the crew entry chute and cargo door were opened, and the KC-135 crew chief disembarked. After a few minutes, the pilot apparently released his brakes, assuming his aircraft had been chocked, left his seat, and joined the others on board awaiting the arrival of air stairs by the open cargo door.

At this point, Sgt Smith noted the KC-135 rolling forward. The KC-135 crew chief began yelling up the crew entry chute for someone to set the brakes while he held onto the crew entry ladder in a vain attempt to stop the 130,000 lb aircraft from rolling. Recognizing that the aircraft would only gain momentum down the sloped ramp, Sgt Smith quickly grabbed one of the chocks at his parking stub and ran to the tanker. He was able to place the chock in front of the left main gear and brought the aircraft to a stop.

The ramp at Souda Bay NSA is quite steep where the KC-135 was parked. Several pieces of aircraft ground equipment (AGE) were sitting in front of the aircraft. If Sgt Smith had not reacted as quickly as he did, the aircraft would have gained momentum and struck at least one piece of AGE. Beyond the equipment lies a traffic lane which was busy at the time with drivers bringing additional equipment, air stairs, and crew/passenger vehicles to the tanker's parking location. Just beyond the traffic lane is an unprepared dirt surface where considerable damage might have been done to the aircraft had it continued onto it.

Sgt Smith's quick thinking and speed in reaction most definitely prevented damage to a KC-135 aircraft and at least one piece of aircraft ground equipment. It is quite probable injuries to those crewmembers/passengers still aboard, as well as to the ground personnel around the jet, would also have occurred. In the "chain of events" of an accident, the key is often for one individual to step in and break the sequence of events that leads to the mishap. Although not a part of this sequence of events, Sgt Smith's quick thinking, bravery, and decisive action prevented the mishap from occurring at the last possible instant. From witnesses at the scene, Sgt Smith prevented another ground mishap involving an aircraft from being recorded against the USAF's safety record.



GROUND SAFETY AWARD OF DISTINCTION

*MSgt Daniel W. Rohrbach
65 CES, 65 ABW
Lajes Field, Azores*

MSgt Rohrbach revised and standardized the 65th Civil Engineer Squadron's entire safety and lock-out/tag-out program. This accomplishment is amplified by the fact that 75% of the squadron's 450 personnel are local national Portuguese. Both programs have now been translated into Portuguese to include all safety bulletin boards, visual aids, and streamlined mishap reporting procedures. The revised program allows US and local national employees access to current safety related information. In addition, Sgt Rohrbach rewrote a 43-page Fall Protection Program to accurately reflect Lajes' unique "high wind" requirements. The new program has been in place for 10 months resulting in no mishaps due to falls.

Sgt Rohrbach performs on- and off-duty mishap trend analysis to clearly identify common hazardous situations. His actions identified mishaps caused by employees not utilizing personnel protective equipment (PPE) such as gloves, goggles, and inadequate fall protection equipment. He also minimized a severe problem with employee lacerations, reducing the average from seven per month to less than one! This feat was accomplished by personally ensuring all employees had adequate PPE and all necessary operating instructions were translated into Portuguese. He ensured success by coupling enforcement and periodic follow-up of the previously neglected PPE safety standards.

He identified over 150 employees requiring CPR training and scheduled classes and instructors. Everyone completed training in 35 days. He established quarterly shop safety meetings with 21 shop safety representatives to disseminate safety information from the wing, to discuss unit trend analysis, and to establish a forum for cross-feed within the unit.

He routinely visited all 10 industrial shops in Civil Engineering for compliance items on a quarterly basis and routinely checked job sites to correct noncompliance items on the spot. During the 1997 wing safety inspection, inspectors found only 21 write-ups compared to 110 from the previous year. Sgt Rohrbach's relentless efforts reduced the number of reportable mishaps from eight in FY 96 to four in FY 97 with only 23 lost work days (only one mishap was job related). This is quite an accomplishment considering he is the unit safety representative for a 450-member industrialized organization.

Sgt Rohrbach's unparalleled achievements helped the 65 ABW reduce ground mishaps by 50%, resulting in an award of the 1997 National Safety Council Award of Honor for Outstanding Ground Safety Performance.

What Can Be Said



DoD Photo by PH1 Stephen Batiz

Finally, a good deal! After enduring the fear of numerous familiarization flights (FAMs), bombing and air combat maneuvering (ACM) hops with fresh from training command Category I (CAT I) pilots, I was finally scheduled to fly with an experienced CAT II department head. Although there was a lot to do on this particular flight, I was much more comfortable being with a pilot who had logged over 1,000 hours instead of the usual student experience level of 50 to 80 hours. But in spite of my new found satisfaction, I was quickly reminded

once again that being “comfortable” was something to be leery of.

Following a thorough brief and uneventful preflight, we taxied our F-14 flight to the hold short. As usual, the tower pattern was clobbered, so we were anxious to get our clearance as quickly as possible and go. We were cleared to cross 32 Left and hold short of 32 Right. After several minutes and a few holes I thought we could have squeezed into, the tower cleared us for takeoff on runway 32 Right. The ground control approach (GCA) traffic at 3 miles was cleared for 32 Left.

I looked out to my right and saw the approach light of another F-14 Tomcat on GCA final. “No factor,” I said to myself. I thought for sure they had been cleared for the left runway.” As we were turning to line up with the runway centerline on the 32 Right, I took one last look over my shoulder at the GCA traffic and was shocked by what I saw. I wondered if my eyes were deceiving me. Was that GCA traffic really lined up on our runway? For clarification I asked, “Tower, confirm the Tomcat on final is for the left.” Tower replied that the traffic was cleared for the left runway. While

! About Comfort?

I felt a little better, something told me to keep watching him anyway. By this time, we were in position on the runway awaiting release. I was doing my patented R2D2 impression looking completely behind my jet at the rapidly approaching Tomcat. Things were happening fast now. Fortunately, I wasn't the only one concerned.

... we were in position on the runway awaiting release. I was doing my patented R2D2 impression looking completely behind my jet at the rapidly approaching Tomcat.

way, rapidly approaching the "in close" position. I asked tower again ... much more frantically now ... "Tower, confirm the GCA traffic is for the left!" But realizing that there was not time to wait for the tower's response, I keyed my mic and screamed, "WAVE OFF! WAVE OFF!" Of course, everyone knows that GCA traffic isn't controlled on the tower frequency. So the Tomcat continued its approach preparing to touch down on centerline, with a centered ball. The problem was, the

crew had still failed to notice that 120,000 pounds of Tomcat was sitting on the touch down point.

My mind was racing ... "Do I tell the pilot to put our jet in the grass? Do I tell him to taxi forward? Will he know what I mean even if I do say something?" I suppose it didn't really matter, the time for action had run out. Suddenly ... and with a roar ... the nose of the approaching Tomcat rotated upward, and the jet began to climb. I guess the inbound pilot was as frightened as I was since he wasted no time tapping his afterburners. I watched in horror as the jet passed some 20 feet above my head. "Boy, that was close!!!" Amazingly ... as quickly as it had started ... it was over; and in no time at all, we were en route to the working area.

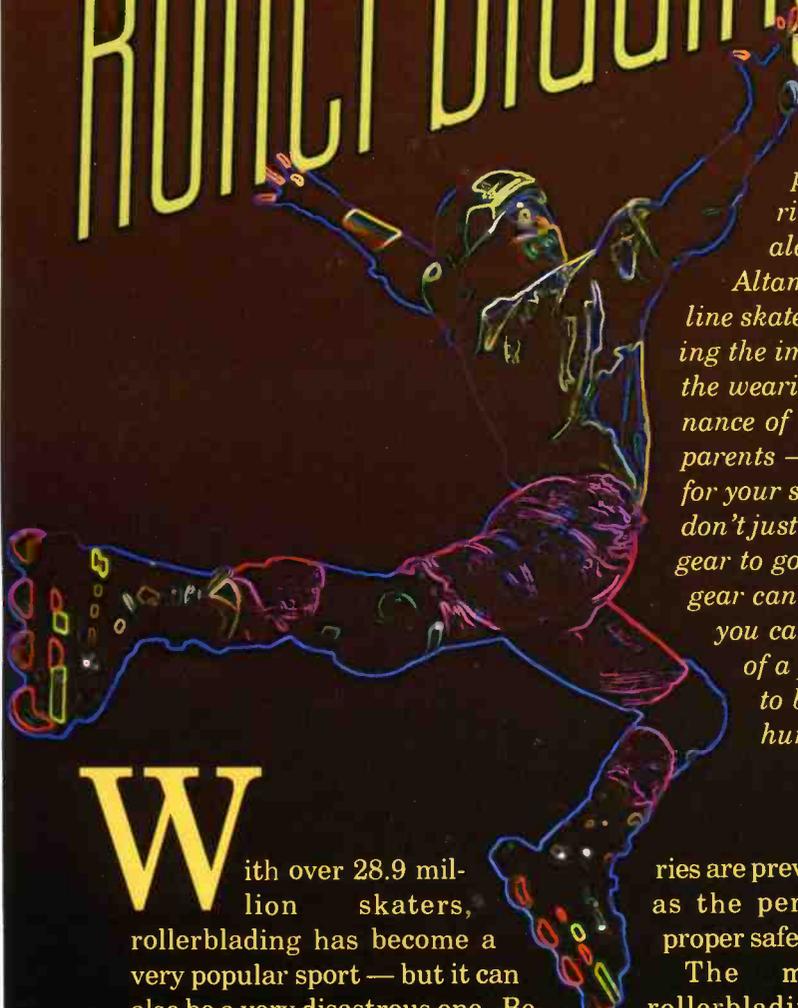
After an otherwise uneventful flight, we took some time to debrief and discussed what had happened with the tower. There was confusion which ended with approach control giving the Tomcat clearance to land on the wrong runway. Tower could only concur, and, like us, couldn't determine that the approaching F-14 was lined up on the wrong runway until it had reached the "in close" position. I patted myself on the back for recognizing the impending problem, but I also slammed myself for not taking action more quickly. Any of us in the flight could have suggested that we not take the runway if there was un-

certainty about there being enough time to execute a proper takeoff. Moreover, when the problem became apparent, I should have been more assertive by giving direct instructions to the flight. Looking back now at the incident, I should have said something like: "GUNFIGHTERS, TAXI INTO THE GRASS NOW!!!"

And what about Guard ... or Air Force common, if you prefer? [Editor's Note: I think it's really "Navy" common.] Tower claimed to have made several calls on Guard. Interestingly enough, neither my flight or the Tomcat heard anything. Is it possible that everyone flying in the immediate area that day may have deselected Guard because an Emergency Location Transmitter (ELT) was jamming the frequency? How many times have any of us done that? How many times do we remember to reselect Guard when the comm jam ends?

This incident reinforces the old adage that I first heard years ago in flight school, "Everyone is out to kill you." I can honestly say that I now think about that tried and true piece of aviation wisdom very often. I also think about the guy who seemingly pops up out of nowhere while I'm at the top of my pop looking for the target, rolling into the groove, or joining on the tanker. So what can be said about comfort? Well ... let's just say, "Save comfort for the club." ■

Rollerblading Safety



Rollerblading has become an all-year-round sport for many sports enthusiasts. If you are into this and plan to keep on rollin' this winter at an indoor skating rink up North, at a beach park in California, or simply along a quiet residential street in the southern U.S., Matt Altamura's article is a must read for you. A dedicated in-line skater, Matt writes from first-hand experience... emphasizing the importance of reducing risk of personal injury through the wearing of appropriate safety gear and the proper maintenance of the rollerblades. And by the way... here's a note for parents — if you're planning to purchase a set of rollerblades for your son or daughter (or even yourself) as a Christmas gift, don't just buy the in-line skates themselves... get the proper safety gear to go along with them. I'm aware that purchasing safety gear can double the price, but it's one of those purchases that you cannot afford to ignore. Speaking from the perspective of a person who has already been there, the "wrong time" to buy safety gear is "after" you — or your child — get hurt. Keep on rollin'... safely that is.

- Ed.

With over 28.9 million skaters, rollerblading has become a very popular sport — but it can also be a very disastrous one. Being an aggressive 15-year-old rollerblader, I know how painful the sport can be if you don't follow the necessary safety precautions. Unfortunately, more than 100,000 people were hospitalized in 1996 alone due to rollerblading without proper safety equipment. Taking these numbers into consideration, there is a high probability that one in 25 rollerbladers will be injured sometime each year. However, almost half of all rollerblading inju-

ries are preventable... as long as the person wears the proper safety equipment.

The most common rollerblading injuries are lower arm and wrist fractures (40%) followed by face and head injuries. Once again, the data proves that most people that get hurt while rollerblading do so as a result of not wearing the proper safety equipment. Protective gear includes items such as wrist guards, elbow pads, knee pads, and safety helmets.

The common excuse that kids use for not wearing the appropriate safety gear is, "But Mom, pro-

TECTIVE equipment isn't cool!" I have personally used this excuse many times in the past. But keep this in mind — even the best professional rollerbladers wear safety equipment. You can bombard kids with all of the facts about safety equipment you want; but if it's not cool, most won't wear it for fear of being considered an outcast — yes, this does actually happen! Because of this, some companies have created "cooler" looking equipment for kids and even some that can be worn under baggy jeans. See parents... those super baggy jeans aren't just sloppy — they're even a little safe!

Another excuse for not wearing rollerblading safety equipment is that the protective gear is not flexible enough. In some cases, this may be true. For example, when you are trying extreme gymnastics on your rollerblades, you need as much flexibility as possible. However, the risk of injury associated with not wearing the proper safety equipment is much greater than the risk incurred by skating with the restraints imposed by the protective gear on your body. And by the way, the next generation of wrist, elbow, and knee guard technology is currently being developed in conjunction with bio-medical professionals to not only optimize comfort, but mobility as well. This new safety gear technology provides rock-solid protection through hinged designs and shock dampening systems, and some equipment with these features is already available for consumers.

The final problem is not wearing a safety helmet. Getting a kid to wear a helmet is not easy, but it is the most important piece of protective equipment to put on. Interestingly enough, several manufacturers now have helmets that are made "specifically" for rollerblading. These new helmets are designed to cover more of your head than a regular bicycle helmet does, and they are "semi-cool!" I look at it this way... it's better to live with a "so-so" reputation than to die having a "cool" one.

Here are a few common sense rollerblading safety rules that I have picked up over the years that most people would not even think of... that is, until it was too late:

- Watch an instructional video — or take lessons if possible —

before starting your adventure into rollerblading.

- Initially, practice the basic skills — like braking and balancing — on a smooth area away from vehicular and pedestrian traffic. Most accidents happen with novice skaters, so practice carefully and don't push it.

- Avoid hills until you have MASTERED the basics — even little hills can build up some serious speed.

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- Never rollerblade if it is wet out or going to rain. Rubber wheels and wet pavement simply do not mix. When the pavement is wet, many oils are released and there is a higher potential for you to end up totally out of control. In fact, 67% of all rollerblading incidents involve people who had lost control while skating.

- After every use, always check

your wheels and bearings for cracks or other problems. Let me tell you, there's no worse feeling than having half of your wheel break off underneath you as you come down for a landing... and simply because you failed to notice that the wheel or bearing was cracked.

- Make sure your brakes are also intact. Nearly half of all rollerblading incidents are with people who could not stop.

- When rollerblading for long distances, make sure you have high-heat resistance bearings. If you don't, sometimes the heat in the bearings can get so high that they'll melt together thereby causing your wheels to lock-up.

- Over 22% of all rollerblading injuries occur on the street, so stay alert and avoid other vehicular traffic.

- Over one-third of all skating injuries occur with intermediate skaters — which proves that no matter how good you are, you still need the proper safety equipment.

In summary, don't push yourself too hard or too fast. Rollerblading gymnastics take time and practice to master, and falling down is part of learning. I know that rollerblading is "cool"... but you can't enjoy it from a hospital bed. So when you want to get rollin', do it safely by using the proper in-line protective gear and properly maintained equipment. See ya on the skids...

- About the Author -

Matthew Altamura is a high school sophomore at Rome Free Academy in Rome, New York, and worked as a Summer Youth Volunteer at the 1st Fighter Wing Safety Office at Langley AFB. Thanks, Matt, for sharing your insight and experiences with us. ■

Humpty Dumb-T SAT ON A WALL



Humpty Dumpty sat on a wall,
Humpty Dumpty had a great fall.
All the King's horses and all the King's men,
Couldn't put Humpty Dumpty back together again.

Today's equivalent of the famous, clumsy nursery rhyme egg is the intrepid — but perilous — summer weekend “bonehead” who runs about taking reckless risks with his safety and the safety of those around him. Let's call him Humpty Dumb-T.

Dumb-T is a well-meaning and generally good fellow, but he just doesn't think. He doesn't think about the risks and he doesn't think about the consequences. What he does think about is, “Hey, that happens to the other guy, not me.” He's wrong, and could even be “dead” wrong! Life is dangerous and there are no guarantees, but there is no benefit to being stupid about it. There are many ways to cut down on the risks we are faced with everyday. Here are a few simple risk control measures that every Air Force member should implement in their life on a routine basis.

Seat Belts- When you're driving, wear a seat belt. Dumb-T thinks it's just a short trip to the market, so why bother. However, statistics show that most accidents happen within 5 miles of home; and, no... it doesn't

help to refer to your “home of record” just to avoid accidents.

Bicycle Helmets- Bicycle riding requires a helmet; that's the rule. If simply following the rules doesn't agree with you or if you ride in an area where it isn't the rule, wear one anyway. Those few pounds of gray matter, protected by a precariously thin shield of calcium, are worth far more than it will cost you in comfort.

Yardwork Safety- When doing yardwork, wear the proper clothing and safety equipment. Open-toed sandals just aren't good protection for those little piggies against a lawn mower blade moving at few thousand revolutions per minute. Also, rocks, twigs, and miscellanea coming at near-light speed off those blades or the spinning twine of a weed-eater usually win against unprotected shins and eyeballs (Ouch!).

Buddy System- Whether you're swimming, hiking, or anything else for that matter, use the buddy system. It's not smart to go swimming alone; always have someone else with you. When it comes to hiking, there are many a story out there where a hiker stepped out on his own — all

by his lonesome — and got into big trouble. Just remember this, hikers nearly always encounter the most trouble when they're separated and alone from others.

Don't Drink & Drive- Finally, everyone should know by now that alcohol doesn't mix well with anything requiring coordination. Drinking and driving — as well as drinking and boating — usually equals poor judgment and can only lead to trouble. Get a hold of this — according to the U.S. Department of Transportation National Highway Traffic Safety Administration, “alcohol-related crashes account for over 40% of total traffic fatalities.” So... if you drink alcohol while out at an activity, assign a designated driver to get you — as well as anyone else — home safely.

Safety is simple, and safety is smart. It's not complicated. Look at it this way. An extra moment or two of time and thought could save all the hospitals' nurses and all the hospitals' doctors from having to put Humpty Dumb-T back together again. ■

Safe Holiday Cooking

SrA AnnaBelle White
1 AMDS/SGPM
Langley AFB VA

With the holidays quickly approaching, cooking and baking are soon to reach their peak of the year. With this increase in kitchen activities comes a need to observe some basic precautions. Raw meats such as beef, pork, and poultry have natural bacteria that thrive on improper handling and preparation. Here are a few safety tips for cooking that could help ensure your Holiday Season remains an enjoyable one. Remember, the best way to deal with food poisoning is to prevent it!

- Thaw frozen raw meat in a refrigerator that maintains a temperature of 41° Fahrenheit (F) or below and **not on a counter top**. Plan on at least 24 hours of thaw time per 5 pounds of meat.
- Thoroughly wash your hands, utensils, and work surfaces with hot, soapy water **before and after** handling raw meat to prevent cross-contamination.
- With poultry, wash both the inside and outside with cold water before cooking.
- If you are stuffing a turkey, do so **just prior** to cooking.
- To ensure your meat is thoroughly cooked, insert a meat thermometer into the thickest part of the meat. Beef, ham, and pork should reach 165° F for at least a minute. The proper temperature for turkey and other poultry is 180° F, and the internal stuffing must reach 165° F.
- Do not allow meat to sit out in temperatures between 41° F and 140° F for longer than 2 hours; these are ideal temperatures for bacteria (such as salmonella) to grow and cause food poisoning.
- When saving leftovers for snacking or quick meals, store them promptly and properly. Store all items (such as stuffing, gravy, ham, and turkey) separately. It is recommended that you separate the meat from the bone and divide it into smaller portions for rapid cooling. If any items have been left at room temperature for longer than 2 hours, discard them.
- Discard meats that have been refrigerated for over 72 hours.



What Does Q-D Separation and the Effects of Overpressure Mean?

*MSgt Greg Akin
436th Training Squadron
Dyess AFB TX*

Quantity Distance (Q-D) separation is a frequently misunderstood term used by the weapons safety community. A key element of Q-D is the ability to determine the airblast overpressure at any distance from a given quantity of explosives.

Facilities can be evaluated to determine the degree of damage that overpressure will cause. For example, conventional buildings are designed to withstand



DoD photo by A1C Greg L. Davis

100 mph winds or 30 pounds per square foot snow load on the roof. Each of these effects equate to about 0.2 pounds per square inch (psi). Design factors and building materials may increase the blast load a structure can withstand somewhat; however, as described in AFM 91-201, Explosive Safety Standard, serious damage begins to occur at about 1 psi. Glass breaks at less than 0.5 psi, and the threshold for eardrum rupture occurs at about 3.4 psi. Explosive safety regulations specify minimum Q-D from various types of exposures. In effect, these distances define the location of a given level of airblast overpressure protection.

It is immediately apparent to weapons safety personnel that — should an explosion occur — unstrengthened structures can still be seriously damaged at the minimum distances we usually site them from explosives. More importantly, people inside these buildings can still be seriously injured and incapacitated by debris as a result of the blast reacting on the structure. To prevent this scenario, the Air Force has spent a lot of time and money designing safety into its weapons. So, what is the probability that an accidental explosion will occur?

Fortunately, the chances of an accidental explosion are small in peacetime, about one in a million. Unfortunately, Air Force bases are not designed only for peacetime missions. Q-D becomes particularly important when an enemy is trying to cause an accident involving explosives. This lesson has been demonstrated time and time again. In addition to Bien Hoa Air Base in Vietnam and several incidents we had in Southeast Asia,

the Soviets have had a number of similar incidents in their past. In all these cases, unwise siting practices turned what would otherwise have been a relatively minor annoyance into a major, mission-stopping catastrophe. We need to be extremely careful to avoid falling into a similar complacency trap. With the trend of storing more munitions on base, it becomes particularly tempting to cut corners here and there. Therefore, we should always keep in mind the need to do all we can to minimize damage to our personnel and facilities in the event that the base munitions storage area ever has a major catastrophe.

The explosive safety criteria dictated by Department of Defense and United States Air Force standards reflect minimum acceptable separation distances. These directives are a direct result of safety explosive tests and lessons learned from serious accidents and incidents involving explosives throughout history. Compliance with these minimum standards does not completely guarantee people, equipment, and facilities are safe from the affects of explosions. The potential for significant damage, loss of life, and loss of mission capability still exists even if the minimum standards are met. There will always be some risk factor involved no matter what is done.

Policy makers, mission planners, and unit level personnel must coordinate with weapons safety personnel about potential mission changes, facility use changes, or initial construction projects early in the process to avoid violations of these standards. In each case, installation layout, facilities, and/or available

real estate must provide the required explosives Q-D between work areas, recreational areas, and potential explosive sites. Weapons safety personnel involvement and analysis from the outset will identify potential explosive violations and provide commanders an in-depth risk assessment. Commanders will then have a better understanding of risks and consequences associated with explosive safety violations and be better equipped to render prudent decisions affecting their resources and personnel.

One tool used by the Weapons Safety Office is site planning for all explosive locations. Explosive site planing is the process of comprehensive analysis of existing and future mission requirements needed to construct, modify, or change the functional use of any facility or area where explosives or explosive clear zones are involved. Effective explosive site planning requires the application of explosive safety criteria and incorporates operational, social, economic, programming, environmental, and legal criteria to meet stated goals, objectives, and policies for the base and United States Air Force.

If we apply appropriate Q-D separation criteria, we may still have losses in the event of an explosive mishap; but it shouldn't put us out of business entirely. We need all of our available resources to perform our duties. The proper application of Q-D criteria and knowledge of the effects of overpressure will help make dramatic reductions in the damage resulting from an explosive mishap; and it is a key factor toward preservation of our most important resource — our people. ■

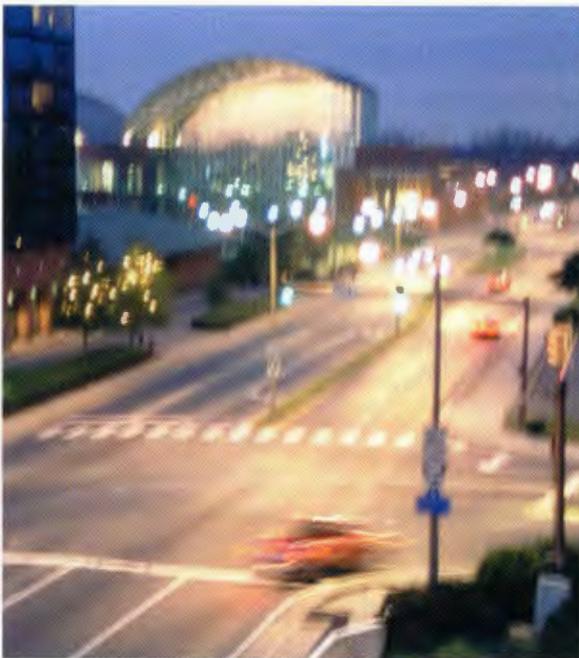
Driving Dangers:

Handling Hazardous Situations Behind the Wheel

Courtesy of Shell Oil Company

If your light is green, make sure other drivers (at or near the intersection) aren't trying to beat the yellow or red.

The leading cause of death among Americans between the ages of 1 and 24 is motor vehicle crashes. And over 75% of the time, the factors contributing to crashes are related to driver error. Advice on coping with sudden driving dangers is provided here. Learn from it, and pass on that learning to someone else.



Q. It seems like more people are running red lights today. How can I protect myself from them?

A. By *never* assuming a green light means all okay. There's little consolation in knowing an accident isn't your fault just because you had the right of way. Your car is still damaged, and someone may be hurt. Even though you were in the right, perhaps you could have actually avoided the collision simply by looking before you leap.

If your light is green, make sure other drivers (at or near the intersection) aren't trying to beat the yellow or red. If you're at an intersection without a light, look left, right, and *left again* before moving out.

Q. Blowouts are scary. Should I just slam on the brakes?

A. No. If you slam on the brakes, you could lose control completely. If a front tire blows, the car will pull hard to the side of the blowout. The steering wheel will also vibrate like crazy. Hang on tight with your hands at the 9 o'clock and 3 o'clock positions on the steering wheel. Take your foot off the gas, and concentrate on staying in your lane. Then slow down gradually, and pull off the road to a safe location. If a rear tire blows, the back of the car will weave back and forth and vibrate. But you should handle it the same way.

Q. How do I get out of a skid?

A. A lot of people hit the brakes hard when their car starts to skid. That generally makes things worse. Just take your foot off the gas, and turn your steering wheel in the direction you want the front of the car to go. This helps straighten out the car and often regains traction. Frequently, it takes more than one turn of the steering wheel to correct a skid.

Q. If my car goes into deep water, what's the best way out?

A. While this doesn't happen often, it happens enough that you should know what to do. If you go in water, release your safety belt immediately. (But don't release it before you go in. The safety belt will help protect you during impact with the water.) Then the best thing to do is to try to get out quickly through the window, because power windows can short-circuit in the water. If you can't get out through the window, try the door. At first, the water pressure will probably hold it closed. But don't panic. As the water rises, it will equalize the pressure; and the door should open.

Q. What if my brakes just go out. What then?

A. You must think and act quickly. Remember this word sequence: pump pedal, parking brake, shift down, safe place.

1. Pump the brake pedal ... unless you have an Antilock Braking System (ABS). Never pump the brake pedal on ABS brakes. Sometimes the pressure comes back.

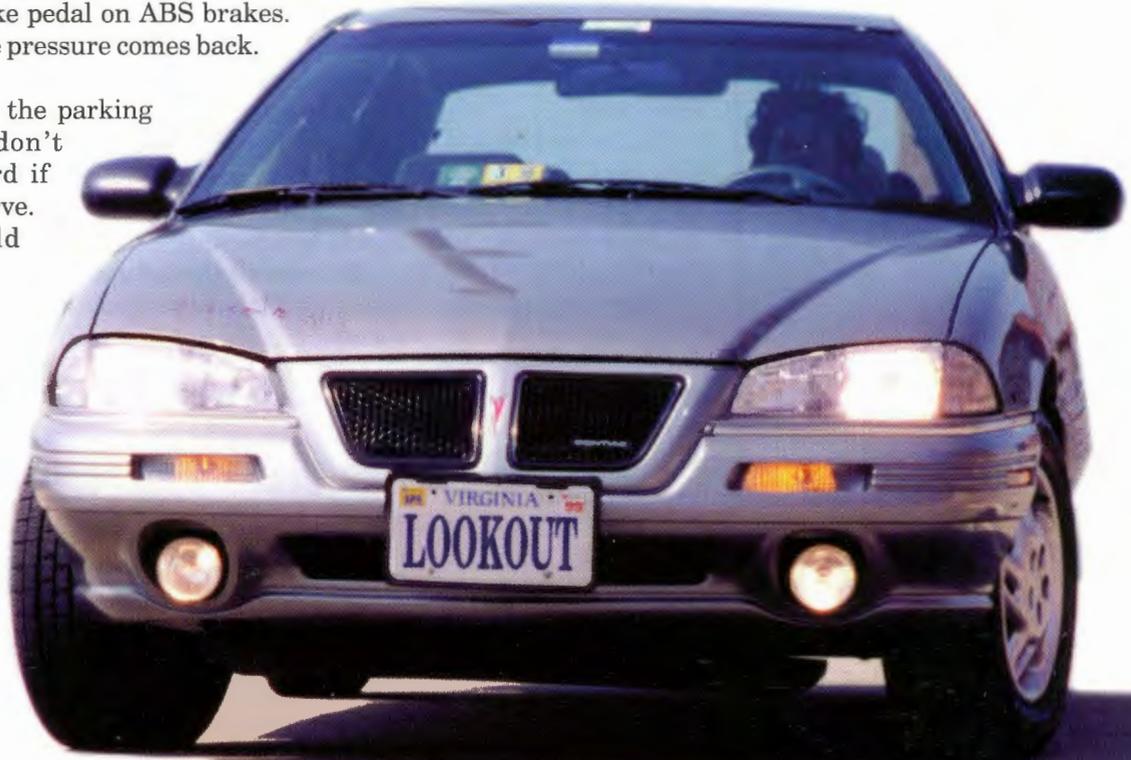
2. Slowly try the parking brake. But don't jam it on hard if you're in a curve. That could cause a spin.

3. Shift into a lower gear (or lower range on automatic transmissions). The drag on the engine will help slow you down. Do all three of these as quickly and steadily as you can, and keep your eyes on the road.

4. Look for a safe place to guide your vehicle onto the shoulder of the road or some other safe location. In an emergency, the quicker you think and act, the safer you'll be.

Q. What about Antilock Braking Systems?

A. ABS is basically a conventional braking system that is helped by computer technology. Sensors in each wheel let the computer know if all the wheels are turning at the same speed. The computer reads the data and, if needed, activates a solenoid valve so more or less force can be applied to help the car stop more evenly. If each wheel is not stopping with equal force, often a car can go into a spin ... or the driver can lose control. Under normal conditions, the antilock system will not be activated. However, should the braking force exceed the available adhesion between the tires and the road surface, the system will automatically activate. This will be recognizable by a rapid pulsation felt through the brake pedal. You should not pump the brake pedal at any time on an Antilock Braking System. Pumping could interrupt operation and actually increase stopping distance.

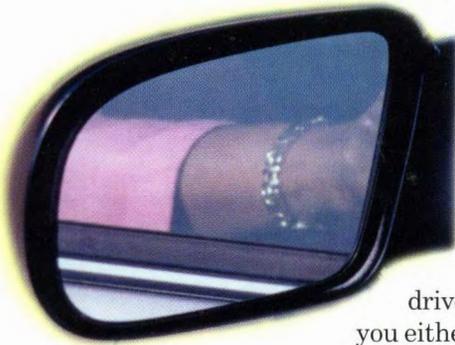


Q. Cars seem to pull over in front of me for no reason. Can I do anything about that?

A. Virtually, all cars have "blind spots," spots where it's difficult to see cars close behind them to the left or right. To tell if you're driving in someone's blind spot, just glance at his rearview mirror. If you can't see his face, assume he can't see you. Move forward or fall back so he can see you. There

are probably blind spots in your car, too. That's why it's always safer to quickly turn to visually check for other vehicles traveling in lanes next to yours before you pull over.

Another place to check to see if you're in someone's blind spot is to check their outside mirror. If you can't see the driver's face, chances are he can't see you either.



Q. What if the accelerator sticks?

A. Try pulling it up with the toe of your shoe. If a passenger is with you, have him reach down and pull it up. You should not take your eyes off the road to reach down yourself. If your car has a manual transmission, press down on the clutch. The engine will continue to race, but you can then pull safely off the road. If it's an automatic transmission, put it in neutral. It's not a good idea to turn off the key. With the ignition key in the off position, some cars will lose power steering or even lock the steering wheel.

10 Ways To Avoid Road Rage

Here are some suggestions from AAA on how to avoid road rage.

1. Be courteous behind the wheel.
2. Don't honk your horn excessively.
3. Don't block the passing lane.
4. Don't switch lanes without signaling first.
5. Don't take up more than one parking spot.
6. Don't let your door hit the car parked next to you.
7. Don't tailgate.
8. Avoid unnecessary use of high beam headlights.
9. Don't inflict your loud music on nearby cars.
10. Allow plenty of time for every trip.

Q. I saw a hood fly open on a car on the freeway. What then?

A. The driver needs to stop; but if he slams on his brakes, he could be hit from behind. In some cars, from behind the wheel you can actually see ahead by peeking through the opening between the dashboard and the hood. If not, then lean out of the window to see what's ahead of you. In either case, you need to slow down smoothly and pull off the road.

Q. Suppose another car's coming right at me ... what should I do?

A. Right is often the right way. Try to escape to the right, if possible. Almost anything is better than a head-on collision. But if you move to the left, the oncoming driver might correct at the last minute and turn back in the direction you've just gone. While you're moving to the right, blow your horn. And if you can't avoid a collision, brake firmly and steadily. Every mile per hour you slow down will reduce the impact.

Road Rage Is Real

Anger and driving don't mix. Behind the wheel is no place for aggression. But more and more people are letting their emotions get the best of them. One report states that during the first 6 years of this decade, over 10,000 incidents of road rage were reported. People were zig-zagging in and out of traffic, cutting each other off, and tailgating for long distances. All of these can lead to collisions, disputes, and even death. Impatience is one of the prime causes of road rage. It leads to risk-taking, which can lead to discourteous driving, which can lead to disputes. Being more patient behind the wheel will go a long way toward keeping you out of the way of road rage.

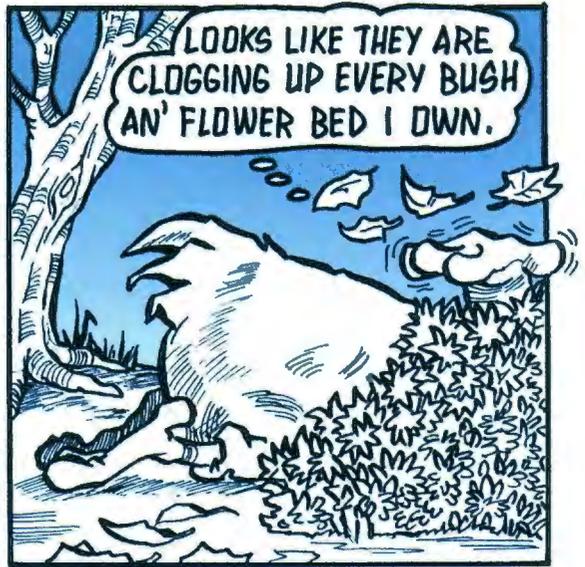
It's impossible to cover all the dangerous situations you can find yourself in when you're driving a car. We've tried to cover many of the ones where a level-headed, quick-reacting, defensive driver can do things to avoid collisions and respond safely. By the way, a lot of dangerous situations can be avoided by simply being more alert.

Here's an additional tip. Anytime you see or hear a motorcyclist near you, be especially cautious. Motorcyclists are difficult to see because they're smaller than most vehicles. Statistics show that motorcyclists are about 16 times as likely as automobile occupants to die in a traffic crash.

We hope all the information here is useful to you. And if it is, please pass it along to other drivers who can also use it. ■

Editorial Comment

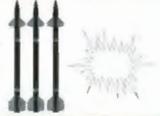
This has been written in cooperation with the National Safety Council. It contains general recommendations that we believe will be helpful in many emergencies. Since every emergency is different, the individual driver must decide what to do in any particular case. If you would like copies of this or other driving safety booklets, write to Shell Oil Company, P.O. Box 4681, Houston TX 77201, or call 1-800-376-0200.



Weapons Safety Stats

ACC Losses for FY 98

(1 Oct 97 - 30 Sep 98)

Number of Weapons Mishaps / Dollar Losses			
	Class A	Class B	Class C
8 AF	None	None	\$132K 
9 AF*	None	None	\$347K 
12 AF	None	None	None
AWFC	\$2.75M 	\$1.35M 	\$141K 
TOTAL	1 / \$2.75M	4 / \$1.35M	10 / \$620K

Weapons Facilities - None
Nuclear Facilities - None

* Includes all Class C mishaps in CENTAF AOR
 ** Cost of most recent mishap(s) not yet available

 = Missile Mishap
 = Explosive Mishap

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

Are Contact Lenses Safe?

Most people who wear contact lenses achieve great success and enjoy the benefits of wearing the lenses without serious complications. But... contact lens wearers must also use common sense to minimize the risks associated with lens wear. They must provide proper daily care to maintain clean and comfortable lenses. Also, daily wear is safer than wearing lenses overnight.

Contact lenses rest on top of the layer of tears that coat the eye surface. The lenses cover the cornea — the transparent “window” of the eye. The cornea requires oxygen to function well and to contribute to clear eyesight. When contact lenses are worn, the cornea must get oxygen from the layer of tears between the lens and the cornea. Some oxygen passes through the contact lens material. With properly fitting and clean lenses, the tear layer and fresh oxygen are replaced with each blink of the eyelids. If contact lenses are worn overnight, the cornea may not be supplied with enough oxygen.

Problems occur when the cornea receives an insufficient supply of oxygen. Causes of this include tight-fitting lenses, dry lenses, and dirty lenses. Cells of the cornea become damaged due to this oxygen shortage and bacteria then get a “jump start” and cause progressive problems. Though eye infections are not limited to contact lens wearers, they often have a higher concentration of bacteria in the tear layer than people who do not wear lenses. In some infections, an eye can be lost in as little as 24-36 hours due to the aggressiveness of the bacteria.

Contact lenses serve an important function — permitting clear and comfortable vision without the need for glasses. Successful results depend on: (1) proper DAILY cleaning and disinfecting, (2) minimizing the wearing time each day — overnight wear is riskier, (3) regular lens replacement, and (4) regularly scheduled eye examinations. ■



Ask Orville!

Col Ronald L. Garhart, HQ ACC/SEO, Langley AFB VA

The question of the month, "Is ACC leadership serious about Operational Risk Management (ORM)?", did not arrive through the mail; but it was asked numerous times by my friends and acquaintances. Here's how the subject typically came up. Following some ORM training or a briefing, folks (quite often past squadron mates of mine) would say something along the lines of:

"Hey Orville, pssst... over here! I heard what you said, and I got the message — why I even believe most of it could work, but... be straight up with me here Orv. Is this just another case of 'leadership program of the year' or does the boss actually believe in this stuff? From my point of view, in these high ops tempo times it is important that I have my unit steer clear of 'window dressing' initiatives and focus our efforts on areas that are going to yield high pay back over the long haul. My folks don't have time to get all spun up on some flash-in-the-pan management concept that is here today — gone tomorrow. So what gives Orv? And, oh yeah, you will of course have the professional courtesy not to mention this conversation to anyone, right?"

Relax squadron mates, I'm a reporter of sorts now; and as such, I cannot divulge my sources. If the truth be known, I have been asked this question in one form or another by so many people that I would have a major brain cramp just trying to recall all the names. But one thing is for certain — the question raises a legitimate concern and, therefore, deserves and needs to be addressed. So here it goes.

To begin, we need to state an axiom (a self-evident truth) regarding leaders and the ORM initiative. Air Combat Command people across the board understand that leaders are often required by their positions to express supportive opinions about many issues; and to be brutally honest, some of those sub-



jects they couldn't care less about. But to understand what is really important, our people closely monitor patterns of behavior to see what the leader **does**, not simply what he or she **says**.

Let me tell you a personal story that demonstrates this axiom. When I was a younger pup in the squadron, I attended a Commander's Call in which the chosen topic was "following the rules." It seems that we had experienced a rash of recent errors and much buffoonery because certain members of the unit thought that the rules and guidelines were there for someone else and didn't apply to them. These self-anointed individuals were masters of the shortcut — bar none! Well, the commander put their practice to bed *tout de suite* and left little doubt in anyone's mind as to his unwavering stand on the rules applying to "everyone."

But as Paul Harvey would say... "Now for the rest of the story." Around our family dinner table that evening, my wife Marilyn said, "You won't believe what happened to us today." Seems that she and the kiddos had just finished placing their order at the McDonald's drive-thru. As she was pulling forward to pay, a car abruptly cut in front of her and raced to the window without placing an order. On further examination, she observed that the car was driven by none other than... my squadron commander with his family. After the inconsiderate delay, Marilyn finally made her way to the window and (being a naturally inquisitive soul) asked the attendant about what she had just witnessed. The employee apologized for the inconvenience; and then explained that once or twice a day, somebody would cut in front of a car placing its order. Then, when offered

the next order up (belonging to the person in the car they just cut off), they would refuse it, blaming McDonald's for messing up their order, and then place an order at the window — all this to save a few minutes. As the employee put it, "Some people just don't think that the rules apply to them."

Hmmm... very interesting! So the answer to your question really lies in the leadership commitment that you (the men and women of Air Combat Command) see being given to ORM. Let me start in my own backyard first. I can tell you unequivocally that the commitment to ORM at the commander level in ACC Headquarters is unshakable, in both word and deed. COMACC is steadfast in his belief and commitment to ORM as the tool

very serious about ORM!"

But how does it look from where you sit? Are your commanders simply expressing supportive opinions on ORM because of their position, or are they honestly living the commitment to risk management? Regardless of your answer, one thing is for certain; ORM is a leadership initiative, and as such, the command can ill afford many more examples like the fatal Class A motorcycle mishap in which the squadron commander was not wearing a helmet. And please don't get wrapped around the axle about whether the lack of a helmet was against State rules, or whether it would have saved this particular individual's life. The bottom line is that wearing a helmet should be common sense for all motorcycle riders

by now. The commander (at least in this instance) failed to show proper regard for the inherent and well known risks, failed to demonstrate common sense, and failed to live a leadership commitment to ORM.

In closing, allow me to make one more point. In this article, we tried to drive the point home that the commander's role will have a direct impact on the success or failure of ORM. But while that is certainly correct, the corollary is just as true and much more important — **ORM will have a direct impact on the success or failure of ACC commanders and the units they lead.** This is one obligation and responsibility that commanders (in particular) and leadership (in general) cannot afford to get wrong! ■

Keep those cards and letters flying in,

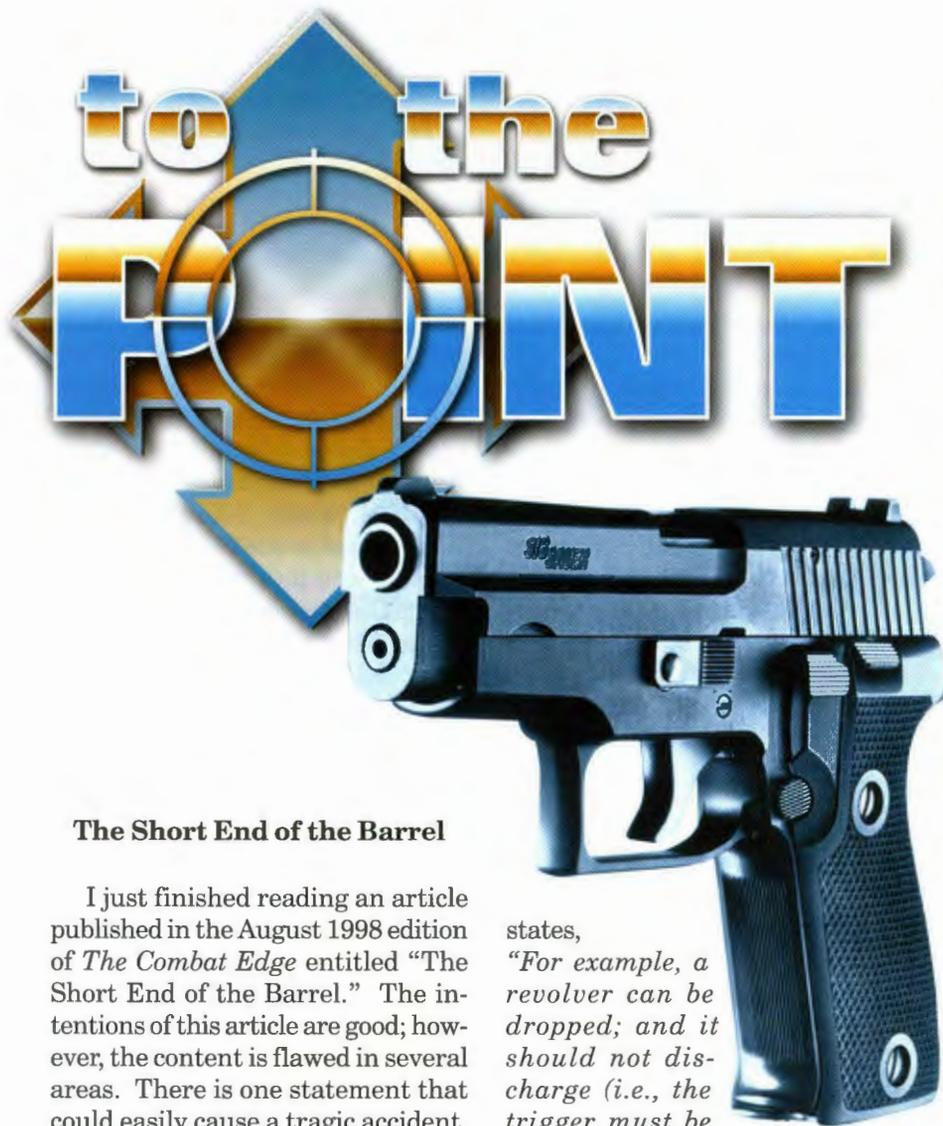
Orville R. Mudd
ORM Dogfight Veteran
ACC Office of Safety

If you have any questions or comments regarding ORM, send them to:

"Ask Orville!"
HQ ACC/SEO
175 Sweeney Blvd
Langley AFB VA 23665-2700

DSN 574-8800, Fax DSN 574-8975

that will permit us to maximize combat capability while keeping our personnel and resource losses to an absolute minimum. Gen Hawley is continuously encouraging subordinate commanders at all levels to embrace ORM in this effort. Believe me, when your NAF, Wing, Group, and Squadron leadership looks to ACC, they see unwavering Commander commitment to ORM. I invite you to review the exceptional COMACC risk management video that was sent to every ACC Wing Safety Office this past August, reconfirming Gen Hawley's ORM commitment to and his expectations of every member of the ACC team; it will be 6 minutes very well invested. So, from where I sit, the answer to your question is a resounding, "Yes, ACC leadership is



"To the Point" is your forum for commenting on the content of past and present magazines, or what you'd like to see in the future. We will periodically publish "To the Point" as the volume of correspondence dictates. Letters may be condensed to fit our available space. If we can't publish all of the letters, we'll use 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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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

The Short End of the Barrel

I just finished reading an article published in the August 1998 edition of *The Combat Edge* entitled "The Short End of the Barrel." The intentions of this article are good; however, the content is flawed in several areas. There is one statement that could easily cause a tragic accident, rather than prevent it. I'm referring to the statement, "If it must be loaded, then lock it up. Furthermore, it is always a good practice to use a trigger lock, especially if you have children in your home." You should never — under any circumstances — put a trigger lock on a loaded firearm, as this statement suggests. Gun manufacturers and even the manufacturers of trigger locks will tell you this. It is even printed on the package the trigger lock comes in and often on the lock itself. You should never do this because of the obvious reason that you do not want to fiddle around with the trigger of a loaded weapon.

Apart from the bad information above, the article also contains flawed, incomplete, and just plain untrue information. The article

states, "For example, a revolver can be dropped; and it should not discharge (i.e., the trigger must be pulled in order to fire it). On the other hand, if an automatic weapon is dropped, it can discharge and seriously injure any bystander. Automatic weapons can also be fired by just picking them up the wrong way." I do not know where this information came from or how it got past the editors and was published. First of all, the author mistakenly refers to semi-automatic firearms as being automatic. Though there are several automatic weapons owned by civilians who have special licensing, I do not think the article was referring to these weapons. Second of all, there is no inherent difference between revolvers and semi-automatic pistols that would cause one to discharge when dropped any less than the other. There are so many different configurations of these weapons

available that a blanket statement such as this is false. As a matter of fact, there was a very recent, well publicized, court case involving a single action revolver that was dropped. It was improperly loaded with a cartridge under the hammer, instead of the hammer resting on an empty chamber. The revolver discharged, terminally wounding the owner. The reference to an "automatic" discharging just by being picked up the wrong way is a statement that just does not make any sense. Yes, I suppose if you pick one up and squeeze the trigger at the same time, it would discharge; but I do not see that as being any different than any other weapon. The author goes on to reference "clips" when he should be using the proper term "magazines." A clip is used to load cartridges into a magazine (i.e., stripper clips used to load M16 magazines). Though the article was full of good information concerning the proper use and care of weapons, it

also contained flawed and just plain unsafe information that should not have been published. The National Rifle Association (NRA) has an almost endless amount of firearm safety information. I would suggest contacting them with any questions that might arise concerning future personal weapon safety articles. They also have an extensive web site full of useful information.

Sincerely,
David M. Selander, SSgt, USAF
USAFSAM/EAC
Brooks AFB TX

The Short End of the Barrel *[the saga continues]*

I noted the following inaccuracies/discrepancies in the referenced article:

1. "... a revolver can be dropped; and it should not discharge (i.e., the trigger must be pulled in order to fire it)."

2. "... if an automatic weapon is dropped, it can discharge and seriously injure any bystander."

ANY FIREARM CAN FIRE IF IT IS DROPPED!!!!!! Many older revolvers (especially old style single action revolvers) not equipped with a transfer bar safety should only be loaded with 5 rounds in the cylinder, with the hammer resting over the empty chamber specifically to prevent an accidental discharge should it be dropped. Sturm, Ruger and Co. has a retrofit program under which any old style single action revolver (pre-1973) manufactured by the company can be fitted with a transfer bar safety, which is designed to prevent such an accidental firing. Most newly manufactured handguns (revolver and pistol) feature a passive safety of some sort to prevent accidental

firing should the hammer receive a sharp blow such as from a fall. Even so, the best advice is definitely not to drop any firearm.

3. "Always make sure the gun is in the 'safety' position so that the trigger cannot be pulled inadvertently."

Many handguns manufactured today (most revolvers, and many pistols, i.e., Glock, Smith and Wesson, Sigma, etc.) do not have any "safety position" which would prevent an inadvertent firing if the trigger were pulled. If you pull the trigger, the gun is going to go off! Keep your finger off the trigger until you are ready to fire, and you will not inadvertently pull the trigger. Also, remember that any safety is just a mechanical device that is subject to failure. Don't ever point a firearm at anything you are not willing to destroy.

4. "Automatic weapons can also be fired by just picking them up the wrong way."

Semi-automatic weapons (the proper term, unless you're talking about fully automatic military weapons, "machine guns") are no different than any other firearm in that respect. If, when picking it up, you put your finger on the trigger and squeeze, the gun IS going to fire. That's why one of the major rules of firearms safety is to keep your finger off the trigger until the target is in your sights and you are ready to fire.

5. "If the weapon is an automatic, remove the clip..."

This message seems to be directed towards people new to firearms. If the person has no prior knowledge of firearms and picks up any firearms safety manual, the "clip" will be referred to as a "magazine."

The National Rifle Association

publishes the "10 Rules of Firearm Safety" which can be found at their web site <http://www.nra.org>.

Robert L. Hibbard, SSgt, USAF
3 OSS/OSAM
Elmendorf AFB AK

SSgt Selander and SSgt Hibbard,

*Thank you for your constructive comments relative to firearms safety. Your letters bring up some very salient points relative to the safe handling of guns, and we appreciate the sharing of your expertise with us. Also, to correct any misconceptions that you may have — whenever we print an article in **The Combat Edge**, we make every effort to ensure that the information provided is accurate. This is an obligation and responsibility that our entire Safety directorate takes very seriously. Considering your comments, I still believe that all in all the article, "The Short End of the Barrel," is generally sound and extremely cautionary in its approach. It was not intended to be totally inclusive of every conceivable safety rule, and I assure you that the content of the article was coordinated with personnel who know firearms. While we would like to have gone into more detail to explain every possibility relative to firearms safety, one has to remember that **The Combat Edge** is not **Guns & Ammo**. Due to the size restrictions of the magazine and our need to address flight, ground, and weapons safety issues, we are forced to cover most topics in general terms rather than in fine detail. Thanks again for the time and effort you have invested in helping us provide the best quality product possible. We value your inputs; and by working together, we can make ACC a safer and more effective place to live and work.*

-Ed.



There are thousands of safety related stories out there in
Air Combat Command and around the world.
Send them to me!

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