

THE COMBAT FILE

September 1997



The Combat Edge

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Highly successful B-2A daylight refueling tests at Edwards AFB were followed by night evaluations as captured in this rare inside cover picture. Here a KC-135E refuels a B-2A at sunset, just one of a series of tests culminating in full refueling capability for the B-2A.



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Captain Frank J. Leonardi
1 MDOS/SGOMB
Langley AFB VA

18 LESSONS IN SCHOOL SAFETY

Reprinted from USAA Magazine
OCT/NOV 1996
USAA, San Antonio, TX

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ACCent *on Safety*

One of the things about being a headquarters geek is that I get asked to attend far more social occasions with influential folks from outside the Air Force than I'd ever merit on my own "dumb fighter pilot" accord. Now, I still don't have much grace; but I have learned a few manners, and I can actually converse for a couple minutes without using either my hands or an expletive. I was recently at one of these soiree's (a fancy French word for "standing around with a cocktail in your hand") when I was asked a question which inspired me to write this month's "ACCent."

I was speaking with a well respected businessman from the newspaper world and he asked me what my job was. I replied that I was the Chief of Safety to which he said, "Oh, I guess that means you are responsible for preventing accidents." It took me back for just a second and then I answered, "No more than you are responsible for causing the things that make front page news." I went on to explain that we were both in the same line of work — communication. He printed stories to draw attention and to sometimes persuade public opinion but he couldn't make the news happen anymore than he could force people to buy his paper. I told stories about mishaps and risks in order to get people's attention; but, ultimately, it was entirely up to those folks doing a particular job whether or not they prevented a mishap. For both the newspaper and the safety business, it's often more important how you "package" the message than the message itself. Okay — drum roll, please — this is where YOU enter the picture.

See, the best lessons in safety are those that are learned firsthand and then shared with others. No voice speaks louder than the voice of personal experience, and no statement occasions more respect than the well worn line, "Been there, done that, got the T-Shirt." People read THE COMBAT EDGE because we present those first person accounts. Like sitting at your grandpa's knee and listening to tales of the good ol' days, the stories have the power to transport you into that world and to use the power and clarity of 20/20 hindsight to figure out what you might have done different. When we can do that, communication becomes education and education can prevent accidents.

So, this is your chance to send us your stories — anonymously, if you prefer — but don't let that decision slow up sharing them. Make the story short or make it long, whichever; just make it. As my newspaper acquaintance might say, "You there, YOU are the news; people want to hear YOUR story!"

Ya'll take care and keep each other safe!

*Colonel Turk Marshall
Chief of Safety*

Captain Frank J. Leonardi
1 MDOS/SGOMH
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Avenue of Hope

Suicide Prevention in the Air Force

...friends, co-workers and supervisors have a primary responsibility for helping someone who is suicidal. As one of their only "Avenue of Hope," you can try and help your friend get the assistance he or she needs before they take their life.

Avenue of Hope

All too often, our society gives suicide a romantic flavor. This is the image portrayed in movies as well as literature. The classic, dramatical production of *Romeo and Juliet* is an illustration of this faulty perception. Even beyond this, it is common to find songs with musical lyrics that glorify suicide. The following is an example: "Deep in the cell of my heart, I will feel so glad to go; sing me to sleep, sing me to sleep."

Unfortunately, the reality of suicide is much different than its portrayal in these mediums. For instance, recently a 22-year-old senior airman with a history of substance abuse and legal problems was having an extramarital affair. When his spouse discovered his infidelity, she left him. He then became deeply depressed and hung himself. His note read, "There is nothing more to say. No matter what I did, I always seemed to be hurting someone. I hope I can be forgiven for this. Always know that I love you." This is the type of scenario survivors have to struggle with as they ask themselves questions such as, "What could I have done?" or "Why didn't I see the warning signs?" The questioning, guilt, and struggles over the death of friends and co-workers who have committed suicide impact everyone involved.

Current statistics for the United States indicate that a little over 30,000 people commit suicide each year. While the suicide rate for the general population has remained steady over time, the rate among persons aged 15 to 24 has increased dramatically in recent decades. However, in spite of this rising rate, the group of people most susceptible to taking their life remains the elderly.

Statistics from an Office of Special Investigation (OSI) study that looked at Air Force suicides from 1991-1995 revealed an average annual rate of 13.9 active duty suicides per 100,000 members or approximately 62 suicides each year. During this time, the civilian rate of suicides was 11.8 per 100,000. A previous study by the Air Force OSI indicated that suicide rates between 1983 and 1993 averaged 11.8 per 100,000 or 66 per year. These numbers indicate a slight increase in the Air Force's suicide rate during the past several years.

The 1991-1995 OSI study statistics also indicate that the average age of the person who committed suicide during this time was 27. There were notable trends showing that people younger than 29 years old were in a high risk category with increasing risks again between the ages of 40 and 44. It is interesting to speculate about the increase in the 40 to 44 age range for Air Force personnel; one thought is that this is the time when many career people retire from military service. Gender statistics indicate that 94% of the suicides were committed by males while only 6% by females. Possible explanations for this drastic difference are the higher percentage of males in the Air Force and that men are more likely to use a quick, violent means of killing themselves, such as a gun or hanging. Ethnic statistics indicate that 88% of people who committed suicide were white, 9% black and 3% other. Statistics pertaining to rank indicate that the majority of suicides were committed by enlisted members. Of these, E-4's had the highest rate followed by E-3's and E-6's. For officers, captains had twice the rate of any other officer ranking.

Relational problems (70%) were given as the most frequent risk factor for people who

had committed suicide. This statistic infers that positive relationships with loved ones provide a sense of security to an individual while broken or troubled relationships bring much anguish. In addition, 62% of the completed suicides were "combinations" of several stressors. For instance, other risk factors noted by OSI during their analysis of successful suicides were job-related problems (44%), legal problems (32%), and depression (33%). It is important to note that this last statistic only addresses people who were officially diagnosed as depressed by a mental health professional. Depression and hopelessness are considered to be leading causes of suicide. As an example, suicide is often related to the use of alcohol. In some cases, a person may use alcohol to cope with depression. It should be noted, however, that alcohol can also be a factor in suicides among people who are not depressed. OSI believes that although alcohol abuse is a risk factor, it should not be viewed in isolation as a cause of suicide.

Compared to previous years, new studies indicate the number of suicides in the Air Force was down in 1996. Suicide, however, is still the second leading cause of death for active duty members after unintentional injuries. Suicide prevention, which has always been an important topic in the Air Force, has recently taken on an even bigger emphasis. Several recent changes have been initiated which include the recent publishing of Air Force Instruction (AFI) 44-154, "Suicide Prevention Education and Community Training." The primary focus of AFI 44-154 is to ensure that all Air Force personnel, not just active duty members, receive training in general suicide prevention education on an annual basis. Other changes in this area include an update to AFI 44-109, "Mental Health and Military Law," providing the opportunity for a member facing disciplinary action under the Uniform Code of Military Justice to seek help from mental health providers without fear of incriminating themselves. The third change deals with members under any kind of investigation getting the proper help he or she needs to successfully handle the circumstances.

The reality is there will always be a percentage of people that will commit suicide...self-murder. More often than not, however, a person's suicide can be prevented if he or she gets the help they need. Unfortunately, the Mental Health Clinic on your base is not able to be the full-time provider for primary suicide prevention. Remember, the 1991-1995 OSI study indicated that only 33% of the people who committed suicide were identified and seen by mental health professionals. This is where you as friends, co-workers and supervisors have a primary responsibility for helping someone who is suicidal. As one of their only "Avenues of Hope," you can try and help your friend get the assistance he or she needs before they take their life.

The first step in helping a person with such a need is being able to identify the signs of distress normally seen in a person who is contemplating suicide. These indicators are normally translated into the three stress categories of physical, emotional, and behavioral symptoms. Physical symptoms can take the form of frequent illnesses, headaches, stomach problems, diminished interest in sexual activity, and rapid weight loss or gain. Emotional components may take the form of anger, apathy, depression, or anxiety. Behaviorally, the person may display work problems, withdraw, act-out or begin having legal, alcohol, and/or financial problems.

If you have a co-worker or supervisor that appears to fit the above description or is displaying some other activity that raises your suspicions, it is time to intervene. When intervening, tell the person your concerns: "I noticed you seem really down lately and are more edgy than usual." Be specific: "I noticed you are more withdrawn and there are rumors that you've been drinking." If the person begins to talk about how they are feeling, try to understand them; but also provide reassurance that things can get better with your help and with the help of others. Ask the question, "I'm concerned you might end up hurting yourself if you don't get help. Have you thought of hurting yourself?"

A common myth with suicide is "mention-

ing suicide may give a person the idea." In reality, suicidal people already have the idea. Don't be afraid to talk about suicide. Talking about it frankly can help a person from acting on the idea. If the answer is no, and you believe this, be supportive and encourage contact with the Mental Health Clinic, chaplains, or family support. If the answer is yes or a sarcastic or defensive response, notify your chain of command and escort the person to the Mental Health Clinic or Emergency Room on base. If you are not sure, contact the Mental Health Clinic for advice. Some of the things you want to avoid with a person you suspect of being suicidal are: (1) do not try to shock or challenge them, (2) do not analyze the person's motives, (3) do not argue or try to reason with the person and (4) do not keep what you know a secret or leave the person you are concerned about alone.

True prevention begins with being aware of the services offered on your base. All the risk factors identified earlier have agencies on most Air Force installations that can address these concerns. For example, the Base Chapel can be a place for counseling and spiritual guidance. The Family Support Center offers assistance with financial planning, financial aid, and limited counseling. The Legal Office is available to provide advice and counseling in legal matters. The Family Advocacy Program at your installation provides services to families with special needs and to help counteract family violence. In addition, the Mental Health Clinic offers help for substance abuse and any emotional difficulties a person may be experiencing.

Suicide will never be totally eliminated as a cause of death in the Air Force. However, its frequency can be reduced...this is the aim of suicide prevention. In order for this to happen, we must all serve as astute, caring observers of our fellow co-workers, supervisors, and friends; and we must have the courage to intervene on their behalf, when required. Who knows? You may possibly be the only "Avenue of Hope" available at a very critical time in order to help your friend obtain the assistance so desperately needed. ■

Is That Bargain

*Ms. Audrey Terry
55 WG/SEG
Offutt AFB NE*

\$afe?

People love garage sales, thrift shops and flea markets. Most of us enjoy saving a dollar, and many of us have no choice but to shop secondhand because every dollar counts. Wise and knowledgeable buyers can indeed turn one person's trash into a bargain treasure.

Infant child restraints (i.e., car seats), baby cribs, and toys are favorite bargains to be found at garage sales and thrift stores. Let's take each one of these and explore the various pros and cons of buying secondhand. Understanding current safety information could prevent your "treasure" from turning out to be just trash.

Car Seats

Secondhand car seats are hot sales items. All seats have dates of manufacture on them. In the Safety and Health Council of Greater Omaha's 1996 booklet "All About Safety

Seats," they report that all seats manufactured after 1981 are required to meet Federal safety standards. Those manufactured earlier do not meet these standards and may not withstand a crash.

The Omaha Safety and Health Council recommendations for used and borrowed safety seats are as follows:

- Obtain a free copy of the latest list of safety seat recalls by calling the Auto Safety Hotline at 1-800-424-9393. You can also call the manufacturer for any recall information on the seat you are considering.
- Be sure the seat was manufactured after 1981. If the label is missing, don't buy the seat.
- Ask the owner if the seat has been involved in an accident. If it has, don't buy it.
- Ensure you get a copy of the manufacturer's instructions. They must be followed exactly

to ensure the safety of the child in the seat. Missing instructions can be obtained by calling the manufacturer.

- Make sure all straps, hardware, etc., are present and in good shape. The seat cannot be used until all of it is in place according to the manufacturer's instructions.
- Make sure the shell is firmly attached to the metal frame. The shell cannot have any cracks, breaks, bends, or missing pieces.
- Check that all hardware, shields, and straps are in good condition. These parts are available from the manufacturer and **must** be in place before the seat is used.
- Make sure the harness stays buckled when you pull on the straps. Also, if the buckle is hard to operate, don't buy the seat.
- Try installing the seat in your car. Some seats don't fit in all vehicles. If you have even the slightest doubt, then don't buy it. The real bargain in your case could easily be the purchase of a new safety seat.

Speaking from experience, I purchased a new car seat in 1982. Much to my surprise, I found myself needing to use it again 8 years later in 1990. Having kept the instructions, I called the manufacturer. The company sent me the things I needed to refurbish the safety seat for a nominal fee and assured me that it still met all necessary safety guidelines.

Never having used the seat in my present car, I found my car seat lacking the seat belt locking clip; this clasp is necessary for securing the seat belt with a free-sliding latch plate. I called the company and explained my dilemma, and they mailed me one free of charge. An additional reminder: If your car has a passenger side airbag, a baby facing to the rear must ride in the back seat. In a fender bender collision at over 8 miles per hour, the airbag may deploy. If it strikes the back of the safety seat, it could seriously injure a baby or possibly result in death. Remember, the safest place for all children is properly buckled in the back seat of the car.

Baby Cribs

Cribs are also a big seller at yard sales. The Consumer Product Safety Commission has specific guidelines for crib safety. Be ad-

vised that older cribs are not necessarily a bargain.

Two major factors in crib safety are the slat (or bar) distance and the mattress fit. The slats must be close together, no wider than two and three-eighths inches apart. This is so a baby cannot become trapped between the slats. The change in slat spacing was made because some babies strangled or suffocated after becoming wedged between the slats. Some older cribs have slats that are 4 and sometimes 5 inches apart. These cribs are no bargain when your child's life is at risk.

Mattress size is also a safety factor to consider. Mattresses should be a tight fit, not to exceed 2 inches inside the crib. Babies have become trapped and suffocated in the excess space between the mattress and the crib sides. Arms and/or legs can also get caught during sleep time; this can sometimes stop circulation and possibly result in permanent damage or sometimes death. If your infant is enrolled in daycare, ensure the cribs being used meet all required safety standards.

Toys

Even though the price of new toys today is astronomical, many good deals can be obtained at garage sales and thrift shops. However, parents should inspect toys carefully to make sure they are not cracked, broken or have missing pieces. Stuffed animals for children 3 years old and younger should not have removable ribbons, buttons or other decorations that can be pulled off and possibly swallowed. In addition, there should be no wires that poke or can work their way through plastic or fabric. The Consumer Product Safety Commission can be contacted on their Hotline for further information on toy safety at 1-800-638-2772.

A Final Word

Shopping at garage sales and thrift stores can be lots of fun. However, older items available at these sales can be hazardous for you and your family. So, take a little extra time prior to making your next yard sale purchase to ensure the item you plan to bargain for is a **safe** one. ■



Share the Wealth and Experience

Major Phillip P. Taber
HQ 8 AF/SEFF
Barksdale AFB LA

WHO'S REALLY THE "EXPERT" ON THIS STUFF?!?!

For all of you Flight Safety Officers (FSOs) who believe you have to be the subject matter expert on every system, part, or maintenance procedure involved with a mishap...and for every Flight Safety NCO who is overburdened with questions from others regarding every system, part, or maintenance procedure involved with a mishap...HAVE I GOT A DEAL FOR YOU!!! Use the assets your wing paid good money to train...*the Aircraft Mishap Investigation Course (AMIC)*-trained maintenance officers!

Many wings do not take advantage of having in-house trained maintenance investigators to assist with local Class C mishaps. These are the same individuals who are utilized by major commands (MAJCOMs) and numbered air forces (NAFs) to investigate Class A and B mishaps; however, very few wings utilize their training and skills as investigators. Odd as it is, these resources continue to go untapped. However, the direct benefits to the wing, wing safety office, and the AF are virtually immeasurable!

Flight Safety Officers

How many times have you said, "I don't have enough time to learn enough about this system, part, or maintenance procedure before I write and finish the report!" There-

About the Author

Major Phillip P. Taber is currently the Chief of Fighter Safety at Headquarters Eighth Air Force, Barksdale AFB, Louisiana. He has worked in flight safety for approximately 2 years. Major Taber has investigated two Class A mishaps and has participated in two interim Class A safety investigation boards. His flight experience includes the F-15C Eagle, the F-4G Wild Weasel and the F-4E Phantom II. Major Taber was recently awarded the ACC Flight Safety Officer Award for 1996.

-Ed.

fore, wouldn't it be nice to have someone available who already understands the topic and can translate it into understandable terms?

Flight Safety NCOs

How many times has your FSO left a mishap report on your desk on the way out to fly, mumbling something about finding a Technical Order which covers the assembly and illustrated parts breakdown (IPB) of a vertically enhanced widget? Of course, you know all there is to know about those widgets; but you still have the monthly ground abort rates to calculate, a junior Foreign Object Damage (FOD) meeting to attend, the updating of the Safety Investigation Board (SIB) roster, and about eight other projects which cry out for attention! Wouldn't it be nice if the FSO had another person available to help accomplish the thorough research and investigation required for a world-class mishap report?

Chiefs of Safety

Have you ever had a squadron commander, squadron maintenance officer, or the Air Force Safety Center (paid advertisement) hand you one of your mishap reports and graphically explain to you how, "There is no way that the mishap could have occurred like that because the widget is actually powered by AC versus DC as cited in your report!" Wouldn't it be nice to have someone who cannot only ensure that doesn't happen but can also act as quality control on the mishap reports which are extremely technically oriented?

Train Like You Fight...

Normally, an AMIC-trained maintenance officer's first mishap is a CLASS A involving a minimum of \$1,000,000 in damage or a loss of life. This would be comparable to sending a promising pitcher directly from the minors into the seventh game of the World Series, with the series and score tied, no warm-up, a patch over one eye, and one arm tied behind his back. Get the picture? *It's a blueprint for disaster!* Consider a Class C mishap to be a *warm-up* for a Class A or B mishap. This type of program also gives the FSO an opportunity to *warm up*. Utilizing the maintenance member requires the FSO to "lead" a mishap investigation team, similar to an actual Class A investigation. Both the maintenance member and the FSO can gain invaluable experience in mishap investigation!

So You Want to go to AMIC?

There are inherent responsibilities associated with accepting and receiving any type of formal training. Many personnel view AMIC as Officer Performance Report (OPR) fodder and sometimes do not consider the possible ramifications of being involved in a real mishap investigation. A good AMIC-trained maintenance officer can make a significant impact on a mishap investigation, which can have Air Force-wide ramifications! With funding for training slots becoming more scarce, wings should consider the benefit of training maintenance officers who are in a position to actively participate in wing-level investiga-

tions. The luxury of sending everyone who asks for a training slot has gone the way of the 8-Track tape deck...those days are over.

TECHNIQUES FOR IMPLEMENTATION AND PROPER UTILIZATION

Support

For a program of this nature to be truly successful, it requires the support of the WG/CC, OG, LG, and SG. Quite often, local mishaps are viewed as insignificant..."I'm sorry, Lt Dudley is too busy with the upcoming FILL IN THE BLANK to participate in your little investigation. You need to find someone else." It is probably safe to say it is easier to find someone "trained" in the fine art of FILL IN THE BLANK than it is to find an AMIC-trained steely-eyed investigator. The wing leadership must buy-in to this type of program or it will die due to lack of support by the organizations that own the maintenance officers. Do not allow the importance of a Class C investigation to be minimized. Remember -- most Class C mishaps are Class A or B mishaps that haven't grown up yet.

Training

At the onset of this program, all of the wing Flight Safety Officers, Flight Safety NCOs, and maintenance officers need to thoroughly understand the ground rules for employment of the maintenance officer into the mishap investigation team. The maintenance officer is a qualified investigator and should be utilized as such. Maintenance officers are "not" a new found source of administrative support. Abuse of this resource will result in its loss. The FSOs will also require training and guidance on the optimum use of a maintenance member. Again, this training will prove to be invaluable if the FSO is assigned to a formal SIB. Once the initial training has taken place, it can be incorporated into established annual training cycles (e.g., new Flight Safety Officer/Maintenance Officer training IAW AFI 91-202, *The US Air Force Mishap Prevention Program* /ACC SUP 1, annual board member training, locally de-

veloped wing safety training events, etc). To eliminate any questions concerning this topic, a policy letter should be issued directly from the Chief of Safety or the Wing Commander.

Cost of Implementation

Cost is often the bottom line on any new program or concept. The beauty about this program is the cost: APPROXIMATELY \$0,000,000.00. The cost in manpower is maybe 10 hours of staff work to develop and build an implementation plan for your wing.

The Dividends

Like many safety programs and initiatives, it is difficult or near to impossible to accurately determine actual impact. However, the dividends of a properly implemented program of this nature can produce one of the following scenarios which can have a direct impact on the wing's safety program:

Worse Case Scenario: More accurate mishap reports and a distribution of the wing's investigative workload.

Best Case Scenario: A World Class Mishap Investigation Team which can make a difference in mishap prevention.

The Bottom Line

An AMIC-trained maintenance officer can provide an excellent addition to a mishap investigation team. Developing this program will allow your wing mishap investigators to *walk* before entering an *Olympic* marathon. The interaction between the wing safety office and the maintenance officers can also spring forth a wealth of fresh ideas and approaches for mishap prevention. Every airframe we *save* and every injury we *prevent* translates directly into *combat capability!* ■

We've Moved!

Our new military mailing address [for regular mail sent through U.S. Postal Service and the Base Information Transfer System (BITS)] is:

HQ ACC/SEP
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219 Dodd Blvd
Langley AFB VA 23665-5000

For express or overnight deliveries [i.e., Federal Express (Fed Ex), United Parcel Service (UPS), or U.S. Postal Service Priority Mail]:

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Hampton VA 23669

Our telephone numbers are:

Voice (757) 726-8808 or DSN 574-8808
FAX (757) 726-8975 or DSN 574-8975

NUCLEAR SURETY

Its Success Depends on **You**

SMSGt William A. Hodgson, HQ ACC/IGIL-S, Langley AFB VA

What does "success" mean to you? My little, red Webster's pocket dictionary defines success as the "achievement of something desired or attempted." For most of us, success means meeting our mission requirements. Our performance is measured against a standard whether we build bombs, check weapon systems, launch aircraft, or put bombs on target. In these instances, it is easy to determine if we achieved something desired or attempted. We can count the number of bombs built, number of weapon systems checked, number of aircraft launched, and finally the number of targets destroyed. But, what about the nuclear surety program?

The Air Force Nuclear Surety Program is measured against a standard. The standard for nuclear surety is zero accidental nuclear detonations. Air Force personnel have trained on, exercised with, and operated nuclear weapon systems for over 50 years without an accidental nuclear detonation. Therefore, the Air Force Nuclear Surety Program has met the standard. As a service entity, the Air Force has continued to achieve and maintain its desired goal for over half a century. Truly, our nuclear surety program has been successful.

The Air Force Nuclear Surety Program was designed to provide for maximum safety in the performance of nuclear operations. It was designed "not" to fail; and people have made the biggest contribution for ensuring success of the program.

Whether you are a wing commander or an airman working in the munitions area, you must be willing to follow the rules. Our compliance with nuclear surety program guidelines is the reason why we continue to have a zero accidental nuclear detonation record. Everyone involved with nuclear weapons is important; we all play a significant role in carrying out the program.

The diverse operations performed with nuclear weapons on a daily basis provide many opportunities for an accident to happen. Supervisors, however, must ensure technicians always do the job right because nuclear weapons must be protected from hazards. All those who work with or around nuclear weapons have a responsibility to comply with approved technical order procedures. In addition, supervisors must identify practices, procedures, and conditions that are unsafe and could affect nuclear surety.

You and I are part of a team that has a "Tradition of Excellence." Our nuclear surety responsibilities are clearly defined in policy directives, instructions, and technical orders. We must learn these requirements because we have been entrusted with and are held accountable for the safe operation and maintenance of our country's nuclear weapons arsenal. Remember — the success of the Air Force Nuclear Surety Program depends on YOU! ■

ACColades

QUESTIONS OR COMMENTS
CONCERNING DATA ON THIS
PAGE SHOULD BE
ADDRESSED TO HQ ACC/SEF,
CAPT "E.T." MOORE
DSN: 574-8816

	TOTAL			ACC			CANG			CAFR		
	JUL	THRU JUL		JUL	THRU JUL		JUL	THRU JUL		JUL	THRU JUL	
		FY97	FY96		FY97	FY96		FY97	FY96		FY97	FY96
CLASS A MISHAPS	1	18	10	1	10	4	0	5	6	0	3	0
AIRCREW FATALITIES	0	14	0	0	2	0	0	2	0	0	10	0
* IN THE ENVELOPE EJECTIONS	2/0	12/0	9/0	2/0	5/0	6/0	0	4/0	3/0	0	3/0	0
* OUT OF ENVELOPE EJECTIONS	0	0	1/0	0	0	0	0	0	1/0	0	0	0

* (SUCCESSFUL/UNSUCCESSFUL)

CLASS A MISHAP COMPARISON RATE

(CUMULATIVE RATE BASED ON ACCIDENTS PER 100 FL HOURS)

ACC	FY 96	0	1.1	0.8	0.6	0.9	1.2	1.0	0.9	1.0	1.4	2.1	2.0
	FY 97	0	0	0	0.6	1.0	0.8	1.6	2.1	2.1	2.3		
8 AF	FY 96	0	0	0	0	0	0	0	0	1.2	1.0	1.7	1.5
	FY 97	0	0	0	0	0	0	0	1.2	1.1	1.0		
9 AF	FY 96	0	0	0	0	0	1.1	1.0	0.8	0.8	2.1	1.9	1.8
	FY 97	0	0	0	1.7	1.4	1.1	2.9	2.5	2.3	2.7		
12 AF	FY 96	0	3.4	2.4	1.8	2.9	2.3	2.0	1.7	1.5	1.4	3.1	2.9
	FY 97	0	0	0	0	0	0	1.0	1.7	1.5	2.0		
DRU	FY 96	0	0	0	0	0	0	0	0	0	0	0	0
	FY 97	0	0	0	0	5.7	4.7	4.0	3.5	6.4	5.8		
CANG	FY 96	0	1.9	1.3	2.2	1.8	2.2	1.9	1.7	2.0	1.8	2.0	1.9
	FY 97	0	3.8	2.6	3.3	2.7	3.0	2.6	2.2	2.0	2.2		
CAFR	FY 96	0	0	0	0	0	0	0	0	0	0	0	0
	FY 97	0	6.3	4.2	3.1	5.2	6.1	5.3	4.7	4.2	4.1		
TOTAL	FY 96	0	1.3	0.9	1.0	1.1	1.4	1.2	1.0	1.2	1.1	1.9	1.8
	FY 97	0	1.9	1.3	1.7	1.9	2.0	2.3	2.4	2.4	2.5		
MONTH	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	

HONOR ROLL

Units without a "Command-Controlled"
Class A flight mishap since the
stand-up of ACC on 1 Jun 92, or their
respective assimilation into the command.

5 BW	116 BW	175 FW
24 WG	119 FW	177 FW
28 BW	120 FW	181 FW
55 WG	122 FW	184 BW
79 TEG	124 FW	185 FW
85 GP	125 FW	187 FW
93 BW	129 RQW	301 FW
102 FW	132 FW	419 FW
103 FW	138 FW	442 FW
104 FW	142 FW	509 BW
106 RQW	147 FW	552 ACW
113 WG	150 FW	926 FW
114 FW	156 FW	939 RQW
	169 FW	
	174 FW	

As of 31 Jul 97

Ask Orvil

Colonel Ronald L. Garha
HQ ACC/SEO
Langley AFB VA

This month's letter to Orville R. Mudd regarding Operational Risk Management (ORM) comes from an anonymous person at the Pentagon.

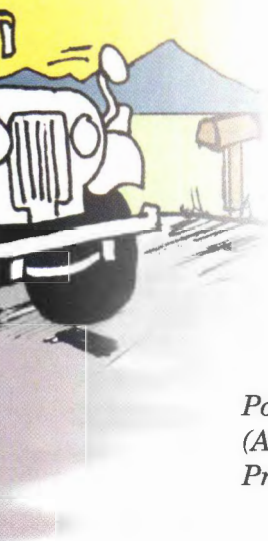
Dear Orville,

I read your first attempts to spread ORM throughout ACC, and let me say "nice try, but no cigar." As the founding father and current President of the "Puzzle Palace Pessimists," it took me and my astute colleagues very little effort to see right through your faulty logic and lame explanations. Allow me to quote you, "ORM is not an end product ... it is a tool to help you better and more consistently accomplish the tasks already on your plate." Or your other brain child, "ORM is not a replacement for the sound judgment and experience of our exceptional Air Force leaders ... On the contrary,

the purpose of ORM is to increase situational awareness so that it can complement the hard-earned experiential and intuitive capabilities of today's leaders." Please Mr. Mudd, spare me the rhetoric. My fellow members of the Puzzle Palace Pessimists and I see ORM for what it is, a "Catch 22."

You see, Orville (you don't mind if I call you Orville do you?), a primary reason to expend precious energy and scarce resources doing ORM is to prevent a loss (accident, death, or some other negative outcome.) But if you do squander precious assets in the name of ORM, and then the negative outcome does

le!



not happen, how do you know that your efforts were contributory? **In other words, how do you take credit for preventing an event that never happened?** Using your own example from Lakenheath, how could the commander take credit for preventing 5 funerals that never took place? You see, it is a "Catch 22." If the commander did nothing and experienced the losses, then in hindsight he could show that the expenditure of resources on ORM would have been prudent (the old Monday Morning Quarterbacking.) But when the commander expended the resources on ORM and no deaths occurred, he opened himself and his unit up to accusations of squandering assets when it was not required. Gotcha, Orville!

*Politically Correct at the Pentagon
(Anonymous for Reasons of Self-Preservation)*

Dear Politically Correct,

At the risk of insulting your obviously superior intelligence, permit me to drive the point of ORM home. Each of us possess unique experience, skills, and knowledge that when combined with the tools and techniques available in ORM, can and will tip the risk/benefit scales in our favor. The approach to our work and responsibilities is an individual decision. The fine tools and techniques of ORM are available to every member of ACC, but the decision to use them will ultimately be an individual one.

Regarding your question, "how do you take credit for preventing an event that never happened," two points come to mind. First, if the ORM analysis caused you to change the path

that you would have taken without that analysis, we can safely say that ORM impacted your decision making process. Secondly, if the path you chose by using ORM managed to beat the predicted odds (risks if you will), we can deduce that ORM helped you achieve a better outcome than could normally be expected. Bottom line is that while doing the ORM process you actually collected the data to prove the wisdom and expected benefit of your decision. Now take credit for that expected benefit achieved.

On the other hand, suppose that despite your best ORM efforts, a negative outcome still occurs. By using the ORM process you preserved the data and rationale that formed the basis for your decision, and ultimately the defense of that decision if you are called on to do so. Without the benefits of ORM, you are left with little more than emotional arguments and "fog of war" type excuses for your shortcomings. And if you have been reading the tea leaves lately, those defenses have been falling on deaf ears for the most part. Bottom line here; ORM can help you "Monday Morning Quarterback" your own decisions on Friday BEFORE the big game.

Keep those cards and letters coming,

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
219 Dodd Blvd
Langley AFB VA 23665-5000**

**DSN 574-8800, Fax DSN 574-8975
e-mail: garhartr@hqaccse.langley.af.mil**

Lessons in School Safety



Photos courtesy of Hampton City Schools, Virginia

Reprinted from USAA Magazine, OCT/NOV 1996, USAA, San Antonio, TX

Review Schooltime Safety Tips with Your Kids

On crisp fall mornings, legions of yellow school buses, young bicyclists, and pedestrians make their way along busy thoroughfares and narrow country roads to schools across the country. With all this traffic on the road, schooltime safety is one lesson no parent or student can afford to skip.

As you settle into the routine of the new school year, you can ensure that your children get an A+ in safety by teaching or reviewing important safety guidelines with them. The National SAFE KIDS Campaign offers these suggestions to help parents and children this school season.

Riding a School Bus to School

An estimated 22 million students ride school buses daily. Although school buses are among the safest ways to travel to and from school, injuries still occur. During a recent one-year period, 32 children ages 14 and under were killed, and an estimated 7,000 were injured, in school bus-related incidents. Twenty-five of the children killed were pedestrians. Many injuries happen when children are boarding or exiting the bus because of a blind spot that extends approximately 10 feet in front of the bus, obstructing the driver's view. Children are not aware of this blind spot and sometimes mistakenly believe that if they can see the

bus, the bus driver can see them. Take the following precautions for school bus safety:

**Teach these rules for
"waiting" for the bus:**

- Arrive at the stop at least 5 minutes before the bus arrives.
- Stay out of the street, and avoid horseplay.
- Always wait on the same side of the street as the school bus loading/unloading zone.

**Teach these rules for
"riding" on the bus:**

- Remain seated at all times, and keep the aisles clear.
- Do not throw objects.
- Do not shout or distract the driver unnecessarily.
- Keep heads and arms inside the bus at all times.

Teach these rules for "boarding and leaving" the bus:

- Walk single file.
- Use the handrail to avoid falls.
- Remove loose drawstrings or ties on jackets and sweatshirts and replace with Velcro, snaps, or buttons. Loose drawstrings or book bags can snag on bus handrails. Since April 1991, 7 children have been killed as a bus dragged them alongside the vehicle when their clothing or other item was caught on the handrail or in the door.
- Wait until the bus comes to a complete stop before exiting.
- Exit from the front of the bus.
- Be aware of the driver's blind spot (10 feet in front of the bus) when walking away from the bus.

Walking to School

Pedestrian injuries are the second leading cause of unintentional injury-related death among children ages 5-14. Each year, nearly 1,000 children ages 14 and under die, and another 29,000 are injured in pedestrian-related incidents. Safety experts recommend that children under the age of 10 never cross the street alone.

**Keep your children on firm footing
with these additional safety guidelines
for walking to school:**

- Choose the safest route. Look for the most direct route with the fewest street crossings. Walk the route with your children until they demonstrate traffic safety awareness. They should take the same route every day and avoid shortcuts.
- Teach children to obey all traffic signals and markings.
- Make sure children look in all directions before crossing the street. The safest procedure: Stop at the curb or edge of the road, look left, look right, and look left again for traffic before and while crossing.
- Teach children not to enter the street between parked cars or near



bushes that block a view of the street.

- Warn children to be extra alert in bad weather.
- Demonstrate proper pedestrian safety by being a good role model. Older children in your home or neighborhood should be encouraged to model safe pedestrian behavior.

Riding a Bike to School

Bicycle riding is one of children's favorite pastimes, with nearly 40 million riders ages 14 and under. Whether out of necessity or by choice, many of these children ride their bikes to school. Unfortunately, bicycles are associated with more childhood injuries than any other consumer product except the automobile. Approximately 250 children ages 14 and under die each year from bicycle-related injuries, and another 400,000 are treated in hospital emergency rooms for such injuries.

Teach these safety tips to help your children stay safe while riding their bikes:

- Insist your children wear bike helmets at all times when bicycling. Head injury is the leading cause of death in bike crashes, accounting for more than 60 percent of bicycle-related deaths and about one-third of hospital emergency room bicycle-related visits. A properly worn bike helmet can reduce the risk of head injury by as much as 85 percent and the risk of brain injury by as much as 88 percent. Purchase an approved bike helmet for each child, and insist that it is worn correctly.
- Plan a safe cycling route with your children, and ride it with them. (A safe cycling route may not be the same as a safe walking route.) Streets with a steady flow of fast-

moving traffic are not appropriate for young cyclists with limited traffic experience.

- Teach children to follow the rules of the road.
- Don't allow children to ride at night. Riding in nondaylight conditions (at dusk, at dawn, or at night) is nearly 4 times more risky for children ages 14 and under than riding during the daytime.
- Ask that your children's schools provide cyclists with "safe areas." Bike racks should be placed in areas where few motor vehicles and pedestrians travel.

Driving Children to School

Each year, nearly 1,400 children ages 14 and under die and another 269,000 are injured while riding in motor vehicles. Seventy percent of motor vehicle crashes occur within 25 miles of home at speeds below 35 mph.

Follow these safety precautions when driving children to and from school:

- Make sure all occupants are correctly restrained with child safety seats and/or safety belts every time you drive. The number of passengers you carry should never exceed the number of safety belts in the car.
- Carry no loose or heavy objects in the passenger area of the car that could injure someone if you stop suddenly.
- Allow extra time in your schedule to avoid the temptation to drive too fast when late.
- Drop off children as close to school as possible so they do not need to cross a street. Make sure they enter and leave the car on the curb side.
- Arrange to pick up children at a safe spot away from the congestion of cars around the school. ■

TRAILS & TRIALS

of Mountain Biking

Standing in the sunlight, the trail yawned invitingly underneath the trees. Scrub and smaller vegetation surrounded the opening, and the dimness of the trail tempted the unwary with the hint of coolness beneath the branches. With a deep breath, I placed my foot on the pedal and entered the trail, never guessing for one minute the thrill, excitement, and sheer terror of mountain biking!

The first portion of the trail was covered with tree roots. Minor bends in the trail let me practice the technique of keeping my hands light on the bars while turning the bike around the corners. The constant bouncing over the tree roots and minor obstacles jarred straight through to my shoulders (I felt this trail for a few days afterward -- from my hands up to my shoulders). Then the dreaded hill.

It was a sharp turn around a tree and blocked on the outside edge with fallen branches and tree trunks. I didn't see the edge until I started the turn -- HELP! I began sliding side to side as gravity rapidly accelerated me down the hill, both feet flying off the pedals, and the bumps on the trail feeling as though they would throw me off the bike. The trail immediately turned into a straight climb with a gentle turn at the top of the incline -- What a rush!! Finally at the top of the hill, I stopped -- gasping for breath, and very thankful I was still in one piece!

By the time I finished the trail, it was time for a water break. This was perhaps the most arduous workout I had done in awhile. The trail was less than a mile, but my legs burned from the work of pedaling over rough terrain. My arms were sore from the constant pounding and relentless effort to keep the bike under control as it began to slide through fallen leaves and around large tree roots. The sad part about it was that this was just the novice trail!

Now comes the serious stuff. The trees are there, as is the rough terrain, the scrub vegetation, the hills and ravines. By the way, did you know that trees come alive when you're on a bike -- reaching out to grab you at the least suspecting moment? Therefore, the most important item on my equipment list is my helmet! Now, I'm sure you are thinking -- "helmets are just for kids, I don't need no stinkin' helmet!" That's where I will tell you that you are dead wrong. The trails I rode on require a helmet, and the park rangers as well as the local police will cite you with fines for not wearing one. True, you may get away with not wearing a helmet some or even most of the times you're there, but when you get ready to enjoy this sport and jump on your bike, remember what happened to a friend of mine ...

"The trail was great -- a difficult one -- with a steep hill staring right at me. As I pedaled furiously up the hill, I ran out of steam. Now, I should have jumped off, but that didn't happen too easily -- and I wanted to make that hill! The bike stopped, I stopped, then together we started to roll backwards until my bike and I finally flipped over and slammed into the trunk of a nearby tree. As I laid there in a daze, I took stock of my surroundings. My bike was bent, and I had some cuts and scratches; but it could have been worse. When I took my helmet off to wipe the sweat away, I saw it. The helmet was cracked in half -- it could have been my head! It made me a believer in helmets." ■

Mountain biking is a thrill a minute, but do it the safe way and use your head -- covered in a helmet!

Major Lori J. Pulaski
HQ ACC/SEE
Langley AFB VA



MONTHLY AWARDS

FLIGHT LINE SAFETY AWARD OF DISTINCTION

*SSgt Donald R. Lewis, SSgt Clayton G. Dunn, SrA Jonathan W. Cornette
7 CRS, 7 BW
Dyess AFB TX*

On 12 May 97, SSgt Lewis, SSgt Dunn, and SrA Cornette, fuel system technicians, were assigned to mid-shift and received a call to dispatch to the flight line in response to a B-1B aircraft ground emergency. They arrived at the aircraft to find fuel pouring from the right nacelle. While the size of the leak made it impossible for him to pinpoint its exact source, SSgt Lewis quickly determined the most likely source was one of the engine feed manifolds. Knowing if nothing was done the fuel would continue to leak onto the ramp until the aircraft was empty, he immediately instructed SSgt Dunn and SrA Cornette to remove the mixer bay panel to gain access and manually close the right engine feed isolation valve. SSgt Lewis then entered the right over-wing fairing to remove the right cooling loop isolation valve blanket and manually close that valve. Both valves were accessed and closed within 15 minutes of the crew's arrival, stopping the spill. Officials later estimated the amount of fuel spilled to be 4,000 gallons. The aircraft at the time was being refueled and contained 20,000

gallons. The decisive and courageous actions of SSgt Lewis and his crew averted the spilling of an additional 16,000 gallons of highly volatile fuel onto the ramp, preventing a serious situation from developing into a potentially catastrophic one.



AIRCREW SAFETY AWARD OF DISTINCTION

*Capt Rick A. Younker, Capt Domenico Sarnataro,
Capt Jon M. Bergstrom,
SSgt Robert W. Haas, SSgt David J. Leahy,
SrA Michael C. Scotto, Jr.
43 ECS, 355 WG
Davis-Monthan AFB AZ*



While on orbit over Needles AZ, the crew of this EC-130H observed that the number three engine had a slightly higher fuel flow and lower turbine inlet temperature (TIT) than the other three engines. All torque indications were normal. While monitoring this condition, the number three TIT and fuel flow difference continued to slowly increase. Captains Younker and Sarnataro recognized these seemingly insignificant indications as similar to those which previously caused the loss of a C-130 and its crew. Upon confirmation of their observations and discussion with the rest of the crew, Captain Younker directed the engine be shut down. The crew declared an emergency and flew a flawless three-engine approach and landing at Luke Air Force Base AZ. After landing, the engine was borescoped; two first stage turbine blades were sheared, the turbine showed signs of corrosion due to high temperatures, and foreign object damage was present on subsequent turbine sections. A malfunctioning TIT system had masked the severity of the situation. Continued operation would certainly have resulted in a failed turbine section and a catastrophic engine failure. The crew's quick actions, in-depth knowledge of aircraft systems, and clear understanding of the situation at hand broke a link in the chain of events rapidly leading to disaster and averted the potential loss of a \$30 million EC-130H and its crew.

CREW CHIEF EXCELLENCE AWARD

*TSgt Bruce M. Kustes
131 AGS, 131 FW
St Louis MO*



TSgt Kustes was assigned to complete a single-engine run on an F-15 that had just undergone maintenance for a fuel line leak on the #2 engine. After completing all required pre-run inspections, he entered the cockpit for the engine run. Once satisfied that all checklist items were complete and the ground crew was in place, he started the Jet Fuel Starter and engaged the engine for start. All indications for start were normal until 45% RPM, it was at that time that TSgt Kustes noted the engine was accelerating at a higher than normal rate. With the throttle in idle the engine auto accelerated to 90% RPM. He quickly assessed there was a problem associated with the throttle and elected to shut down the engine with the master switch. When he placed the #2 master switch to the off position, he observed a large fire ball coming from the engine augmentor. Simultaneously, the ground crew called for a shut down for an apparent problem. After the engine came to a stop, TSgt Kustes completed the remainder of the shut down checklist items and exited the cockpit. The aircraft was immediately impounded for investigation. The investigation revealed that the #2 engine throttle shaft had become disconnected. Despite the rapid sequence of events, TSgt Kustes maintained his control over the situation. He instinctively applied brakes during the auto acceleration; failure to do so would have resulted in the aircraft jumping the chalks. If the mishap aircraft would have jumped the chalks, its direction would have been between two parked F-15s. TSgt Kustes was responsible for the prevention of a disastrous mishap possibly involving loss of life and three multimillion dollar aircraft.



GROUND SAFETY INDIVIDUAL AWARD OF DISTINCTION

*TSgt Richard D. Wright
131 LS, 131 FW
St Louis MO*

On 22 Feb 97, TSgt Wright returned to the POL storage area after completing his work on the flight line refueling several aircraft. After parking his vehicle and exiting the cab, he looked to the rear of the truck and noticed what could best be described as steam rising from the ground in the vicinity of an electrical outlet used for plugging in the vehicles' winterization kit. Based on the outside air temperature and the angle of the sun, TSgt Wright felt the cause of the steam was not a natural occurrence. He quickly walked to the area for further investigation. The ground was not only very hot to the touch, but TSgt Wright could smell the distinct odor of burning electrical insulation. He quickly determined the source of the heat and odor was the buried cable supplying the receptacle. He ran to the POL office and pulled the fire alarm. He then began to move all of the refueling trucks to the other side of the compound lessening the immediate danger. When the fire department arrived, accompanied by a Civil Engineer Squadron electrician, it was determined an underground fire was taking place. The circuit breaker for the system was pulled and locked out. Investigation revealed that a short had occurred and electrical arching between the wire and the receptacle caused the fire. TSgt Wright's diligence, attention to detail, and fast action were directly responsible for the detection and elimination of an extremely hazardous situation. Had this condition gone undetected, the fuel vapors from the parked trucks could have ignited, causing a catastrophic explosion and fire. The loss of life and equipment would have been inevitable.



WEAPONS SAFETY AWARD OF DISTINCTION

*SSgt Edgar P. Williams, A1C Michael R. Knight
347 EMS, 347 WG
Moody AFB GA*

On 10 Jun 97 at 0830, SSgt Williams and A1C Knight began an electrical operational checkout of an AIM-9M-7 Guidance Control Section. The Captive Carry Missile was identified with a flight line discrepancy: "Seeker will not track to target." During the Return Munition Inspection, A1C Knight noticed that the Captive Flight Adaptive (CFA) on the missile umbilical showed signs that an electric short occurred between the launcher and missile. He immediately stopped the operation and promptly notified his crew chief, SSgt Williams. SSgt Williams inspected the CFA and notified Munitions Control and Quality Assurance to ground the A-10 Thunderbolt aircraft. Further investigation by Aircraft Weapons personnel revealed that the aircraft generator had malfunctioned, damaging the electrical wiring harness from the aircraft to the launcher. A1C Knight and SSgt Williams' attention to detail not only saved a \$170,000 training missile, but more importantly, prevented the launch of an aircraft with a serious undetected electrical malfunction. Sometimes it's the little things that make the BIG difference.



UNIT SAFETY AWARD OF DISTINCTION

*45th Reconnaissance Squadron
55 WG
Offutt AFB NE*



Since July of 1996, the 45 RS's "plate" has been full providing reconnaissance and treaty verification missions to satisfy Joint Chiefs of Staff (JCS) taskings around the world. The 45 RS's diverse missions include COBRA BALL RC-135S collections from missile launches, OPEN SKIES, OC-135 aerial photography and CONSTANT PHOENIX, and WC-135 air sampling operations.

Supporting a JCS-directed collection, the unit's two COBRA BALL aircraft deployed to Misawa in July. Flying 220.7 hours in 38 sorties, this high-paced, around-the-clock tasking lasted 37 days and required the deployment of over 90 squadron personnel and over 10,000 lbs of support equipment and spare parts. The aircrew and maintenance teams performed flawlessly on these high priority missions, completing 100% of the requested taskings against DoD's highest-priority collection target without a single Class A or B incident.

At the same time the COBRA BALL was deployed, one of only two OPEN SKIES OC-135B aircraft was tasked by the On-Site Inspection Agency (OSIA), a DoD Joint service agency, to overfly the Czech Republic in support of the 1997 OPEN SKIES Treaty. Flying 9 sorties in 12 days, out of never-before-seen airfields, the aircrew tested not only their own limits, but those of the aircraft and maintenance as well. Again, the missions met 100 percent of the requested tasking and produced a perfect safety record.

Within days of returning from the COBRA BALL and OPEN SKIES deployments, the unit's only WC-135 CONSTANT PHOENIX aircraft deployed to Kadena AB, Japan, to collect air sampling of a nuclear detonation in support of treaty verification. The 6-day deployment involved time-critical recovery of air samples and had the aircrew operating long days with several heavy air refuelings involving onloads of up to 90,000 lbs of fuel.

September found the 45 RS deploying for OPEN SKIES missions over the Ukraine. During the intra-theater deployment, the aircrew had to react to an inflight emergency after take-off involving the emergency shutdown of one of their engines, forcing them to dump fuel and make an emergency landing. After repairs, the crew went on to complete this high profile overflight, a

mission which involved Ukrainian and US government dignitaries.

Not missing a beat, in November COBRA BALL aircrews and maintenance teams deployed to Misawa supporting a JCS-directed PONY EXPRESS operation. During another high ops tempo TDY, crews flew 14-hour sorties over a 2-week period. As this deployment was winding down, one of the COBRA BALL aircraft was diverted to Perth, Australia. This high-visibility deployment required coordinating with several different agencies and involved numerous air refuelings and sorties of extremely long duration. The deployed crews flew over 470 hours and 31 sorties over a 45-day period, again with no Class A or B incidents. This mission was hailed by senior officials at the National Reconnaissance Office (NRO) as "perfect," "unbelievable," and "successful beyond our wildest imaginations."

Returning from this collection the COBRA BALL was quickly tasked to redeploy to Perth, where they flew an NSC-directed operational sortie within critical time and location limits, gathering data to validate the national agencies' space models. To accomplish this mission, the crews and maintenance team produced over 80 hours of flight in just 10 days with a flawless safety record.

COBRA BALL again deployed in February to Eielson AFB AK. After launching on an operational reconnaissance sortie, the crew encountered an inflight emergency with fire indications on the number two engine. The crew quickly reacted by shutting down the bad engine, dumping fuel, and making an emergency landing at Eielson. Maintenance crews made a Herculean effort to fix the aircraft and prepare it for a successful relaunch in time to collect data on a second NCA-directed target.

With a squadron as diverse as the 45 RS, operations and maintenance must form a cohesive team aggressively promoting safety, yet completing grueling higher headquarters missions. Through attention to detail and selfless dedication to safety, all 45 RS deployments were successfully completed without injuries or damaged aircraft. This record, despite multiple deployments, high ops tempo, and emergencies, warrants 45 RS recognition as a premier safety unit in Air Combat Command.



*TSgt Tracy E. Turner
436 TS/DOSE
Dyess AFB TX*

YOUR FIRST LINE OF DEFENSE

It was a warm, calm, late-summer morning. I was sitting at my computer in the Propulsion Laboratory Safety Office working on a report for an inspection I had conducted the day before. I was anticipating the completion of the report; it was pretty cut and dry since there were very few problems found during the inspection. We had planned an office luncheon for that day, and I was looking forward to a relaxing time with my fellow safety professionals. We were located in different laboratories; so whenever we got together, it was a fun-filled event. My plans for that day were about to take a profound change.

It was about 7:45 a.m. when the phone rang. When I answered, an anxious voice replied, "Sergeant Turner, we've just had an accident at the Propeller (Prop) Shop." Then, the caller hung up the phone without another word. I immediately stopped what I was doing and grabbed the mishap response kit. I could already hear the sounds of sirens as emergency vehicles headed toward the scene. As I walked briskly toward the Prop Shop, I tried to imagine what the mishap was...maybe another propeller disintegrated on the test rig or another fuel spill. "Yeah, something like

The left side of his face was swollen beyond belief; it looked like a red balloon filled with water and ready to pop.

that," I thought to myself in hoping for the best.

About 2 minutes later, I reached the scene. A crowd had already begun to gather outside the main entrance. This was my first indication that something more than a routine equipment failure had occurred. As I entered the shop, I couldn't believe what was happening right before my eyes. It was all happening at lightning speed. The mishap victim was yelling and screaming and flopping around on the floor in apparent agony. There were three Emergency Medical Technicians (EMTs) trying to hold him still. After struggling with him, they finally brought him under their control...he became motionless. That's when I saw the worker's face.

The left side of his face was swollen beyond belief; it looked like a red balloon filled with

water and ready to pop. Upon seeing this, all my senses went numb. It seemed as if I had been watching this horrifying scene for hours. After a few moments, the numbness subsided and I began to function normally again. The EMTs stabilized the worker and transported him to the Wright-Patterson AFB Medical Center. Upon examination by the attending physician, it was determined that the worker had lost his left eye and the left side of his face was fractured. He was also in a severe state of shock.

I secured the mishap scene and began interviewing witnesses. The two witnesses who were working with the victim at the time of the mishap provided me with most of the facts I needed. They were troubleshooting the hydraulic system on the main propeller rig. While attempting to duplicate a problem in the hydraulic system, the worker was injured by a hydro-mechanical component he believed was inert. The witnesses stated he had pulled the circuit breaker and disabled the power to that particular component of the system. During my investigation, I discovered he had failed to account for the back-up pneumatic system, a nitrogen charged accumulator pressurized at 8,000 pounds per square inch (psi). When he attempted to duplicate the problem, the back-up system operated as designed. The accumulator, as part of a closed loop system, functioned in sequence and compensated for the loss of electrical power at the primary component. When the 8,000 psi was discharged from the accumulator, it pushed the piston rod of an actuator a distance of 16 inches in less than half a second. The worker's face was approximately 2 inches from the surface pushed by the actuator; when it struck him, he flew 15 feet across the test bay into a bulkhead.

Now that you know how this worker was injured, I'll tell you about the safeguards that were available, but not used. There were maintenance manuals present for guidance on the task being performed; however, they did not refer to them. The individuals were all veteran technicians and had worked on this particular system for a combined total of 22 years. A combination of complacency and omission of standard operating procedures contributed to the mishap.

Workers conducting maintenance on equipment where release of stored energy is possible must take steps to guard against the unexpected operation or start-up of the particular system being serviced. This method of guarding is commonly known as placing the equipment in a Zero Mechanical State (ZMS). After all energy sources have been neutralized, the machine is defined to be in ZMS. ZMS provides maximum protection against unanticipated movement of equipment and precludes the unexpected release of stored energy. This includes locking out electrical energy as well as the nullification of kinetic and potential energy through isolating, blocking, supporting, retaining or controlling the system (e.g., the back-up pneumatic system's nitrogen charged accumulator for this particular mishap).

Lock-out/Tag-out refers to the two primary methods used to de-energize machinery during servicing. The idea is that if you're going to do work on a machine, you need to be protected from the machine being turned on or activated by mistake. You may be asking yourself, "What's involved in 'Lock-out' and how does it differ from 'Tag-out'?" Well first of all, "Lock-out" means that every person that's going to work on the equipment literally padlocks the power switch/switches or power sources valves in the "OFF" position. This person has the only key to the padlock; this totally eliminates the possibility of an accidental start-up. The machine can't be started until all locks are removed. "Tag-out," on the other hand, is just what it sounds like. If a machine is incapable of being locked-out, the person performing the work on the machine puts a tag on the power source switch that states "DO NOT START." Locking-out equipment is preferred over tagging-out. So if a system can be locked, it should be **"Locked-out."**

As you read this article, you may have thought of industrial workplaces with which you are very familiar or work at yourself. I encourage you to use these same safeguards on the job, at home, or wherever you or others may be exposed to potentially hazardous situations. Remember, as the old adage goes, it's always better to be safe than sorry. ■

SEEING IS BELIEVING

*MSgt John Paternoster
393 BS/MAOC
Whiteman AFB MO*

Proper eye protection is a must when working with all power equipment such as mowers, edgers, blowers, and chainsaws. Don't depend on eyeglasses (shatterproof or not) to shield your eyes from fast-moving, sharp projectiles or debris. Buy and use only safety eyewear that complies with American National Standards Institute (ANSI) Standard Z87.1-1989. Consider the safety of those around you also. Keep them out of the "danger zone" until the job is done.

- Ed.



I'm not a gambling man; however, I'm sure I wouldn't have

hesitated to make a bet on Friday that I would have sight in both my eyes on Monday. Looking back (no pun intended) on that perilous day, I am amazed by the combination of events that led up to this accident. It was a typical sunny, spring Sunday afternoon with big, crisp, white clouds against a true, blue sky. With a little breeze moving west to east cooling the sun's warmth, it was a perfect day to mow the grass on my half acre plot of the planet.

The Smell of Exhaust in the Afternoon

In the garage, I preflighted my 22-inch, self-propelled, rear bag, push lawnmower with a 5 horsepower engine. The *Tool-man* would have been proud of me! He would have been especially "proud" of the modification I made to the bagger attachment. I removed the grass-catch bag leaving the frame to hold the mulching door wide open. This modification allowed more grass clippings to be discharged out the back of the mower. Of course, my sneakers and socks were stained dark green, and my legs tingled from being smacked by the clippings and debris thrown out of the open chute ... but it was a small price to pay for more cutting power.

The Plot Thickens

This was a particularly fine day for some dependent type on-the-job training. My 12- and 10-year-old daughters were both eager to cut grass with my self-propelled mower. Of course, I was very willing to turn over this ritual to my young and able-bodied children. My older daughter successfully completed the back yard while my younger daughter and I swept off the patio and cleaned the bone white, PVC lawn furni-

ture. As uneventful as the day was going, I allowed my younger daughter to mow the front yard while I kept a loose hand on the bar to assist and guide her as needed.

If I Only Knew Then What I Know Now

As destiny or fate would have it, I took over for my younger daughter to handle some particularly tricky maneuvering around our mailbox. Pressing on with my lawn care in an expeditious manner (all the while concentrating on my ice cold glass of tea waiting for me in the refrigerator), I observed a foreign object in front of my mower. With my 22" cutting deck and 5 horsepower engine, I steadfastly rolled over my prey expecting confetti to be discharged immediately from the mower. What I got was a solid projectile moving so fast I could only hear it. It struck a section of the mower handle that I was protecting with my hand. I barely noticed the pain in my hand when the object struck me by the left eye. My hands immediately sprang from the handlebar, and the mower obediently shut down. I stood there in shock for a moment, attempting to put together what just happened. My attention was immediately redirected to the status of my girls. Once I realized my girls were sitting down next to the house and completely out of harms way, I commenced the ritual pain dance ... rocking back and forth while holding my eye and muttering sounds of agony, distress, and sorrow.

Going Over the What Ifs

I forgot to mention to you my eyesight is so bad that I wear titanium frame, prescription glasses with shatterproof, plastic lenses

every waking moment. Because I wear these glasses, my trophy for this act of foolishness is an almost unnoticeable bruise to my left cheek ... we won't discuss the black and blue knot on my left index finger. Besides, I could have bruised my finger by dialing a telephone.

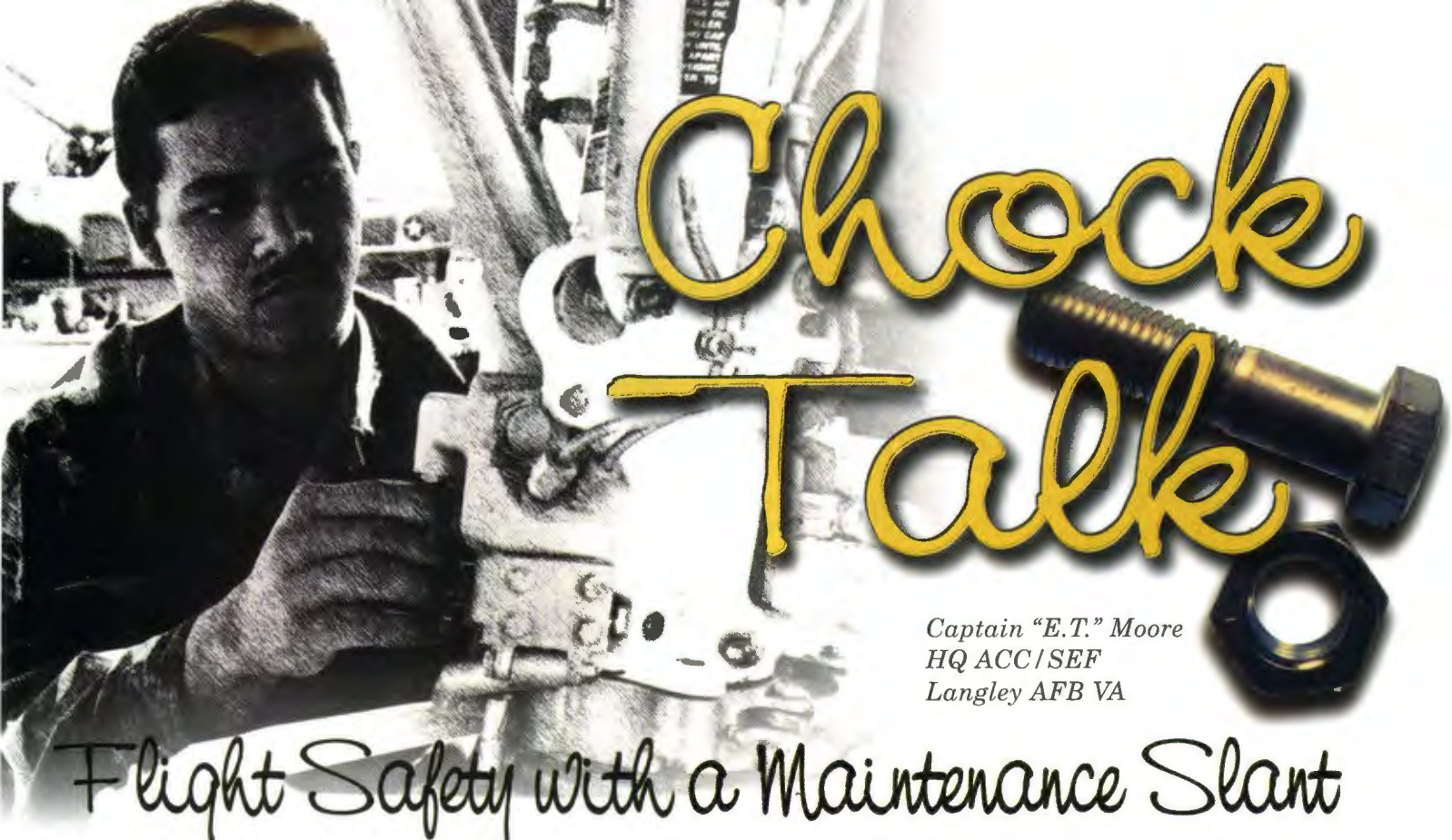
Parents reading this article know all too well the sleep I lost going over the what ifs: "What if it struck my daughter in the eye? She'd be blind now! What if it struck my daughter in the throat? She'd be dead now!" Accidents like this happen every day; accidents like this injure and kill people every day. Accidents like this inspire people like you and me to wake up and pay attention to prescribed safety guidelines. I am fortunate enough to get a second chance to participate in raising my beautiful daughters.

Now, a Word from My Soap Box

Are you ready to gamble with your life ... or the lives of your family members? I gambled and won — this time. I approximate my fortune to winning the lottery or hitting the big jackpot at the slots. How often does this happen? The answer is to this rhetorical question is, "Not very often!"

Folks, before you mow your lawn the next time, think about the "benefit versus risk." You might conclude that the extra step of putting safety goggles on for protecting your eyes is better than the risk of having the lawn mower blade throw pieces of sharp glass or metal into both your eyes. I hope that you decide (as I have) that the benefit of wearing eye protection while mowing your lawn is well worth the effort. Do you and your family a great service and "Don't accept anything less than complete eye protection!" Seeing is believing! ■

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Chock Talk

Captain "E.T." Moore
HQ ACC/SEF
Langley AFB VA

Flight Safety with a Maintenance Slant

Maintenance Documentation

We've all heard the expression, "the job's not finished till the paperwork's done." Never has this statement been more accurate than when it comes to our business. Unfortunately, a recent Class A mishap highlighted just how critical maintenance documentation, or lack thereof, can be.

The mishap aircraft (MA) was deployed to participate in a training exercise. During the deployment launch, one of the aircraft's afterburners failed to light. No problem though... plenty of concrete ahead, plenty of "thrusties" behind, and lots of "lifties" going over the wing to get the jet safely off the ground. The aircraft continued the mission and landed at the deployed location uneventfully. Now... what should have happened didn't. The pilot "mentioned" to maintenance that he had an afterburner problem on takeoff... *but he did not document the discrepancy in the aircraft forms.* Naturally, if there is no documentation, there is no discrepancy; and if there is

no discrepancy, there is no maintenance; if no maintenance... no corrective action; if no corrective action... you still have a "sick" jet. By now I'm sure you see where this is leading. The stage has now been set for the mishap sortie.

The mission briefing called for a two-ship formation afterburner takeoff. Lead gives the head nod, and both pilots select afterburner. Lead's burners light normally and away he blasts down the runway. Number two (the MA) immediately detects an acceleration problem with his jet as his wingman moves further and further away. A quick engine instrument check leads the mishap pilot (MP) to believe he has a problem with one of his afterburners. Due to some other problems with the engine control system (which we won't go into here), the MP deselected afterburner on the engine which was operating normally. The "bad" engine was left in afterburner where it was producing marginal thrust; the "good" engine was not producing optimal thrust as it was no longer in afterburner. The aircraft was now operating in what can be best referred to as a

"thrust deficient situation," to say the least. This time there wasn't enough concrete ahead of the jet or enough "thrusties" coming out of the engine or "lifties" going over the wing to salvage the takeoff. The aircraft barely got airborne in "ground effect" and then began to settle back toward the ground. The pilot made the right decision and ops checked the ACES II ejection seat. The jet impacted the ground; and the fireball it created melted nearly 70% of the pilot's parachute, causing serious injuries. (He is okay now and back to flying.)

Looking back on the chain of events that caused this mishap, we can identify at least a couple of instances where the mishap chain could have been broken. Taking such precautions would have avoided crossing the "final factor" danger line, keeping a \$30 million jet on the ramp, and preventing a pilot and his family from having to think about what could have been.

First, one could argue that the jet should have never left home station with a bad engine. But it did, and we maintainers were not involved in the decision-making process of the pilot during takeoff roll (see Lt Col Parrilla's article "The Decision to Abort," in the August 1997 issue of *The Combat Edge* for further information on preventing high speed abort mishaps). This article, however, is directed to the maintainers and the role we could have played in avoiding this mishap.

When the jet arrived at the deployed base, the pilot "mentioned" the afterburner problem on takeoff, but didn't document it. We could argue in circles on this point. Of course, he should have... no question there. Let the operations officers deal with that. But once it was mentioned to maintenance ... documented or not ... we had a moral obligation to ground the jet, document the problem, and repair the malfunction. The point is not whether the

jet had a "pilot reported discrepancy" or a "ground found" discrepancy. The point is we had a sick jet, and we knew it. No excuses! A maintenance check of the malfunctioning engine would have discovered the bad fuel controller that caused the afterburner not to light and, therefore, would have broken the mishap sequence resulting in a saved jet.

Harsh? Perhaps. Correct? On the mark! This basically boils down to an integrity issue. There is not a career field in our Air Force that requires more of it than the business of maintaining jets. Maintenance leadership must continue to emphasize the criticality of all we do ... from the most labor intensive maintenance task to completing the paperwork when the job is done.

"Not a single sortie we fly is worth compromising the integrity of an aircraft or the life of an airman."





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