

THE COMBAT EDGE

MAY 1995





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FEATURES

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RANK HAS NO PRIVILEGES

*Maj Gen Phillip G. Killey
Commander, 1st Air Force
Tyndall AFB FL*

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WE HAVE A PROBLEM

After some Crew Resource Management, we decided to manually lower the left main and go from there. It was step four that we encountered the problem. The manual extension handle could only be rotated five-and-a-half turns clockwise and the stripes were still about 5 inches apart.

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THE COMBAT EDGE

**Air Combat Command
Safety Magazine**

GEN JOHN M. LOH
Commander

COL FACK ACKER
Chief of Safety

LT COL "NELLIE" BEARD
Editor

RON SMITH
Art Director

BARBARA TAYLOR
Awards Administrator

SGT MARK S. BAILEY
Staff Artist

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ACCent on Safety

At long last — summer is here! Time to throw off the winter doldrums; break out the swim suits, beach gear, boats, motorcycles, convertibles and GO FOR IT! But wait a minute, before we allow our unbridled exuberance to totally overpower our common sense, let's pause and ponder on the fact that the high risk months of summer are otherwise known as the "101 Critical Days." Why do you suppose that is? Historically, we have experienced a statistically significant increase in mishaps during the 101 days from Memorial Day weekend through Labor Day weekend. We use the "101 Critical Days of Summer" program to draw attention to the increased mishap potential and emphasize mishap prevention efforts by everyone.

The great summer weather and sun bring with them some special hazards. Severe sunburns and heat stress are special dangers to be ready for. Also, if you're thinking of hitting your favorite waterhole or beach this Memorial Day, have fun, but remember — the water temperature is likely to be a lot colder than your body is ready for. It's still very early in the season and old man sun hasn't finished his job of warming the water yet. Many people have drowned in early summer precisely from this reason — the shock of unexpectedly cold water. Also, not many of us are ready for heavy duty boating, swimming, or sports right after a long, cold winter. Again, if you haven't worked on your conditioning, don't try a triathlon on May 31st — wait until August or September when you're in better shape.

On the flying/ops side, be ready for the longer and obviously hotter days ahead. Heat stroke, dehydration, and over-exertion are common hazards both in the cockpit and on the flightline. To amplify these problems, the longer daylight hours allow longer flying windows — in other words, increased ops tempo and workload. If your physical conditioning isn't what it should be, don't push too hard. Pace yourself during the surges and deployments. Walk before you run, if you're not there yet.

Our ACC-wide Safety Day in May is specifically designed to cover these and many other topics addressing the shift to summertime operations. Take part — more importantly — contribute! If you have seen a particular area or operation on your base that contains excessive risk or poses a potential safety hazard, speak up so it can be corrected or eliminated. Safety Day is designed to allow each organization in ACC to stand down, think and talk about smart, safe operations and activities. I urge all of you to make the most of it. Your safety office is working hard to put it all together — please pitch in and give them a hand. Work hard, play hard - BE SAFE!

*Colonel Fack Acker
Chief of Safety*

Rank Has No Privileges

*Major General Phillip G. Killey
Commander, 1 AF
Tyndall AFB FL*



I'd like to share a recent personal experience which proves that **rank has no privileges** when it comes to mishaps. While returning with my wife in our POV from a combination TDY/leave, I encountered a severe storm system passing through the Florida panhandle. We were traveling on Interstate 10, which is four lanes divided by a grass median, blending in with traffic with the

cruise control set near the speed limit. The rain increased in intensity and showed no signs of letting up. I reduced my speed to 40-45 mph, which most of the other cars had also done, and was considering exiting the interstate to wait out the storm. Some cars continued to pass, utilizing their emergency flashers but at speeds that made me quite uncomfortable with the situation. As I gradually overtook a van, it began to hydroplane, causing the driver to lose control and collide with my car. I spun out of control, ran off the left edge of the road, went through the grass median and across the two on-coming lanes of traffic, finally stopping on the far shoulder of the road. I consider it a miracle we traveled across the opposing lanes without being struck by another vehicle.

Although the car sustained some damage from the initial contact with the van, we escaped without injury. The van ended up overturned in the median. Fortunately, there were no serious injuries to the occupants of the van either.

There are a couple of specific points concerning this mishap on which I should elaborate. First, after I had reduced my speed to what I felt was safe for the road conditions and visibility, I was still uncomfortable with the cars that were speeding past me with their emergency flashers on. The drivers were cognizant of the deteriorating conditions but not smart enough to slow down. Secondly, my gut feeling was that I should get off the road and wait for the rain to let up. Instead, I chose to slow down to the pace of traffic, continuing to press for home. I failed to recognize (or admit) that I had absolutely no control over the actions of the other drivers.

Throughout my career I've heard and, in many cases, given safety briefings concerning situational awareness. These are usually directed at our junior personnel since the statistics show that they're the ones who have accidents. This experience proved to me that **no one is immune from mishaps**. You can bet the farm that if I'm ever in a similar situation I'll go with my gut feeling and remove myself from the hazardous environment. Maybe I was displaying the old fighter pilot attitude that "It can never happen to me." Let me tell you something — **it can and it did!** ■

ACColades

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CONCERNING DATA ON THIS
PAGE SHOULD BE
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DSN: 574-7031

	TOTAL			ACC			ANG			AFR		
	MAR	THRU MAR		MAR	THRU MAR		MAR	THRU MAR		MAR	THRU MAR	
		FY95	FY94		FY95	FY94		FY95	FY94		FY95	FY94
CLASS A MISHAPS	1	5	10	1	4	6	0	1	4	0	0	0
AIRCREW FATALITIES	0	0	3	0	0	2	0	0	1	0	0	0
* IN THE ENVELOPE EJECTIONS	0	3/0	8/0	0	3/0	4/0	0	1/0	4/0	0	0	0
* OUT OF ENVELOPE EJECTIONS	0	0	0/1	0	0	0/1	0	0	0	0	0	0

* (SUCCESSFUL/UNSUCCESSFUL)

CLASS A MISHAP COMPARISON RATE

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

	FY 94	0	1.1	1.5	1.8	2.4	2.4	2.0	1.7	1.7	1.8	1.8	1.9
ACC	FY 95	2.1	1.1	0.7	0.6	0.9	1.6						
8 AF	FY 94	0	0	0	0	0	0	0	0	0	0	0	0
	FY 95	0	0	0	0	1.8	1.5						
9 AF	FY 94	0	0	0	2.1	3.3	4.0	3.2	2.8	2.2	2.1	1.9	1.6
	FY 95	0	0	0	0	0	1.2						
12 AF	FY 94	0	0	2.0	1.6	1.3	1.1	.9	.8	1.4	2.0	2.4	3.1
	FY 95	6.5	3.3	2.3	1.7	1.4	1.2						
DRU	FY 94	0	14.9	8.6	6.7	11.2	9.5	7.9	7.0	6.3	5.7	5.3	4.6
	FY 95	0	0	0	0	0	5.3						
ANG	FY 94	0	1.9	2.6	2.2	2.7	3.7	3.2	3.4	3.5	4.0	3.6	3.3
	FY 95	0	0	0	0	0.8	0.7						
AFR	FY 94	0	0	0	0	0	0	0	0	0	1.4	1.3	1.3
	FY 95	0	0	0	0	0	0						
TOTAL	FY 94	0	1.2	1.7	1.8	2.3	2.7	2.1	2.1	2.2	2.4	2.3	2.3
	FY 95	1.3	0.7	0.4	0.3	0.8	1.1						
MONTH	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	

* (HOURS NOT AVAILABLE)

PREVENTING PROPELLER STRIKE ACCIDENTS

Reprinted with permission from United States Coast Guard Boating Safety Circular 76, June 1994.

There are nearly 12 million registered boats in the United States, 95 percent of which are less than 26 feet in length. These same boats account for as many as 80 percent of the underwater impact injuries in which people in the water are struck by a boat or its propeller. The majority of these accidents are the result of operator error, making them one of the most preventable of all types of boating accidents. While boat or propeller strike accidents are relatively few in number, as compared to other types of boating accidents, some of them are severe and have tragic consequences...

Operator inexperience, incompetence, negligence and intoxication are significant contributing factors in reported boat and propeller strikes, as well as in all other types of boating accidents. In almost all cases, the victim is in the water — a swimmer, scuba diver, fallen water skier or the operator or a passenger.

Passengers moving about a boat, or who are improperly seated on the bow, a gunwale or a seatback, are ejected from the boat or fall overboard when boat operators are wake jumping, are in sharp turns, or are performing other maneuvers at speeds which

are dangerously fast for prevailing conditions. Some victims are ejected from boats by collisions with another boat or a submerged or fixed object. Ejections from a boat are also caused by sudden acceleration or deceleration. While some victims have been struck by the propeller when a boat was airborne, such as when one vessel collides with and passes over another, such incidents are rare.

Negligent or Grossly Negligent Operation of a Vessel which endangers lives and/or property is prohibited by law. The Coast Guard may impose a civil penalty for negligent operation; violations involving boating while intoxicated could result in criminal penalties. State and Federal marine law enforcement officers are trained to define negligent operation as failure to exercise that degree of care which a reasonable person under like circumstances would demonstrate in order to prevent the endangering of life, limb, or property of any person. Grossly negligent operation involves situations in which the boat operator knows a certain act can create an unreasonable risk of harm. Some examples of actions that may constitute negligent or grossly negligent boat operation are:

- *Operating a boat in a swimming area;*
- *Operating a boat while under the influence of alcohol or drugs;*



PELLAR & BOAT TS

- Excessive speed in the vicinity of other boats or in dangerous waters;
- Hazardous water skiing practices; or
- Bowriding or riding on the seatback, gunwale, or transom.

Most boat or propeller impact accidents can be prevented by boat operators who follow basic safe boating practices:

- Always maintain a proper lookout. The greatest single cause of accidents in which people in the water are struck by a boat or its propeller is operator inattention or carelessness.
- Make sure the engine is off so the propeller is not rotating when passengers are boarding or disembarking a boat.
- Never start a boat with the engine in gear.
- Slow down when approaching congested areas and anchorages. In congested areas, always be alert for swimmers and divers.
- Become familiar with the warning buoys signifying swimming areas and other hazardous areas.
- Keep the boat well clear of marked swimming and diving areas. Become familiar with the red and white or blue and white diagonally striped flags signaling that divers are down.
- Before getting underway, make sure passengers are properly seated. Some operators of larger boats with several passengers have started their boats and put the engine in gear while their friends were still swimming or diving from the boat.
- Never ride on a seatback, a gunwale, the transom, or on the bow.
- When someone falls overboard:

- Turn the bow of the boat toward the person in the water. For example, if a person falls overboard on the starboard (right) side, turn the boat to starboard so as to move the propeller away from the person in the water.

- Slow down.

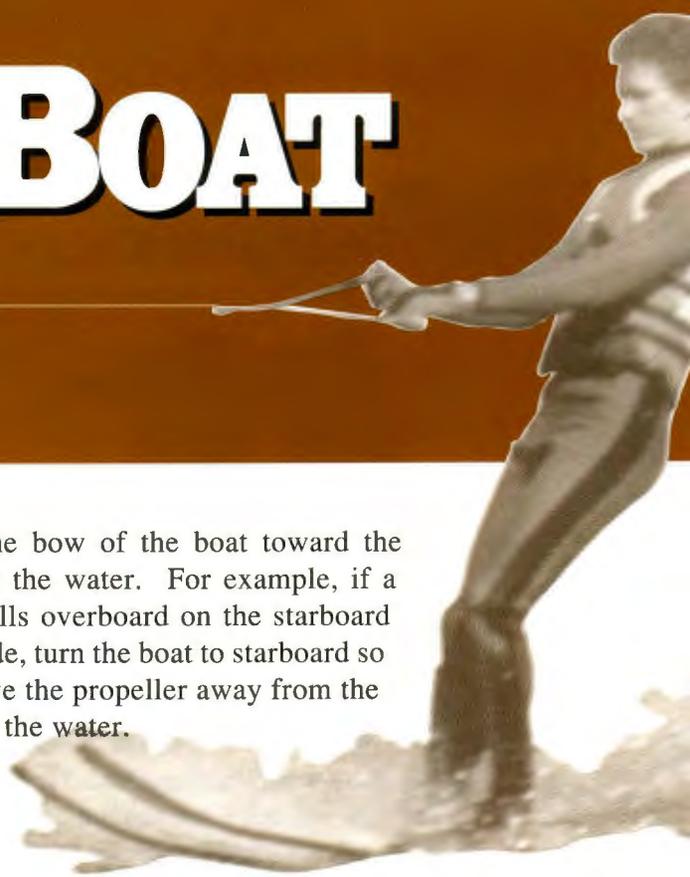
- Circle around, keeping the individual in sight.

- Take the engine out of gear or turn off the engine at least a boat length from the victim.

- Throw the individual a line or something which floats with a line attached to it and pull the person to the boat.

- When water skiing, designate a passenger who will keep the skier(s) in sight at all times. Communicate with a skier using standard water skiing hand signals.

The best approach to preventing boat and propeller strikes is to educate boaters, especially boat operators. They must learn their abilities and the limitations of their equipment. They must learn and understand the hazards their boats can cause to people in the water. Above all, they must understand the consequences of careless or negligent operation, and how they, as boat operators, can act to prevent accidents. ■





*TSgt William J. Lick
NATO AWACS
APO AE 09104*

How many times have you boarded an aircraft that had numerous easily identifiable faults? You curse under your breath and try to work the situation. You do the best you can under the circumstances. After a few of these occurrences, you start calling your aircraft “pigs,” or other not-so-pleasant names. You get disgusted because it seems your aircraft are always broken. Does this sound familiar? Well this doesn’t have to be the case.

It’s an easy temptation to leave the discrepancies we find for the next person (we don’t write-up the overhead lamp at our seat position). We don’t take the time to write-up the problem for whatever reason. Guess what; by not writing up a known fault, we have just become one of the causes of the problem mentioned in the first paragraph.

I know it is not a perfect world. But if we don’t document known faults in the aircraft forms package (781s), there is no way for the problem to be fixed.

Everyday we work in or around aircraft, we are constantly exposed to little things that are not quite right. It is the responsibility of both aircrew members and maintainers to write-up known discrepancies. This is further mandated by local command directives. “All discrepancies will be entered in the applicable section of the AFTO 781A...” is taken directly from one of these local directives.

So, when you have a problem, do you write the problem up or do you leave your problems for the next person who has to fly the aircraft? Take the time to put problems you’ve found into the aircraft document package. Telling the crew chief is nice, but people forget and shifts change. If the problem isn’t written up, there is no justifiable reason for maintenance personnel to work the aircraft. Write it up! ■



Fleagle

TINY, PEDO AND MACAW IS IN FER A TREAT TONIGHT.



THEY AIN'T NEVER HAD TH' PLEASURE OF FEASTING ON MY FOUR-STAR GUMBO.



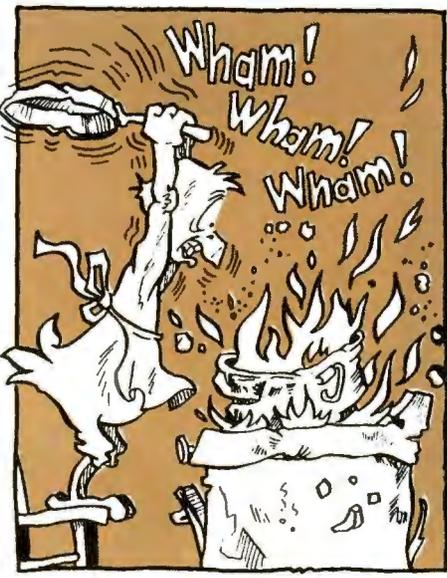
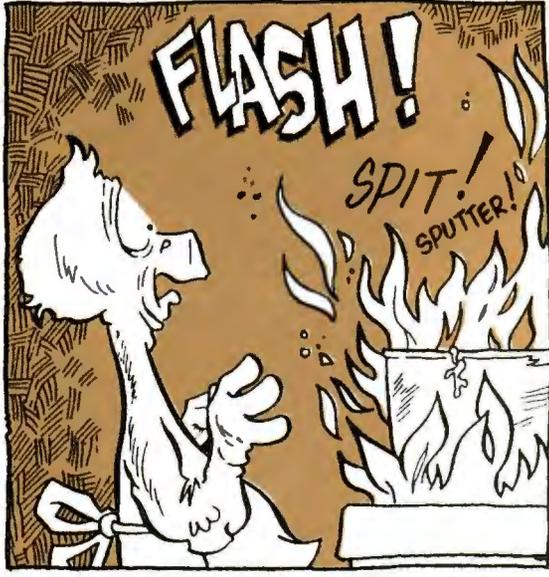
THERE, THAT SHOULD TAKE CARE OF ALL TH' FIXINGS.



LET ME SEE, DID I LEAVE ANYTHING OUT?



GUESS NOT. NOW I JUS' CRANK UP TH' FIRE AND LET HER RIP.



DO WE JUS' LEAVE OR HANG AROUND LIKE NOTHING AIN'T WRONG?



When STRESS Stacks Up

Has your company recently laid off employees or increased your work load?

Do you communicate with machines or computers more than you do with people?

Are you trying to balance responsibilities at work with "Best Parent of the Year"?

If you answered yes to any of these questions, you are probably under considerable stress. According to a 1990 study by Northwestern National Life of Minneapolis, stress in the workplace is on the rise as companies try to compete in a changing marketplace. The study reports that more than one-third of America's workers are struggling to balance work and family life. This can cause stress-related health problems, decreased productivity and higher employee turnover.

Identify sources and symptoms

Jim Francek, a consultant in West Port CT, who helps companies and their employees deal with change, agrees with this trend. "I've seen stress levels go up in every category of job," he says, adding that these four factors have contributed to increased stress:

- * *The traditional family unit is changing.*
- * *Increased technology has depersonalized the workplace and increased the pace.*
- * *Companies are downsizing, reorganizing, merging and demanding more from workers.*
- * *The workplace is no longer considered a place of safety or stability.*

Stress may show up in a variety of ways. Watch for these common symptoms: headaches; fatigue; increased consumption of alcohol, nicotine or caffeine; difficulty sleeping; withdrawal from

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Susan Meyers

others; moodiness or irritability; or feelings of hopelessness or being trapped in a job.

Companies help employees cope

The good news about stress in the workplace is that more companies are taking it seriously and offering programs to help their employees cope.

“Employers are realizing that the health of their business is directly related to the health of their employees,” says Jean Beyer of Omaha NE. She has been conducting stress-management seminars for companies over the last 15 years. “Employee-assistance programs used to be reactive, but now many are taking a more proactive approach to their worker’s health by identifying the causes of stress and taking action to reduce these.”

An accountant from a large midwestern manufacturing company that has undergone

downsizing and reorganization over the past several years, says as a result, there has been a noticeable drop in employee morale and increasing stress levels. In response, however, the organization has put several programs in place to help workers stay healthy and deal with stress. These include an employee fitness center, wellness programs, regular stress-management seminars and a hotline that

employees can call to get advice or counseling for anything from where to find good day care to how to handle an alcohol problem.

Learn how to help yourself

To help you cope with the daily stresses of work and home, stress-management consultants recommend the following:

- * *Take care of your physical needs. Try to exercise daily; get enough sleep; eat nutritionally and maintain your ideal weight.*
- * *Do an annual self-assessment. Is your life in balance with work, family and leisure activities? Are you allowing yourself time to do at least one thing you enjoy each day?*
- * *Set reasonable goals. You may trigger stress if you set expectations too high.*
- * *Learn time-management skills. Set priorities and clarify what is most important to you.*
- * *Identify major sources of stress. Decide what you can control and what you can’t control.*
- * *Determine whether or not your job meets your emotional needs. Do you feel valued?*
- * *Evaluate how much you are growing intellectually. You may consider attending more seminars, conferences or classes in your field to keep yourself sharp and abreast of changes.*
- * *Look at your working conditions. Do they allow you to be productive? Eliminate distractions; take breaks periodically if possible.*
- * *Identify conditions or situations that could be stressful in advance. Treat these as a challenge or opportunity.*
- * *Approach your work with a positive attitude. Avoid being negative or pessimistic.*
- * *Use relaxation skills and deep-breathing exercises to relieve tension.*
- * *Don’t be afraid to discuss problems with your boss, especially if it will increase your productivity or reduce stress.*

PILOT SAFETY AWARD OF DISTINCTION

*Maj Donald A. McGregor, Capt Stephen P. O'Bierne
169 FS, 182 FG, Greater Peoria Regional Airport, Peoria IL*



Maj McGregor was #2 and the actual IP for an IP recurrency BFM ride led by Capt O'Bierne. After a series of uneventful BFM perch set-ups, Maj McGregor called a "knock-it-off" for an engine problem, adding he had severe engine vibration and was climbing toward Peoria, squawking emergency. Passing through FL280, 55 miles from Peoria, he reported to Capt O'Bierne that his engine instruments appeared stable. Approximately 15 seconds later, thick smoke and flames began billowing from Maj McGregor's jet. Capt O'Bierne, sensing engine failure was imminent and realizing Peoria was

beyond gliding distance, immediately gave Maj McGregor a snap vector to Quincy Municipal Airport; an uncontrolled field 35 miles away with 7,200' of runway. Maj McGregor's oil pressure was now reading zero and the engine vibrations had become

more severe. In an effort to prevent the engine from seizing while maintaining usable thrust, he checked the throttle at 80% and left it there. While Capt O'Bierne coordinated with ATC, provided checklist assistance and cleared the pattern on Quincy's unicom frequency, Maj McGregor nursed his crippled F-16 to high key and flew a flawless flame out approach, bringing his jet to a stop in only 5,000'. After ensuring he was no longer able to provide any assistance to his wingman, Capt O'Bierne recovered uneventfully to Peoria. Upon investigation it was determined that the engine's #5 main bearing seal had failed causing a massive oil leak which depleted most of the aircraft's usable oil supply. Continued operation in this condition would have surely proven catastrophic. Through professionalism and team work, this possibly disastrous situation resulted in the safe recovery of a valuable combat asset.

AIRCREW SAFETY AWARD OF DISTINCTION

*Maj David R. Newell, Capt Michael E. Reynolds
SSgt Kevin B. Towner, 48 RQS, 49 FW, Holloman AFB NM*



"We were landing our HH-60G at Ernest Love Airfield, Prescott, Arizona, during a cross country mission. Immediately after touchdown, the #2 engine increased to full unregulated power, driving the rotor and the #2 power turbine to approximately 120%. The copilot attempted to control the situation with the Engine RPM Trim Switch but was unsuccessful. I

increased the collective to load the rotor and the helicopter climbed to an 8 foot hover. The runaway situation did not change and I noticed the Turbine Gas Temperature was "pegged out" on the #2 engine. I directed the copilot to shut down the engine and I cushioned the helicopter as we settled to the ground. Suspected cause of the incident was a malfunction in the Digital Electronic Control Unit."

CREW CHIEF EXCELLENCE AWARD

TSgt Scott A. Benson, TSgt Mark R. Wheeler, 114 FG, Sioux Falls SD

How would you feel if all of a sudden you witnessed one of your unit F-16's suddenly sliding off the runway? Equally as bad, while taxiing, all of a sudden the wing drops down and you see the tire and wheel assembly depart the aircraft in pieces. This is a sickening feeling when it's your airplane. These things are hypothetical at this point, thanks to the eagle eye of Sergeant Benson and the persistence of Sergeant Wheeler. While performing F-16C post flight activities at the end of the flying day, a broken bolt head was found on the ramp near the aircraft parking area. Unsure of where the bolt head came from, Sergeant Benson researched the appropriate technical orders and determined that it was part of an aircraft wheel assembly. A trip to the tire shop confirmed the bolt was indeed from an F-16 main wheel assembly and was one of the bolts used to hold the wheel halves together. With the assistance of Sergeant Wheeler, Sergeant Benson checked all aircraft wheel bolts with a socket wrench, in an attempt to identify a loose or broken bolt. This proved unsuccessful, as all the bolts were

tight. Convinced they were on the right track, Sergeant Wheeler suggested they put their fingers through the small holes in the wheel assembly and physically feel each bolt for the presence of a bolt head. Eventually, a wheel was found missing a bolt head. The tire was immediately deflated and the assembly removed from the aircraft. There was just enough flange left on the bolt to hold the washer in place, allowing the bolt to appear tight. Although the bolts are inspected periodically, it was determined fatigue caused the bolt to break. With one bolt broken, excessive stress was placed on the remaining bolts, which increased the potential for additional failure. Had this situation gone unnoticed, one of the examples above may have been a reality. Sergeant Benson and Wheeler's persistence and knowledge of aircraft systems prevented a potential mishap from occurring, which may have resulted in severe aircraft damage, injury, or death to maintenance or aircrew.



WEAPONS SAFETY AWARD OF DISTINCTION

SSgt Truman R. Scarborough, 34 FS, 388 FW, Hill AFB UT

On 2 February 1995, Sergeant Scarborough was performing a weapons acceptance inspection on aircraft 88-0462 after return from depot. During an inspection of wire bundles under the left side of the fuselage, he discovered an Allen wrench left behind by depot workers. On 6 February 1995, during the acceptance inspection of the gun system and bay, he found an extra base plate that secures the drum access panel lying in the gun bay. Sergeant

Scarborough did a complete inspection of the gun bay for bad or missing nut plates and found them all to be secure and properly installed. He immediately notified supervision on both instances and ensured that the problems were promptly corrected. Sergeant Scarborough's keen awareness and concern for safety prevented a possible loss of life and valuable assets due to FOD.



FLIGHTLINE SAFETY AWARD OF DISTINCTION

MSgt Howard G. Baker, 38 RS, 55 WG, Offutt AFB NE



At 0445L on Monday, 12 Mar 95, RC-135W aircraft number 62-135 was being readied to fly a SOUTHERN WATCH operational sortie. Sergeant Baker, Production Superintendent, was doing a last-minute FOD inspection around the aircraft when he noticed the ramp lights shining through a one-inch gap between the engine strut and the #1 engine. This looked unusual to him, so he called over his senior jet engine technician to determine if there was something wrong with the thrust reversers, engine cowling, or sailboat. When the engine cowling was removed to investigate the problem, the back end of the engine suddenly dropped

six inches. Without hesitation, Sergeant Baker called for power shutdown and evacuation of the crew from the aircraft. Upon investigation, it was discovered that the aft nut of #1 engine had sheared into three pieces. The engines are mounted to the aircraft by only three bolts, two in the front and one in the back. Had the aircraft used takeoff thrust without the support on the aft part of the engine, it is possible the engine could have rotated over the top of the wing causing serious damage to the aircraft and possible loss of life. A fleet-wide inspection of other mounting nuts was initiated as a result of Sergeant Baker's discovery.

GROUND SAFETY INDIVIDUAL AWARD OF DISTINCTION

SSgt Barry S. Jones, 334 FS, 4 WG, Seymour Johnson AFB NC



As Unit Safety Representative for the 334th Fighter Squadron, Sergeant Jones is the focal point for the best unit ground safety program in the 4th Wing. His dedication and tenacity were directly responsible for the squadron's "Outstanding" Ground Safety Assessment during their recent Annual Unit Safety Inspection. In his successful campaign to make his squadron's program the best in the wing, Sergeant Jones developed several innovative programs. He established and implemented a comprehensive briefing plan which allowed section safety monitors to pass important safety information to personnel who were unable to attend scheduled safety briefings. He developed an internal three-day weekend safety outline for use by all squadron supervisors. He condensed the wing summer safety briefing package to high-

light all hazards, especially those particular to his squadron. Sergeant Jones instituted an internal trend analysis of on-and off-duty mishaps, utilizing work center supervisors as subject matter experts. In addition, Sergeant Jones provided quality feedback on a recent safety assessment that enabled wing safety personnel to provide improved service to other units on base. He also publishes a monthly safety flash newsletter to disseminate up-to-date safety concerns to all effected personnel. SSgt Jones consummate professional who conducts and documents over 10 times the required ground safety spot inspections each month. His close contact and concern for safety inspire him to volunteer his personal time in support of all wing safety days. His dedication to duty and willingness to excel are beyond reproach.

UNIT SAFETY AWARD OF DISTINCTION

38th Reconnaissance Squadron, 55 WG, Offutt AFB NE

On 22 Feb 95, deployed aircrews of the 38 RS flew their 1000th operational reconnaissance mission in support of Operation SOUTHERN WATCH without a Class A or B mishap. These 1000 sorties represent 13,508 total hours of demanding flying time at an operational tempo paralleling wartime conditions by pilots and navigators assigned to the 38 RS who deploy to the 4407 RS(P) to fly operational sorties. The missions of the RC-135 Rivet Joint vary from 8 to 16 hours duration with one or two air refuelings of almost 100,000 pounds each. The operations of 38 RS personnel while deployed to the AOR have included many surge periods due to adversary action requiring vigilant allied response. These surges have forced 24-hour sorties with three air refuelings to meet the needs of theater combat commanders. In Oct 94, President Clinton sent additional US forces to the theater to

counter Iraq's aggressive deployment of mechanized and armored troops near the Kuwaiti border. The 38 RS tripled the number of deployed aircrews and their Rivet Joint aircraft to allow 24-hour reconnaissance coverage. The result was twice the number of sorties and three times the number of hours normally flown by the RC-135 in the region. The 38 RS safely and aggressively met the surging ops tempo under a myriad of adverse conditions that include not only extreme heat, but also frequent thunderstorms and sand storms. This exemplary record of safe mission accomplishment is only achieved through disciplined airmanship that highlights every facet of squadron operations. Dedication to safe flying and maintenance starts with the top leadership and continues to the crew in the cockpit and the airmen on the ramp.





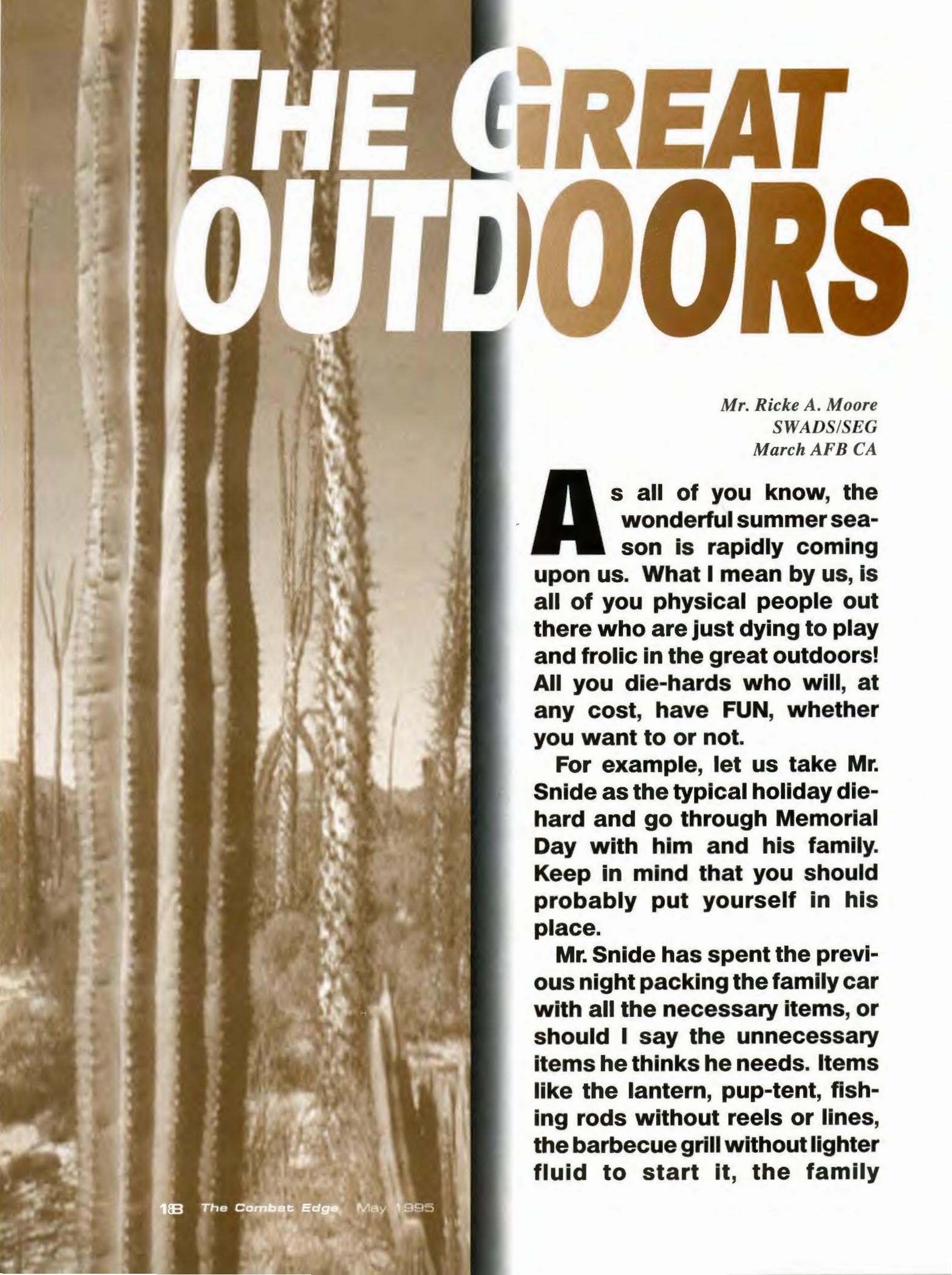
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SPECIAL



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DELIVERY



THE GREAT OUTDOORS

*Mr. Ricke A. Moore
SWADS/SEG
March AFB CA*

As all of you know, the wonderful summer season is rapidly coming upon us. What I mean by us, is all of you physical people out there who are just dying to play and frolic in the great outdoors! All you die-hards who will, at any cost, have FUN, whether you want to or not.

For example, let us take Mr. Snide as the typical holiday die-hard and go through Memorial Day with him and his family. Keep in mind that you should probably put yourself in his place.

Mr. Snide has spent the previous night packing the family car with all the necessary items, or should I say the unnecessary items he thinks he needs. Items like the lantern, pup-tent, fishing rods without reels or lines, the barbecue grill without lighter fluid to start it, the family

pontoon boat, and, of course, the family boom box without any batteries. The only items he packs correctly are the beer, potato chips, and the cookies.

The next morning he gets up around 10 a.m. and somehow gets his family ready to leave. He goes out to the car and discovers his tires are flat. He never figured all the necessary gear would weigh more than 2,000 pounds. So he takes the boom box out, loads the family, and heads on down the road.

After just one block of trouble-free travel, the arguments begin. All the commotion causes him to forget to stop at the nearest service station to check the oil and coolant in the car. Well...it probably isn't going to make much difference anyway. The last time Mr. Snide checked any fluids in his car was before the Korean War. Four hours and \$450 later, all the engine belts and fluids have been replaced and the Snides have finally arrived at the campground. Unfortunately, 10,000 other die-hards have also arrived and Mr. Snide hasn't a clue as to where to unload the pontoon boat.

With determination to have something go right, he winds his car and trailer through a maze of cars, people, and dirt roads; when suddenly, he stumbles onto the unloading area. Poor Mr. Snide, the big sign declares that this unloading area is for motorcycles and half-tracks. Of course, by now everyone in the park is real anxious to see Mr. Snide perform some ultimate wheelies with the family pontoon boat considering the park has no lake. The nearest lake is 50 miles away!

Completely embarrassed by all the curious stares, he gets his family to the nearest picnic area, hides the boat in the bushes, unloads the car, sets up the tent, gets in the tent, zips it up, and curls up into a ball in the corner and dreams about his living room recliner at home.

Thirty minutes later, Mr. Snide is rudely awakened by his little girl who is screaming at the top of her lungs while she runs through the picnic area with a 12 pound python attached to her leg.

He wrestles the snake to the ground and beats it to death with his barbecue spatula. But

the surrounding crowd of onlookers are asking Mr. Snide when the pontoon "wheelie" show begins.

While forcing the crowd out of his picnic area, a horrendous commotion starts in the bushes nearby. It's Mr. Snide's number one son, Johnny, teasing and kicking their camp neighbor's Dobermans in the biggest poison ivy patch in the campground.

Well, the excitement finally slows down after a couple of hours. We see Mr. Snide getting ready to barbecue the steaks before the fireworks begin. He is surrounded by his loving family who resemble a group of ghosts when you consider the gallons of calamine and noxema with which they are covered.

He discovers that he has forgotten the lighter fluid...a little gasoline should do the trick.

As the lighted match touches the coals, Mr. Snide is launched through the picnic area and right smack into the hidden pontoon boat which carries him up through the trees in a dazzling display of aerial acrobatics that coincides perfectly with the finale of the campground fireworks.

After landing in the trees, he is soon surrounded by all the campers offering their most heartfelt appreciation for finally performing the ultimate "wheelie." Mr. Snide collapses from exhaustion when the campground supervisor offers him a contract for a repeat performance in next year's fireworks display.

Moral of the story? PLAN IN ADVANCE.

Pack your supplies early and make a list of what you will take.

Know where you are going and what facilities are offered, i.e., pool, bathrooms, parking, food, lodging, etc.

Service your car and check the tires, coolant, oil, fuel, and brakes, and make sure that you load your equipment properly.

Get plenty of rest before your trip and whether or not your family goes anywhere at all...

- Be safe.
- Watch out for each other.

HAVE A HAPPY HOLIDAY. ■



Ground Safety Award of the Quarter



Although assigned to Detachment 2, 605th Test Squadron (ACC), Sergeant McIntosh is responsible for ground safety activities of the entire Joint STARS JTF, a 300-member organization responsible for the development and test of the E-8 aircraft, its support systems, and technical orders. The Joint STARS JTF is comprised of two services, five major commands, and two independent testing agencies, all operating from a contractor's facility in Melbourne FL. As a result, the ground safety challenges are extremely diverse, stretching from industrial safety and hazardous material handling, to the more conventional problems of off-duty safety education in a location where water sports and SCUBA diving are common.

Sergeant McIntosh has excelled in all areas! He personally validated over 28,000 pages of technical order procedures, developed by the main contractor, in order to ensure safety was a prime consideration throughout all phases of E-8 development. His attention to detail while reviewing contractor fuel system procedures resulted in several improvements which, if left undone, could have resulted in catastrophic accidents with the potential loss of experimental test aircraft or lives. In addition, his diligence in researching and procuring fuel system maintenance protective equipment expedited E-8 development time while ensuring a safe environment for both military and contractor personnel. He developed and implemented a unique plan that established a safety council for the entire E-8 Joint Test Force creating direct lines of safety-related communications from nine organizations, representing five major commands, to the JTF director. As the lead JTF safety representative, he cultivated an atmosphere of safety awareness throughout this organization yielding zero reportable mishaps in 1994. In fact, these accomplishments are even more noteworthy considering that in less than nine months, he refined an existing, embryonic program to one that was recognized as "Excellent" by the USAFAWC safety inspection team in Nov 94.

Sergeant McIntosh personally put his mishap response procedures to the test when a fellow squadron member was injured in the process of removing hydraulic lines from a Boeing 707 airframe trainer. Sergeant McIntosh's accurate, instantaneous response was credited by emergency room physicians with saving the eyesight of his co-worker, allowing him to immediately return to duty.

Sergeant McIntosh's commitment to ACC quality and its continuous improvement process, dedication to duty, and attention to every detail of this unit's safety program are extraordinary. In summary, Sergeant McIntosh's safety program is not just an administrative showpiece, it's a proven effort that saves lives!

*TSgt Rainy D. McIntosh
Det 2, 605 TS
Melbourne FL*

SUPERVISOR

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*TSgt Mario H. Casuga
Riyadh
Saudi Arabia*

In spite of unprecedented breakthroughs in science and technology, it's surprising that many people still haven't mastered the art of managing people.

We continue to face the dilemma of dealing with two basic types of contrasting overseers — professionals and phonies.

As long as phonies continue unchecked, our bid for excellence is greatly limited. Let's take a look at some differences between the phonies and professionals.

A phony becomes bogged down by tradition. "I've used this method for 20 years, so it should still work," they assert with complacency. A professional welcomes innovation and believes methods can be changed to suit the times.

A professional supervisor encourages their people to seek improvement. A phony, although they won't admit it, feels threatened when any of the workers further their education.

A phony seldom gives positive recogni-

tion. "Medals won't buy you a cup of coffee," they say. A professional looks for opportunities to give credit to those who deserve it.

A professional earns their workers' respect through understanding and fairness. A phony demands respect through intimidation.

A phony resents all criticism and easily blows their top under pressure. The professional supervisor keeps an open mind to criticism and stays level-headed under trying conditions.

A professional is people oriented — they have a genuine concern for their workers. The phony pays lip service to the workers' welfare. They are too self-centered to care about anyone but themselves.

In a nutshell, a phony is an overbearing eccentric who uses fear, force, or position to get results at the expense of the people. Conversely, a professional strikes a balance between their workers' needs and the unit's goals — having a positive influence on morale and the mission. ■

PROFESSIONAL OR PHONY

EXPLOSIVE SAFETY

*SMSgt John P. Guillebeau
ANGRC/SEW
Andrews AFB MD*

The Air Force, Air National Guard, and Air Force Reserve have hundreds and hundreds of explosive items in their inventories. They range from small cartridge actuated devices and small arms ammunition to high-explosive bombs and missiles. Although they serve many useful functions, the primary purpose of most military explosives is to kill or destroy. Everyday across the country and around the world, these units use, maintain, transport, and store hundreds of tons of explosives and explosive-related items. Explosive safety programs exist to guarantee the safety of the people and protection of the resources associated with these explosive-related activities.

It is imperative that we strive for accuracy and maintain strict integrity in our Explosive Safety Programs. We must lead by example and not allow deviations from the standards for convenience or other unnecessary reasons. Too much is at stake to risk our people, equipment, facilities, and aircraft to an explosive mishap. The standards are in place to help ensure that we stay protected and that our resources are available when and where we need them. However, we are the final link in the chain. We must adhere to and readily accept these vital standards.

These standards were established in response to a catastrophic explosive mishap that occurred several decades ago. The United States Congress directed the Department of Defense (DoD) to establish and maintain an explosive safety program. This direction has evolved into law as the current Title 10, US Code, Section 172. This US Code is the Congressional authority for the continuation of an explosive safety board to formulate US

policy and procedures on all explosive safety matters within the DoD. DoD Directive 6055.9, The Explosive Safety Board, provides the authority for the issuance of DoD 6055.9-STD, Ammunition and Explosive Safety Standards, which applies to all branches of the military. Its purpose is to establish uniform safety standards applicable to ammunition and explosives with respect to personnel and property and to unrelated personnel and property exposed to the potential damaging effects of a mishap.

Each military service has established their own directives or regulations governing explosives safety. These communications implement the DoD Standard. The US Air Force has developed AFMAN 91-201 to ensure compliance with this standard. This manual is issued under the authority of the Secretary of the Air Force and is applicable to everyone in the Air Force, Air National Guard, and Air Force Reserve. AFMAN 91-201 is used in conjunction with the DoD Standard as the basis for our Explosive Safety Programs.

As commanders, supervisors, and employees, we must be diligent in complying with ALL established safety requirements. We must be even more diligent, particularly in the area of explosive safety, to ensure that we know and clearly understand the implications of an explosive mishap. We must think, plan, train, and act in compliance with explosive safety standards at all times. We cannot afford to put our limited resources at risk to an explosive mishap due to misunderstanding, ignorance, or convenience. Now is the time to review our programs and brush up on our knowledge. Remember... "Explosive Safety — Quality Through Compliance." IYAAYAS

■

Summer Safety

*MSgt Gary Reniker
442 FW/SEW
Whiteman AFB MO*

Ah, summer. Warm weather, sunshine and mishaps. Yes, mishaps.

It may seem that we all slip, slide, collide and fall more in winter; but the fact is warm weather brings more of us out more often. That's the primary reason why accidental deaths in the United States peak in July after gradually rising from February's low.

All sorts of warm-weather activities invite mishaps: riding bicycles, operating lawn mowers, playing baseball and simply running and gallivanting outdoors. Still, drowning and motor vehicles are the biggest seasonal sources of accidental death.

In 1991, 4,600 people drowned, compared with 800 who died in bicycle accidents. Several hundred drownings occurred in residential pools and nearly all the rest in rivers, lakes and such. Half the deaths occurred after "unintentional entries" - that is, when people fall or get pushed or knocked into the water. That's why safety officials emphasize that everyone wear Coast Guard-approved life preservers whenever they're in boats as well as on docks. Most water tips are common sense. Learn to swim. Know your limits. Never swim alone. Never dive into shallow water. Supervise children constantly when they're around water. Avoid swift moving water. Erect fences with locked gates around residential pools.

Drownings and warm weather perhaps go together. But, car wrecks? Although road and weather conditions are usually at their best in the summer (road construction notwithstanding), think about what people do then. They get into the car and cruise or hit the road for an eagerly awaited vacation. The problem in summer is that people tend to drive too far and they hurry. They are on unfamiliar roads many times, and there's a lot of traffic.

The statistics are worth repeating. In 1992, 40,100 people died in US traffic accidents. The National Safety Council notes that most traffic fatalities and serious injuries result from three major factors: high speed, impaired driving and failure to use seat belts and child car seats.

Here are a few safety suggestions: Take it easy. Leave early. Allow time for stops and breaks. Allow plenty of time to get where you're going. Don't drive tired. Change drivers. Enjoy the trip and arrive safely. Observe all traffic laws and don't use drugs or alcohol. It's just folly to go on a trip without buckling your seat belt.

Everyone knows these things, but a reminder doesn't hurt. Remember, the season of summer fun and eagerly awaited vacations can also be a season of tragedy. Don't become a summer statistic! ■

THOSE BELLS

Reprinted with permission
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Lt Col James Teigen
HQ ACC/SEF
Langley AFB VA

Thinking back on the whole event, I wish I had just kept my mouth shut. It had started out as such a simple question, on a beautiful spring day. "Does anybody know a good lawnmower repair shop around here?"

You'd have thought I'd just committed a mortal sin from the looks of all my fellow workers. "Why do you need a lawnmower repair shop?" It seemed an innocent question, but I'd soon regret answering it.

Why is it after explaining everything to one person, the next shows up with a cup of coffee asking to hear the whole story all over again? After three renditions it got a lot shorter and more succinct. Basically, I couldn't get my lawnmower going after a long winter's rest.

Yes, I had checked the gas. Yes, I had oil. Yes, I had checked for a spark. Yes, even the spark plug looked okay. The questions were endless. Some didn't seem to fit the problem, but the stories that went with them eventually tied back into a problem Joe had with his lawnmower, chainsaw, et cetera.

The consensus of the "experts of gas motors/engines" was that they could look at the lawnmower after work and solve the problem. Even though the alarm bell was going off in my head, I learned my lesson too late; that's the rest of the story.

After work all three of us flight safety types descended upon my base house ready to "fix" my problem. Let's see, is there gas? Yep, (visual inspection proved) there was gas. How's the oil? Yep, (again visual inspection proved) there was oil. How about a spark? Sure enough, pulling off the spark plug wire and laying it right next to the spark plug top while the pull cord was pulled showed that there was a healthy spark present. Hummm, did you check your spark plug?

Well, sure I did. Let's pull this plug. I'll bet it's fouled. After removing the plug, it passed inspection. The three of us were baffled. Now's when the big guy decided that a few good pulls would start the mower. Brummpa, brummpa, brummpa. Nothing. I did notice that he was getting into pulling on that cord, really getting some leverage. He had good form. But no luck, just brummpa, brummpa.

"Let me see that," said the tall one. As he bent his tall frame over the mower, he spied the primer pump. Aha! We'll just give this a couple of primes and it'll start. I had my doubts as I heard my first of many brummpa, brummpas.

Now came my turn to pull. As you probably guessed, no joy.

I think at this point I again tried to ask for the name of a good lawnmower repair shop. It fell on deaf ears.

Watching experts in action is a powerful sight. Tools flying, sleeves rolled up, eyes squinting, and faces all scrunched up. Why is it that tools don't really work unless the tongue sticks out of the mouth?

Now as I looked at my lawnmower, I pondered my fate. The air filter was off, the mower was on its side and why do they want to look at the blade? Those bells were going off again...

Hey guys, the gas is leaking out of the top of the tank. Yeah, yeah, they mumbled. I kept hearing "I wonder if..." as it trailed off in volume. Those bells...

Looks good to me; yep, looks like it should start. Those were heartening words. So now my mower is upright and the smell of gasoline is clinging to the air. We're ready.

Brummpa, brummpa, brummpa. Nothing.

How's the saying go... desperate men in desperate times....

Maybe it just needs a little gas in the carb.

Novel idea. There go those bells again.

The object was to trickle or dribble the gas into the open throat of the mower carburetor. Okay, he got a little carried away. The gas filled the carb and gushed over the sides and onto the mower deck. (Have you ever noticed how the decks of mowers have deep grooves and are always filled with dead mower clippings/grass?) This effort to put "some" gas into the mower carb resulted in lots of gas in the carb and on the side of the engine, on the mower deck and some on the carport floor itself. Those bells...

With the mower upright, the big guy stepped up for his turn. Brummpa, brummpa, brup, brupp! POW!

Out of the carburetor throat came a tiny ball of flame. It was about the size of a golf ball. It didn't go far, just fell to the mower deck, plopl!

You guessed it; it caught the gasoline-soaked grass on fire. Now we had some action. The mower still hadn't started, but the lawnmower was going, you know what I mean? The flames were only about six inches high but completely encircled the motor.

I thought I had answered questions before but now was grilled with: where is your fire extinguisher, a hose, a bucket, blanket, towels? Meanwhile, I was trying to get the lawnmower moved from under the carport to out in the driveway (trying to save the base house).

I responded to all the questions with: don't have that, out at the base stable, base stable again, a blanket? In Mississippi in the spring? They're all at the cleaners for spring cleaning....

"I'm calling the fire department," I said, and off I ran. Boy, am I glad they put those bright orange emergency phone number stickers on phones, I thought as I frantically dialed the fire department. Okay, slow down, talk slowly and clearly.

I need to report a lawnmower fire. This is my address and my phone number. Please hurry.

Is that you, Capt T?

Yes, it is.

The Capt T from Safety?

Yes, please hurry.

Back outside things were getting worse. The lawnmower had been moved away from the house and was now resting under a Magnolia tree. You should have seen the flames now.

They completely covered the motor and were about a foot high. Burning pretty good now. Those bells...

Around the corner comes a buddy with a bucket of water. Remember the cartoons where the character shows up at the fire but almost all the water has splashed out and all that's left is a drop...?

Splash. Whoosh!

Boy, the flames got higher on that trip. Now the plastic gas tank was covered in flames. It's going to blow and gas and Magnolia tree are going to go up in flames.

I ran over to the lawnmower and pulled it out into the street. I was lucky there were no branches, trees, cars, traffic and most importantly, no kids in the way.

Here came the next water brigade, a dog bowl. Splash. Whoosh!

As I turned around, back came the bucket, slowly. It was full of water. Stand back!

Splash, SSSSSSSS!

It was out. We had succeeded, but we looked terrible. The lawnmower was charred. The gas tank that had once been white was now blackened. The rubber fuel feed line had melted, and gas was still dripping onto the mower deck. We had been that close to conflagration.

I went back inside to call the fire department. You can cancel the fire alarm on the lawnmower. We put the fire out.

You mean you really had a fire?

Yes, but it's out now. Thanks anyway.

As I got back outside, I could hear the first fire trucks and all the sirens. Thank goodness they didn't bring the whole brigade.

So what did I learn from all this? First, I now own fire extinguishers, one for the car, one for the kitchen and one out in the garage. Second, I take those problems that I can't solve to repairmen and don't bug my "friends" about them. Last, I tend to trust the ringing of the bells a lot more...

The mower survived, but it was my luck the warranty ran out the week before the fire. The problem was minor, but the repair for fire damage was almost the cost of a new mower. Then I had to face CINC Kitchen (the wife)... Those bells.... ■

MSgt Gary Lemmonds
DPRO Pemco Aeroplex/REPA
Birmingham AL



This terse transmission from astronaut John Swigert, halfway to the moon aboard Apollo XIII, received immediate attention from the mission controllers in Houston. The well-known but seldom used aviation understatement “we have a problem” really means: “Things have gone to hell in a hand basket.” An oxygen tank had exploded; and though it would take some time to determine exactly what had happened, the controllers recognized the choice of words and knew it was serious. The magic understatement that’s normally interpreted as a real big “Uh-Oh!” had been used.

During more than 7,000 hours in the KC-135, I'd never used the phrase - not during several engine fires or rapid depressurizations; not during many hydraulic system failures or even when the aircraft battery overcharged and filled the cockpit with smoke. However, I said it for the first time last week while performing a Functional Check Flight (FCF) of a KC-135R at a contractor facility.

It was a good airplane, passing the flight control, boom, and pressurization checks required during the FCF. It was the landing gear portion of the profile that provided the opportunity to use the magic understatement. When the gear handle was placed down for a check of the normal hydraulic extension system, the left main did not lock. The alignment stripes were at least 5 inches apart, and I reported this to the aircraft commander who said the cockpit indicator showed an intermediate condition of the left main. We discussed the situation in that professional and concise manner we'd learned during Crew Resource Management (CRM) training and decided to cycle the gear again. Still no joy.

"OK," we all agreed after some more CRM, "let's manually lower the left main and go from there." It was at step four that we encountered the problem. The manual extension handle could only be rotated five-and-a-half turns clockwise and the stripes were still about 5 inches apart.

What I actually said on the interphone was: "Guys, we have a problem here."

More CRM happened. After many more (I lost count) attempts to lock the gear down both manually and hydraulically, the gear was retracted and the FCF terminated. An emergency was declared and the navigator contacted our flight operations office for technical support from the contractor and Oklahoma City Air

Logistics Center, as well as Boeing. While waiting for the coordination to take place, we talked over the options. We were 200 miles south of Birmingham, but returning to the airport with an unsafe gear was out of the question - Air National Guard tankers are parked a few thousand feet north of the runway and a terminal full of people surrounded by parked airliners is only 800 feet south. We had 48,000 pounds of fuel and some quick calculations showed that if we step-climbed to FL 450, we could make it to the Rogers Dry Lake bed at Edwards AFB with about 10,000 pounds remaining - enough to continue working the gear for about an hour, once in the area. We told our flight operations chief of our plan, started the climb and ATC cleared us inertial navigation direct to EDW. There simply wasn't enough fuel to loiter around central Alabama and work the problem.

A hundred things began to happen at once, as all four radios were put to use contacting command posts along the way for phone patches to the technical representatives. The Oklahoma City ALC guys suggested using a screwdriver to place additional force on the manual gear extension cam, which didn't work. Two contractor technicians fly the FCF with us, and they had already removed the plywood floor panel near the emergency extension fittings in anticipation of breaking or removing the inspection window. We discussed the overall situation and made the decision to leave the gear up and locked, writing down further suggestions for use when we were closer to Edwards. The guys at Sabre Ops, our flight test counterparts at Tinker AFB, were very helpful, attempting to keep us in touch with the ALC specialists.

If the headwind at altitude wasn't too bad, we wouldn't need a reverse air refueling; but while

I talked to the specialists on one radio, the navigator used the other radio to try and coordinate a reverse refueling, just in case. Over New Mexico, the Albuquerque air traffic controller informed us that the Rogers Lake bed was flooded and unusable. "About 180 miles south of your position is the Northrop Strip, which might be suitable for your landing. It's an alternate space shuttle landing site," he advised us.

We hesitated. None of us had heard of Northrop Strip, and we had no published approach plates or information about the area. After a moment of discussion the AC decided that landing on any surface other than concrete would afford a higher margin of safety; so he accepted the controller's vector and began a descent, beginning to work the landing gear again by placing the gear handle down and loading the airplane with positive G's during the extension cycle. Initial attempts to contact the Holloman AFB command post were unsuccessful; but working the extra radio, I finally raised the clearance delivery controller who said the Northrop Strip was indeed suitable for an emergency landing.

I'd asked the contractor technicians, Charles Storie and G. J. (Jay) Sisco, to remove five of the seven bolts securing the small inspection window, having determined the tiny window could not be broken with the crash ax because of interference with a floor beam. Since the glass is installed from the inside, it was safe to remove most of the bolts, reducing the time necessary to remove the window if we decided to try and stick something through the opening and force the lock mechanism. Charlie and Jay also removed a 5-foot section of aluminum tubing from the top of a troop seat; but we decided the whole idea was unfeasible, since whatever was impeding move-

ment of the emergency extension handle would likely prevent actuation of the downlock by any means. The contractor guys were sure earning their wages.

Fuel became less of a concern as we descended with 24,000 pounds aboard, but a big surprise was yet to come. Within UHF range of Holloman, the command post finally heard our calls; but responded with bad news: "Clown zero-eight," the guy said, "it will take perhaps an hour to position fire coverage at Northrop Strip. Can you hold for that long?"

Another CRM moment. Captain Grant told them to standby and we all huddled for a quick conference. Holding for an hour would commit us to an emergency landing at an unfamiliar strip of gypsum somewhere in the New Mexico desert. So far we'd had no success in locating a receiver that could reverse refuel. We had already descended to FL 350 and fuel consumption had increased. Captain Grant spoke calmly to the crew: "We assume fire coverage will be ready when we are, but what if it isn't? If we descend further, it will cost us fuel to find out and we won't make Edwards without a reverse A/R, which we so far don't have. I say we press on to Edwards." We all concurred with silent thumbs up.

Now we were headed south and this time Albuquerque Center wasn't so helpful. Three requests for a westerly turn and climb back to FL 450 were disapproved due to conflicting traffic, so Captain Grant invoked the pilot's inflight emergency rule and transmitted: "We are an emergency aircraft and we're turning to a heading of two-six-zero, climbing to flight level four-five-zero. I suggest you vector any conflicting traffic out of our flight path." The controller replied with a subdued "roger" and began to give new headings and altitudes to several airliners.

We had just about given up on

getting a reverse A/R, but then heard from a KC-10 out of March AFB. "Primo 35" was near the Needles VORTAC and would help out any way they could. It was good news, since extra fuel would give us some insurance that we'd have time to work the gear problem once in the Edwards area. Also, the navigator talked to them directly which cut out a lot of middlemen that obviously didn't understand our problem. We had been asked by one command post for our ETA to Will Rogers Airport!

Captain Walker earned his flight pay, coordinating a point-parallel rendezvous at the VORTAC that required no course change for us; and worked out perfectly, with Primo 35 rolling out 2 miles in trail. We had descended to FL 280 and had 14,000 pounds of fuel aboard, which we were burning at about 9,000 pounds per hour. We didn't have a lot of time to waste.

Within 5 minutes the KC-10 was on the boom. I retracted the telescope lever slightly to open the fuel bypass valve and told Primo 35 to pressurize his ARR manifold. "How much do you want?" he asked.

We'd predetermined how much fuel we could onload into the aft body tank and remain within safe center-of-gravity limits. "Eight thousand," I replied. Reverse refueling is slow - it was about 4 minutes before Captain Rima, who monitored the aft body tank quantity, said we had enough. I told Primo 35 to depressurize and we were ready to disconnect. The guys aboard Primo 35 were great, following us to Edwards and looking over our gear when we asked them to, and staying off the radio the rest of the time. In a multi-crew aircraft with a serious problem, outsiders offering unsolicited advice can be distracting and counter-productive, but these guys simply dropped back and stayed with us.

With the extra fuel we now had some breathing room and time to try a few more hydraulic and manual gear extensions of the left main as we descended toward Edwards. None of the extension attempts worked, so we began to discuss landing scenarios. If the gear collapses, we do this; if it remains unsafe, we do this; if it locks during landing and the downlock pin can be installed, we do this. It got complicated, but we tried to prepare for all possible contingencies.

I decided to try one more idea with the stubborn gear. By bracing myself against the fuselage wall and pushing on the emergency gear extension crank with both feet, the stripes moved a little closer to alignment; but when I released the pressure, the lock mechanism moved back to its original position, about 5 inches from the locked indication. From somewhere I got another idea. I asked Mr. Sisco to remove one of the cargo tie-down straps from the spare parts container and told him to hook it onto the gear crank. I intended to connect the other end to a tie-down ring and use the ratchet mechanism of the device to apply additional force to the gear crank. Looking out the inspection window, the desert floor appeared close — it looked like we were on final approach. Jay, Charlie, and I were still fumbling with the strap, trying to position the tie-down ring at the best angle to put pressure on the gear extension handle. I needed more time to attach the strap and said, "Don't land yet," to the busy cockpit. The AC said we were just doing a low approach and asked how much time I'd need. "I'm hooking up a tie-down strap to the extension handle. I think I can pull the stripes closer. I need 5 minutes."

"You got it," he said.

It worked. By ratcheting the strap, the stripes were now within 2 inches, although the side strut

was still not overcenter. Upon touchdown it could go either way - lock over center, or unlock and possibly allow the gear to retract into the wheel well. "OK," I informed the crew, "the stripes are about 2 inches apart. I may be able to pin it after landing. What's the plan?"

Both pilots had already discussed the possibilities, cross-cockpit, and had it figured out. "OK boom... if the gear collapses, egress will be out the right overwing hatch. If the gear remains down after coming to a complete stop, you will check the gear through the inspection window and determine if it can be pinned. Number one engine will not be shut down until the gear can be pinned, in view of the unknown hydraulic condition of the system. If the gear can be pinned, you will exit via the crew entry door and pin the left main, visually signaling the crew to exit normally. If the gear cannot be pinned, the signal will be a thumbs down, indicating an egress out the right overwing hatch may be necessary upon engine shutdown."

On short final, Captain Rima placed the battery switch in emergency, turned off the fuel boost pumps and closed the fuel valves in the left wing, then placed his hand on the T-handles for No. 1 and 2 engines. The A/C master was placed to off and the aircraft depressurized to facilitate egress.

We were prepared for just about anything, but the touchdown was smooth and nothing abnormal happened except the left main gear indicator remained in intermediate. Captain Grant let the aircraft roll the entire length of the 15,000 foot runway using very light braking on the right main. After coming to a full stop I hurried back to the gear inspection window and determined that the gear could be pinned. The side strut assembly had apparently popped overcenter during

the landing. A fireman had chocked the nose gear and followed me as I went into the left wheel well and pinned the troublesome gear. The brakes on the right main were smoking slightly; and since an engine was still operating, he had to shout the question: "Are those brakes hot?"

We weighed about 135,000 pounds at touchdown and rolled at least 12,000 feet. To borrow a phrase from my late father, "That ain't diddly" in terms of brake energy for a -135. And besides, new brakes tend to emit a little smoke during the first landing. We see it after nearly every FCF. I signaled at the fireman. "No, they're OK. I say we get outta here!"

He returned to a fire truck that was pointing a huge foam cannon right at me as I went to the entry door and gave a thumbs-up to the navigator, who stood on the flight deck waiting for my signal. The pilots shut down everything and we assembled on the edge of the runway, where there were more vehicles than at the mall during Christmas. The fire chief was there, as well as the chief of airfield operations. There were maintenance guys from ARIA operations and the chief of flying safety, too. Heck, I think the chief of services was even there with room keys and beers for 50 cents each... no, not really.

The airplane was towed to a hangar and we spent a few days with the contractor maintenance guys, who put it on jacks and went through the system. During the first manual extension, the left main locked normally; but when hydraulic pressure was applied, it unlocked. Not good. On the second day the gear door control valve was changed. The gear door control valve is a fist-sized assembly that directs hydraulic pressure to the door and the gear downlock actuator at the appropriate time during gear movement. Though a preliminary conclusion,

a portion of the valve linkage was bent which may have allowed enough slack in the close-tolerance hydraulic circuits to cause a fluid lock. This liquid lock essentially trapped hydraulic fluid in the line between the actuator and the door control valve. When the manual extension handle is rotated clockwise against the stop, fluid must be free to flow within the downlock actuator and the line to the door control valve. In this case, because the fluid was trapped, the actuator was preventing movement of the mechanical linkage in the emergency extension system.

Follow-up investigation of the cause of this malfunction is ongoing, but placing the tie-down strap on the handle and applying additional force may be accepted as a valid procedure in cases where failure of the door control valve prevents movement of the downlock actuator. The engineers tell me I could have applied even more pressure to the crank; but I was concerned about breaking part of the linkage and ending up back where we started, with the stripes 5 inches apart. The landing gear door control valve on this airplane was original - installed in 1962. It worked fine for over 30 years, which surely must have exceeded the expected service life. To my knowledge, this component has never caused the malfunction we encountered, and it may never happen again. But who knows?

We aren't astronauts and this ain't rocket science; but by using all the brain cells in the available brains (good CRM), everyone — including the civilian contractor technicians — contributed to the safe recovery of this airplane and crew - one of whom was me. And let me tell ya...we had a problem!





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