

THE COMBAT EDGE

OCTOBER 1994

The Combat Edge October 1994





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ACC SP 127-1

VOLUME 3

ISSUE 5

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FIRST TO GO, FIRST TO FIGHT, INTEGRATED AIRPOWER, DAY ONE

*Brig Gen Lansford E. Trapp, Jr.
366 WG/CC, Mountain Home AFB ID*

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BARKSDALE B-52s FLY AROUND THE WORLD

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THE CREWS OF FUTILITY MAGELLAN

"...Yes, fatigue is a factor in all our tasks and it does impact the mission. But fatigue does not prevent us from doing our mission. We may not be smooth, but we will be effective."

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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

The Combat Edge (ISSN 1063-8970) is published monthly by the Air Combat Command, HQ ACC/SE, 130 Andrews St Ste 301, Langley AFB VA 23665-2786. Second-class postage paid at Hampton VA and additional mailing offices. POSTMASTER: Send address changes to *The Combat Edge*, HQ ACC/SEP, 130 Andrews St Ste 301, Langley AFB VA 23665-2786.

DISTRIBUTION: F(X). OPR: HQ ACC/SEP. Distribution is controlled through the PDO based on a ratio of one copy per ten persons assigned. Air Force units should contact their servicing PDO to establish or change requirements. Other DOD units have no fixed ratio and should submit their requests to the OPR.

ANNUAL SUBSCRIPTIONS: Available to non-DOD readers for \$24 (\$30 outside the U.S.) from the Superintendent of Documents, PO Box 371954, Pittsburgh PA 15250-7954. All subscription service correspondence should be directed to the Superintendent, not HQ ACC/SEP.

CONTRIBUTIONS: Articles, comments, and criticisms are welcome. Write: Editor, *The Combat Edge*, HQ ACC/SEP, 130 Andrews St Ste 301, Langley AFB VA 23665-2786, or call DSN 574-3658/commercial (804) 764-3658. The editors reserve the right to edit all manuscripts for readability and good taste.

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ABOUT THE COVER

After forty-seven hours, 20,000 miles, and 27,000 pounds of bombs dropped on target in the Kuwaiti desert, two aircrews touched down at Barksdale AFB, La. at 6:35 a.m. on 3 Aug. 1994, completing the first around-the-world flight coupled with a bombing mission.

ACCent on Safety

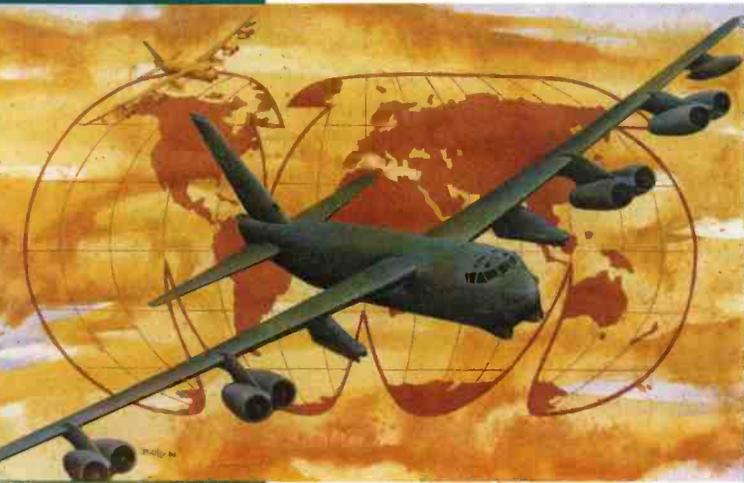
It's now been just over a month since I slid into the chair here at ACC Safety. Let me tell you — this job is great! Hectic, busy, and sometimes frustrating, but still great. My hat's off to Col Bob Jones for turning over a fine organization. Since I'm writing this in early September, I'm very hesitant to comment on how we'll finish out the fiscal year in relation to our established goals. However, one unqualified success was the command's performance during the Labor Day Holiday. In testimony to your efforts, there was not one reportable mishap in any of the safety disciplines during the holiday. Historically, the Labor Day Holiday, which caps off our "101 Critical Days" of summer, has cost us in terms of mishaps and lost time due to injuries — but not this year! Suffice it to say, at this point, there will be some success stories and some areas that may fall short when we wrap up FY 94. All-in-all, it looks as if we'll finish the fiscal year in a fine fashion. I promise you a complete FY 94 stakeholders report next month after we consolidate and finalize all of the statistics.

In the meantime, we're pressing ahead and establishing new safety objectives for FY 95 that will move us closer to our STRETCH goal of zero mishaps. In preparing our FY 95 objectives, we decided that the time and circumstances were right for a quantum increase in performance rather than the more traditional incremental approach to improvement. Continuing fiscal constraints, personnel reductions, realignments, and base closures coupled with increased deployments and ever-expanding commitments dictate we establish and achieve ever more challenging objectives. Our safety objectives for FY 95 will be embodied in Safety Focus '95 which is being coordinated at this time (remember, this is being written in September). Without going into great detail on the objectives (I'll give you a complete rundown next month after final coordination is complete), just let me say they are going to be the toughest objectives we've ever established. Achievable? **ABSOLUTELY — but not without your help!** We must all make a willful, conscious effort to incorporate a dedicated focus on safety and risk assessment into our everyday way of doing business. We can better protect our people and preserve our resources by making this significant improvement to our culture of safety.

As you can see, FY 95 will be a challenging time. We're starting the transition into the fall/winter flying months. Rapidly changing weather patterns, shortened daylight flying periods, and associated operating hazards (cold weather, ice, snow, etc.) can all impact a safe flying operation as well as every other operation on base. The key, as always, is to plan ahead, use common sense, and don't take unnecessary risks. Protecting our people and preserving our resources will enhance our combat capability. It is critical that we do both.

Finally, I'd like to congratulate everyone in the command for their contribution to another successful year. Thank you — let's make '95 even better! Work hard, play hard — **BE SAFE!**

*Colonel Fack Acker
Chief of Safety*



First to Go, First Integrated Airpower DAY ONE!



Brig Gen Lansford E. Trapp, Jr.
366 WG/CC
Mountain Home AFB ID

At the height of the American Civil War, Confederate cavalry General Nathan Bedford Forrest boldly proclaimed victory in battle went to “him that got there the fustus with the mostus.” General Forrest audaciously proved his maxim over and over again, often riding throughout the night to join battle at first light. Now, more than 100 years later, another American combat unit, the 366th Wing, is continuing General Forrest’s legacy, but with a different twist. Armed with an array of bombs and missiles instead of sabers, and sitting astride fighters, bombers, and tankers instead of chargers, the “Gunfighters” of the Air Force’s only air intervention composite

wing proudly brandish their informal motto, “First to go, First to fight, Integrated Airpower, DAY ONE!” Our charter is simple: When called upon, project a self-sustaining, tailored composite strike force, including our own integral command and control structure, to any worldwide location in the shortest time possible and immediately assume a combat-ready posture. In short, get there “the fustus with the mostus.” Getting there *first with the most* can be a difficult, often conflicting task. Safety plays a major role in composite power projection. Here’s how the Gunfighters make it happen.

Rapidly projecting an integrated composite force has been a demanding challenge. Unlike a homogeneous wing that can

Fast to Fight, Airpower, ONE



quickly deploy one squadron — the Alpha squadron — by siphoning off aircraft, personnel, and material from its Bravo and Charlie squadrons, an air intervention wing doesn't have that luxury. F-16 pilots can't fill vacant F-15 cockpits, and the shade-tree mechanic's old dictum "parts is parts" doesn't cut it in the high-tech world of modern aviation maintenance. The requirement for any projected force to be entirely self-sustaining for at least seven but up to thirty days would strain any wing's logistics infrastructure, not just the composite wing's. From toilet paper to tires, if it doesn't go with us, it may not be there when we need it. As a result, composite basing and power projection place a premium on smart planning and a high state

of overall readiness and dictate a new mobility concept — what we call packaging.

Integrated Airpower DAY ONE is not just a Gunfighter's motto, it's reality. Depending on the combat power required, the air intervention wing can provide an A, B, or C package, each possessing a gradually increasing, integrated cross-section of the wing's assets — F-16Cs, F-15Cs, F-15Es, B-1Bs, and KC-135Rs — and a carefully measured complement of people and equipment. Part and parcel to this scheme is our Fast Action Support Team (FAST) concept. Within hours of receiving a deployment order, indigenous FAST KC-135 tankers are en route to the forward location carrying vital people and gear to

establish a working base and recover and turn the rapidly oncoming combat force. In effect, we catch our own pass — no small task!

Though it sounds good on paper, the logical question is, "Does the concept work?" The answer is a resounding, "Yes!" In the past 18 months the Gunfighters have successfully participated in five major deployments worldwide without a tactical slip or major safety mishap. For example, for the first time late last year the wing deployed overseas to hot, arid Egypt to participate in Bright Star, and within three months of returning home, departed for Alaska's cold and snow — all without missing a beat. Certainly we've had our problems and these exercises haven't

been easy, but they've provided a wealth of experience. With each successive step, we've grown leaner and meaner with an eye for decreasing mobility response time and increasing projected combat power. In just a few months our smart young troops have managed to shave the number of required cargo pallets for our A package by 25 percent, and they're not finished yet. Whenever possible, maintainers share tools, learn multiple skills, or refine procedures and concepts. Likewise, flyers from different squadrons work from common facilities and integrate mission-planning capabilities. Each ounce of fat we trim makes us lighter on our feet, putting bombs on target just a little quicker. But it also drives home a vital point. When the cutting is finished, all that remains — every airman, every tool, every bullet — becomes a precious resource to be jealously protected and carefully managed. Think about it. Getting to the war quickly, but injuring a unit's only radar technician or breaking the wing's sole nitrogen cart in the process is self-defeating. Though speed and power are major parts of the equation, getting there first with the most requires one more thing — a pervasive safety culture.

At Mountain Home Air Force Base the safety culture embodies everything we do. Although a detailed discussion is far beyond the scope of this article, let me give you a few key factors I believe must exist before a safety culture can germinate and prosper, not only in this wing but in any organization. These linchpins are 1) empowered people, 2)

realistic training, 3) a proactive safety staff, and finally, but most important, 4) active and continued commander involvement.

EMPOWERED PEOPLE. Empowerment is pervading today's Air Force as more and more troops openly embrace the quality movement. If there are still any holdouts, a quick trip to any composite wing would rapidly turn them around. In large measure the composite wings have been extremely fortunate — we have no choice but to empower the smart young troops in the workplace. Why? Because very little in a composite wing is standard, and now few autocrats at the top could ever hope to direct every aspect of the show. For example, hotpit refueling an F-15 appears to be the same as hot pitting an F-16, but the two are quite different, requiring separate T.O.s and training. Likewise, every new aircrew member requires local upgrade training, but our KC-135 boom operator's checkout program is radically different from that of an F-15E weapons systems operator. In each case, someone oversees the process, but as in the latter example, he or she may be an F-15C pilot with no immediate knowledge of the other aircrafts' intricacies or training workload. Granted, those on the staff are smart cookies, but they're not necessarily the experts in every system. Squadrons, and even flights, devise and drive the processes that work for them. In the case above, each flying squadron develops its own aircrew training syllabus and implements it appropriately. They're the experts, so they carry the ball whenever

possible. That's what empowerment is all about, and that's the safest way to do business.

REALISTIC TRAINING. Once someone is empowered, they need realistic training to hone their skills. That's what we've focused on from the wing's inception. Not only do we train hard locally, but we treat every deployment opportunity as if it were a call to arms. Whether it's a 400-mile jaunt to Nellis AFB for Green Flag or overseas for Bright Star, we swing the mobility machine into motion to keep the wheels greased and the folks familiar with how to get out of town. This familiarity reduces anxiety and enables troops on the move to better and more safely cope with the unknowns of any deployment. In addition, aircrews brief and fly every deployment sortie as if it were an actual contingency, within peacetime constraints. Our five-hour deployment sortie to Green Flag '93 integrated assets from five other ACC bases and was opposed by sixteen adversaries. The package fought its way in, struck targets identified in an internally produced air tasking order, and recovered at Nellis AFB. Within hours, our FAST people refueled, rearmed, and retasked this package against follow-on targets. Granted, such challenging training requires a great deal of planning. But planning breeds safe successful execution, success breeds confidence, and confident, well-trained people are winners — in peace or war.

PROACTIVE SAFETY TROOPS. With an all-out effort to deploy quickly and realistically in every scenario, it's easy

for any can-do individual to get caught up in the excitement and occasionally push too hard. That's why it's critical to have a group of professionals focused primarily on identifying and eliminating hazards — safety troops at all levels. My safety staff plays a vital role in the wing's day-to-day operations. But no where do they pay more dividends than during our bread-and-butter deployments and exercises. No matter where the wing goes, we send a complete safety contingent — usually on the first FAST aircraft — even if the host base has its own safety staff. This has paid off in a number of ways. First, safety troops are key members of the FAST team and can discover, correct, or neutralize safety hazards before the main force arrives. Second, an indigenous safety staff acts as a convenient liaison with host base personnel. They know how we operate and can quickly, yet properly work with their counterparts to put safety issues to rest. Finally, homegrown safety personnel provide a familiar safety presence and are also well acquainted with the wing's processes and people. They know where to look for problems. Plus, those in the trenches will more readily voice safety concerns to a teammate rather than an outsider. Vigilance, visibility, and enhanced communication — an aggressive safety staff provides these attributes and more, and they'll continue to be a valuable part of any Gunfighter deployment.

COMMANDER INVOLVEMENT. No matter how good a safety staff is, its efforts are in

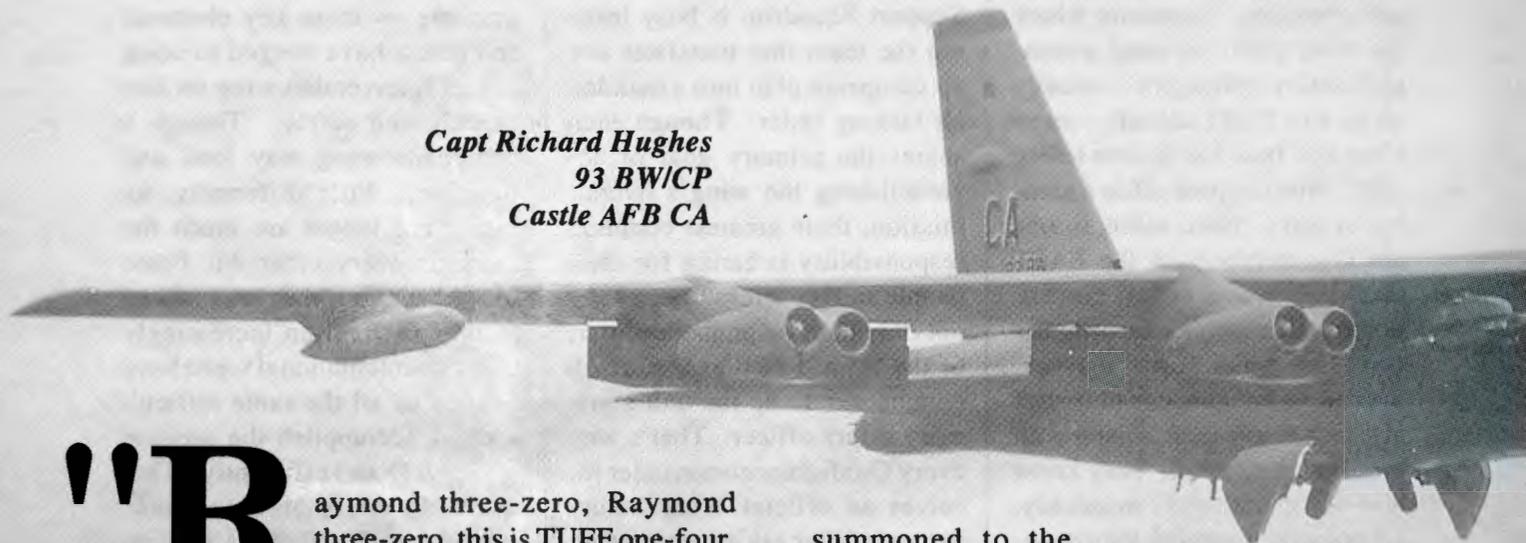
vain if commanders at all levels don't live and breathe mishap prevention. Nowhere is this more true than in the air intervention composite wing. Again, our roles and missions vary widely from squadron to squadron, and every commander has a different set of problems to solve. While my F-15C commander is wrestling with the intricacies of providing round-the-clock air superiority, his counterpart in the Operations Support Squadron is busy leading the team that translates our air campaign plan into a detailed air tasking order. Though each shares the primary goal of accomplishing the wing's overall mission, their greatest common responsibility is caring for their people and resources. Therefore, not only does he or she lead part of the team, I also expect every commander to be the unit's primary safety officer. That's why every Gunfighter commander receives an official Wing Safety hat soon after taking command. Emblazoned with the word "SAFETY," the hat serves two purposes. First, sitting in a prominent spot in the commander's office, the hat is a visual reminder to properly sort priorities when dozens of conflicting demands vie at once for attention or resources. In such cases, I advise them to figuratively don the safety hat and act accordingly — they'll seldom go wrong. Second, the safety hat helps remind his or her troops of safety's importance in the commander's eyes. When should the commander wear the safety hat? Figuratively, always; literally, as often as necessary. Where can it be worn? Anywhere — dorm inspections,

commander's calls — as long as it helps drive home the safety message. In the air intervention wing that message is simple — getting there first with the most is our primary job, but that's impossible without a safety focus. Blending the two is every commander's solemn responsibility.

Empowered people, realistic training, hard-charging safety professionals, and involved commanders — these key elements and others have merged to bring the air intervention wing on line quickly and safely. Though a composite wing may look and function a little differently, its safety challenges are much the same as every other Air Force unit. Shrinking budgets, reduced manpower, and an increasingly unstable international scene have handed us all the same difficult task — accomplish the mission effectively and efficiently. That demands safety at every turn! Every day, Gunfighters take on the unique challenges our composite nature presents, making the difficult look easy and doing it safely. Their spirit breathes life into the wing's official motto, "Audentes Fortuna Juvat," "Fortune Favors the Bold." While General Forrest would undoubtedly agree, any Gunfighter will tell you that providing integrated airpower on day one and attaining fortune in combat not only favors the bold, but the safety-conscious as well. ■

In-Flight EMER are NEVER "R

*Capt Richard Hughes
93 BW/CP
Castle AFB CA*



"Raymond three-zero, Raymond three-zero, this is TUFF one-four. We've just taken a bird strike in our number seven engine. We've shut it down and we'll be declaring an emergency shortly. We need to talk with Bomber Red Baron." Aside from Emergency Action Messages (EAMs), nothing gets the adrenaline flowing in a unit's command post like an inbound in-flight emergency (IFE). The moment an aircrew radios that they need the assistance of a Stan/Eval instructor pilot, command post controllers spring into action initiating a sequence of events with one goal in mind — the safe recovery of aircraft and aircrew.

Step one — opening the IFE checklist, getting as much information as possible from the aircrew both quickly and accurately. After receiving aircrew inputs and intentions, controllers notify the rest of the base to get ready to recover the emergency aircraft. The duty Stan/Eval pilot is

summoned to the command post; communications with the Supervisor of Flying (SOF) are double checked. Radar Approach Control (Rapcon), safety, base ops, tower, maintenance, and the fire department are all notified of the situation. The notification of these agencies is of critical importance, since they play an integral part in the recovery process, whether providing fire coverage, ringing out the primary and secondary crash nets, or controlling the aircraft. The operations group commander is apprised of the situation as is the appropriate squadron commander. The final notification is the wing commander.

Every minute counts as controllers know that while they are hastily making these notifications, crew members are going through their emergency procedures (EP) checklist as well. Although the controller team is focused on the

EMERGENCIES "Routine"



emergency aircraft, they are continually pondering other factors; and maintaining keen situational awareness of the overall picture. How many aircraft are in the pattern, and what are their fuel states? If the emergency aircraft closes the runway for an extended period of time, do they have enough fuel to divert? What about the weather at the divert bases? All of these things go through the controllers' minds.

Along with situational awareness, controller crew coordination is essential. Actions must be accomplished in the minimum amount of time, thus maximizing controller effort and recovering the emergency aircraft as soon as possible. One must realize that controllers routinely monitor at least three communications systems, even during normal operations. Yet during an IFE, the UHF and HF radios are blaring, phones are ringing, and the commander's radio net is coming to life.

Additionally, the AUTODIN and AFSATCOM are continuously monitored for incoming message traffic. Good crew coordination and communication enable the controller team to handle it all simultaneously.

Despite this myriad of inputs, controllers concentrate on one thing: getting the aircraft down safely. Thus, when they bring up the IFE conference (often referred to as the "Hotel," or in the fighter forces as the Skyhook conference) and brief the emergency over the radio net, all energies are directed toward that singular purpose. The controller team is directing the entire effort, and all agencies are listening intently to the conference as the command post and SOF narrate the recovery of the emergency aircraft. Once the aircraft lands, it is checked out by the fire department, and if all goes well, maintenance. If everything checks out, the emergency is terminated, and all parties involved breathe a collective sigh of relief.

Wherever there is flying activity, the potential exists for in-flight emergencies. Regarding IFE's, the type of aircraft a unit possesses is irrelevant. Command post controllers are dedicated to completing all IFE notifications in a skillful and expeditious manner EVERY TIME. Just like aircrew members, controllers seek to maintain good communication, crew coordination, and situational awareness. Like crew dogs, we realize that "aviation in itself is not dangerous, but it is extremely unforgiving of carelessness, incapacity, and neglect." We take every situation VERY seriously, because like the maintainers and aircrews we work with, we know that in-flight emergencies are NEVER ROUTINE! ■

All In The Family

Summer and fall are traditional times for family reunions. It's a time to review old acquaintances and poke fun at how poorly we resist the ravages of the calendar. Family bonds are strengthened, and we can sit for hours remembering the past and filling in the gaps caused by long absences. Yes, family reunions are wonderful ways to bring together people who share a common relationship. But, there are some times when related people should spend time apart — like when people of the same AFSC are involved in different types of explosives operations.

Often, munitions managers and supervisors allow people unrelated to an explosives operation to "hang around." The common excuse is, "They're all the same AFSC! They're related!" No doubt, there's a close bond between people of the same specialty. We feel that we are all part of a larger extended family. But, are they really related to that explosives operation? Just because a brother or sister in blue went to the same technical school and understands the hazards associated with explosives operations doesn't mean that it's okay for them to be needlessly exposed to a hazard.

I couldn't imagine being the squadron commander who has to go to the home of a spouse or parent and explain that their loved one died while just "hanging around." Let's never forget to abide by the cardinal rule of explosives safety: Expose the minimum number of people to the minimum amount of explosives for the minimum length of time.

Just the other day, I observed a training operation being conducted only 10 feet from an explosives operation. Obviously, interline separation was not provided. When I addressed the issue to the senior supervisors, I was told matter-of-factly, "Listen, these folks are all related. They are all 2W0X1." Wrong answer!

Now, don't think that I'm picking on our 2W0 friends. Several weeks ago I was asked to evaluate a request to relocate some offices into open facilities on the flightline. I told the unit commander that the people were not directly related to the generation of explosives loaded combat aircraft located on the flightline. The commander responded, "They all wear the blue suit! They're related." A quick review of the definition of "related" in AFR 127-100, paragraph 5-14c, helped clarify the issue.

The explosives safety business has gone many years without a major disaster. Systems safety engineering and design, coupled with quality training, has reduced the potential for a peacetime disaster considerably. Our business is to minimize the consequences of that one single catastrophic event. Some losses are the accepted risks of the job and the cost of doing business. Where possible, we must seek to minimize those losses. Since mishaps are by their very nature unplanned and unforeseen events, prudent safety planning considers the consequences if that mishap was to happen today.

When planning operations, evaluate who needs to be exposed to the hazards. Consider the consequences of an explosives mishap. Imagine having to explain to that spouse or parent that their loved one died needlessly because someone felt that everyone with the same AFSC could be exposed to the hazard. Worse yet, who wants to tell a grieving widow that her husband was sacrificed on the altar of convenience? It's not a task that I would want to perform. Some things don't need to be kept all in the family. ■

This year Fire Prevention Week is October 9 -15. Although we should practice fire safety throughout the year, this week is designed to focus our attention on fire safety measures in the home, at work, and even during recreational outings. No matter where you are or what you're doing, fire safety is essential to preventing injury and death.

When was the last time you checked your smoke detector? If it is equipped with a battery, you should activate it at least monthly to ensure the battery is OK and that the detector is operating properly. If your detectors are wired directly into an electrical source, you should also check them monthly to ensure proper operation. Most smoke detectors come equipped with a test button. If yours aren't, consult your operating instructions for the proper test procedure. They are designed to save your life — when they work properly. Unfortunately, there have been several reports on TV recently where people, including small children, died because their smoke detectors were not working properly. In one instance, the batteries had been removed! A couple of bucks spent on batteries for your smoke detector is a small price to pay for the potential benefits. Remember, test your smoke detector on a regular schedule. If it starts chirping or making a clicking sound between tests, it means the batteries are low — change them immediately!

When you check your smoke detector, you should also check your fire extinguisher. If it has a gauge, make sure the pressure is OK (usually in the green zone). If it is a dry chemical type, pick it up, turn it upside down and shake it vigorously for several seconds. This will keep the powder loose and guarantee more effective operation when you need it. Check the hose to make sure it is not cracked or deteriorated. If you have any questions about the extinguisher, take it to your nearest fire station and the fire protection personnel will be happy to assist you and answer your questions. They can also assist you with any question you may have regarding your smoke detector. Do you and your family members know

how to operate the fire extinguisher? If not, contact your local fire department's fire prevention section for assistance.

Now that we have those two important issues out of the way, I would like to address another very important subject. Would you and your family members know what to do if a fire did occur, especially late at night? How would you evacuate your home? Do you have a secondary means of escape if your primary route is blocked? How do you get out of your second floor bedrooms if the stairway is on fire? Do family members know where to meet for a head count after evacuating to ensure everyone made it out OK? Do you know the fire reporting number for your area? Know your fire reporting number and have it posted at the phone. Teach your children the number and practice reporting an emergency with them. When was the last time you and your family practiced a fire evacuation to make sure your plan works? Vary the evacuation route occasionally — it could save lives. Also, meet the firefighters upon their arrival and give them any additional information they may need.

According to The National Fire Protection Association kitchens have been the scene of an average of 140,000 home fires per year in the US alone. Most of them were caused by or related to cooking. Many of these fires resulted in serious burn to adults and small children. Most of these fires could have been prevented by simple safe cooking practices. Never leave anything cooking unattended. Always turn handles inside towards the back of the range to prevent small inquisitive children from grabbing them which could result in very serious burns, scarring them for life.

Last but not least, take a look at your storage areas. You should never store combustible items in furnace rooms. Storage areas should be checked frequently, and you should discard all items that you no longer use. Now is also a good time to have your chimney cleaned. Your home is your castle — make it a safe one. ■

JUST ANOTHER MISSION

*Maj Kenneth D. Ellis
966 AWACTS/DOMD
Tinker AFB OK*

The day started just like any other flight training day in the 966 AWACTS — crew show at 0430 local for pre-mission duties. On board were 40 crewmembers consisting of instructors and students. Prior to takeoff, the crew was briefed that the 0900 local fighter mission from Eglin AFB had already canceled. However, there were still two more missions scheduled; one at 0915 local and another at 1230 local, with an air refueling at 1100 local. A smooth takeoff and plenty of time to bring up and check out the mission systems began the mission which was scheduled for a five-hour orbit delay in the W151 airspace just off the Florida coast south of Eglin. Upon arriving in the orbit, the mission crew commander (MCC) called “on station” at 0900 local. Approximately 15 minutes later the cancellation notification for the 0915 local fighter activity was received. However, shortly thereafter things began to get unexpectedly interesting. The crew received a “MAY DAY” call from a distressed aircraft. The following is the sequence of events as they took place:

0932 local - The pilot and air surveillance officer (ASO) simultaneously reported a “MAY DAY” call on 121.5. The pilot (Sentry 65) responded to the call and learned that the distressed aircraft was a twin propeller Piper Seneca, approximately 200 miles off shore with an estimated 15 minutes of fuel remaining. At the same time, two Coast Guard aircraft (Coast Guard 2120/2137) contacted the distressed pilot. The

Sentry 65 pilot, Capt VanWinkle, informed both Coast Guard pilots that Sentry 65 was an airborne radar platform and asked the distressed pilot (N1247T) for his Mode 3 code. At the same time, Capt VanWinkle coordinated with the ASO, Flt Lt Roper, and the navigator, Capt Ludden, to plot 47T’s position and ascertain the nearest land mass. The nearest land mass to the north was Panama City FL (009 degrees for 172 NM) and to the east was St Petersburg FL (079 degrees for 192 NM). Although Panama City was closer, Capt VanWinkle recommended 47T turn east due to better wind conditions, providing a tailwind versus a headwind. Capt VanWinkle also passed 47T’s location to the Coast Guard aircraft. Sentry 65’s copilot, Capt Quick, contacted ATC to advise them of the distressed aircraft of which they had no previous knowledge. Capt Quick kept ATC informed throughout the rescue with updates every 10 minutes. Capt VanWinkle then coordinated with the Communications Systems Operator (CSO), Sgt Endsley, to give access of the flight deck VHF radio to the mission crew.

0954 local - The mission crew Senior Directors (SDs), Capt Goree and Capt Norris (call sign Dragnet), provided vectors to 47T for Coast Guard 2120/2137.

0955 local - Coast Guard 2120/2137 joined on 47T following vectors from Dragnet. Coast Guard 2120 advised 47T to fly 078 degrees and climb to a better cruise altitude en route to St Petersburg.

1005 local - 47T was heading 078 degrees at 8,000 feet with Coast Guard 2120/2137 in trail. Additionally, the ASOs, Capt Herndon and Flt Lt Roper, kept the Southeast Air Defense Sector

NOT!

(SEADS) informed over UHF and the digital data link.

1029 local - 47T reported his fuel gauges showed zero fuel remaining. The SD, Capt Norris, continued providing bearing, range and altitude calls to both Coast Guard 2120/2137 and 47T. Capt Herndon continued optimizing the radar for the best picture; and the MCC, Maj Ellis, coordinated with the flight crew to position the E-3 in the best possible position for both radio and radar coverage.

1036 local - 47T reported the loss of one engine.

1038 local - Coast Guard 2120 advised 47T to prepare for ditching, passing that sea state conditions consisted of five to six foot swells, surface temperature of 66 degrees, and wind 050 at 18 knots.

1041 local - 47T reported out of fuel and loss of his second engine.

1042 local - 47T reported to Coast Guard 2120 that he was a non-swimmer and had no flotation devices onboard. Coast Guard 2120 asked Dragnet SD to call and scramble a Coast Guard rescue helicopter from Clearwater FL. Capt Norris

passed the phone number to Flt Lt Roper who, in turn, passed the information to SEADS who called and scrambled the rescue helicopter.

1047 local - Coast Guard helicopter (Rescue 6031) reported in on frequency to Dragnet. Capt Norris provided vectors for Rescue 6031 with bearing and range to 47T.

1049 local - Coast Guard 2120 reported to Dragnet that 47T had ditched and passed its position which Dragnet relayed to ATC, SEADS, and Rescue 6031.

1051 local - Coast Guard 2120 reported 47T had sunk.

1100 local - Coast Guard 2120 made a low pass over the crash site and dropped a raft. No sign of any survivor. A second pass was made four minutes later, and still no survivor. Finally, the swimmer was spotted on his back near the raft on the third pass.

1106 local - Rescue 6031 arrived on the scene and collected the survivor. He was reported in reasonably good condition and transported to St Petersburg Hospital.

Following the successful SAR effort, Sentry 65 completed their scheduled mission and returned to Tinker AFB. Sentry 65 has subsequently received praise from ATC, the Coast Guard, and SEADS. All said had it not been for the AWACS, the rescued pilot would probably have died. The entire success of the rescue was a crew effort. Every crewmember on the E-3 played a part in saving the downed pilot. ■





A PARENTS GUIDE

Reprinted with permission from the National Crime Prevention Council and the Virginia State Police.

Your 10-year-old comes home from school at three and takes care of himself - gets a snack, talks on the phone, does homework, watches TV - until you get home at six. He's too old for day care, but far from grown up. You worry, but what can you do?

You're not alone.

Working parents - and that's the majority of American families today - share the anxiety, frustration, and even fear involved in leaving children "on their own" when school lets out, child care arrangements with neighbors and relatives break down, or there simply aren't any alternatives.

● **WHAT CAN YOU DO?**

- * Make sure your children are ready to care for themselves.
- * Teach them basic safety rules.
- * Know where your kids are, what they are doing, and who they are with.

● **ARE THEY READY? CAN YOUR CHILDREN —**

- * Be trusted to go straight home after school?
- * Easily use the telephone, locks, and kitchen

appliances?

- * Follow rules and instructions well?
- * Handle unexpected situations without panicking?
- * Stay alone without being afraid or lonely?

Talk it over with them, and listen to their worries and ideas. Work out rules on having friends over, household chores, homework, and television. Remember, staying at home alone can build a child's self-esteem, sense of responsibility, and practical skills.

● **TEACH YOUR "HOME ALONE" CHILDREN**

- * How to call 9-1-1 or your area's emergency number, or call the operator.
- * How to give directions to your home in case of an emergency.
- * To check in with you or a neighbor immediately after arriving home.
- * To never accept gifts or rides from people they don't know well.
- * How to use the door, window locks, and the alarm system if you have one.
- * To never let anyone into the home without asking your permission.
- * To never let a caller at the door or on the phone

know that they're alone (say "Dad can't come to the phone right now").

* To carry a house key with them in a safe place (inside a shirt pocket or sock) - don't leave it under a mat or on a ledge.

* How to escape in case of fire.

* To not go into an empty house or apartment if things don't look right - a broken window, ripped screen, or opened door.

* To let you know about anything that frightens them or makes them feel uncomfortable.

● A WORD ABOUT CURIOSITY

Are there things you don't want your children to get into? Take the time to talk to them about the deadly consequences of guns, medicines, power tools, alcohol, cleaning products. Make sure you keep these items in a secure place out of sight and locked up.

● TAKE A STAND

Work with schools, religious institutions, libraries, recreational and community centers, and local youth organizations to create programs that give children ages 10 and older a place to go and something to do after school - a "homework" haven, sports, craft classes, tutoring. Or, what about a community improvement project that young people design and carry out?

Ask your workplace to sponsor a Survival Skills class for employees' children. Kick it off with a parent-child breakfast or lunch.

Does your community have a crisis hotline service? Ask it to experiment with a "warmline" that latchkey kids can call for help with homework or cooking, or just to talk.

Work with the phone company to distribute 9-1-1 cards with space for a child to write directions to his or her home and parents' work numbers.

Join (or start) a McGruff House* or other block parent program in your community to offer children help in emergencies or frightening situations.

* A McGruff House is a reliable source of help for children in emergency or frightening situations. Volunteers must meet specific standards,

including a law enforcement records check. Programs are established locally as a partnership among law enforcement, schools, and community organizations.

KEEP THESE IMPORTANT NUMBERS NEAR THE PHONE!

Mom or Dad's work #:

Neighbor:

Family friend who lives or works nearby:

Police:

Fire department:

Poison control center:

Paramedics:

Emergency Help 9-1-1 or Operator



Keep These Numbers
by your Phone

**IMPORTANT
PHONE NUMBERS**

Mom's work #:

Dad's work #:

Neighbor:

Family:

Friend who lives or works nearby:

Police:

Fire department:

Poison control center:

Paramedics:

Emergency Help 9-1-1 or Operator

Cut Here

FIREARM SAFETY

The safe use of firearms is everyone's concern. Each year, tragic — often lethal— accidents occur because of the unsafe use, handling, and storage of rifles, revolvers, and other firearms. If you own a firearm, follow these safety recommendations and be responsible rather than sorry!

SAFE USE

- * Be sure the firearm is safe to operate.
- * Know how to use the firearm safely. Read the manufacturer's directions before using. Learn how it operates, how to clean it, and how to store it safely.
- * Use your firearm only for its specific intended purpose.
- * Use only the ammunition designed for your particular firearm.
- * Load only when you are ready to fire, never beforehand.
- * Never use a firearm while under the influence of alcohol or other drugs.
- * Never leave your firearm unattended.
- * Wear eye and hearing protection when using firearms.
- * Know your target and what is beyond it.

SAFE STORAGE

- * Store firearms so they are not accessible to unauthorized persons.
- * Make sure the firearm is unloaded before each use.
- * Store firearm only when unloaded.
- * Lock firearm and ammunition in separate containers while not in use.
- * Keep keys to firearm and ammunition containers away from children.
- * Use trigger locks when a firearm is not in use.
- * When traveling with firearms, be sure to have all required permits and licenses readily available.

E T Y

FUNDAMENTALS



Always keep the firearm pointed in a safe direction.



Always keep your finger off the trigger until ready to shoot.



Always keep the firearm unloaded until ready to use.

SAFE HANDLING

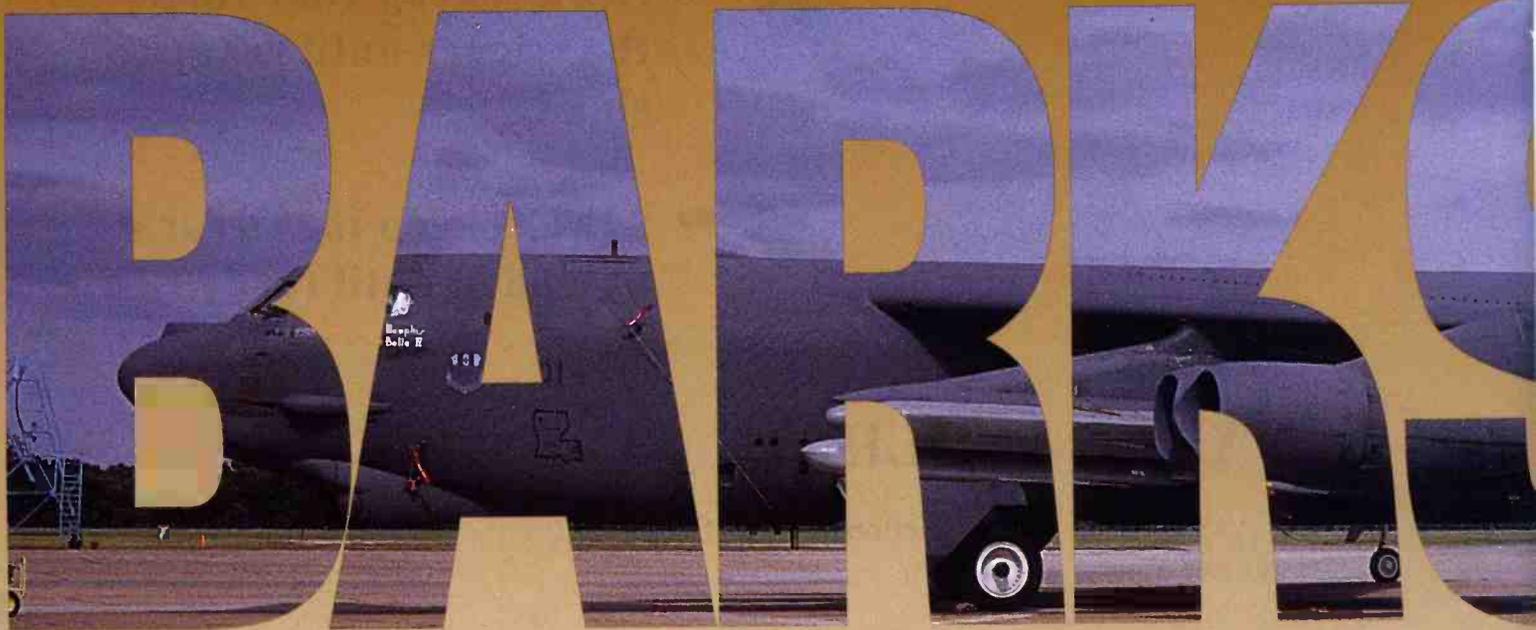
- * Always point it in a safe direction — away from yourself and others.
- * Keep the safety on while loading and unloading.
- * Open the action until ready to store the firearm.
- * Keep your fingers away from the trigger until you're ready to fire.
- * If your firearm is damaged, do not use it. Have it repaired only by a qualified professional.

*Capt Todd Callahan
96 Bomb Squadron
Barksdale AFB LA*

Why fly non-stop around the earth? Because the B-52H bomber can and will if called to do so in support of ACC's Global Power commitment. On August 1, 1994, at 0730 crews S-97 and E-90 from the 96th Bomb

air refuelings and low level bombing with 27 Mk-82s per jet in Kuwait. A number of special items were taken along. Twenty-five gallons of water, cold weather flight gear, and personal mementos such as US flags, Bibles, patches, etc., were carried in each jet. Uploaded in the

the part of the world where the aircraft were flying, and spacing of critical phases of flight. Captain (Dr) David Nabert, a flight surgeon who flew on the mission, briefed the crews on diet. He explained that the crews should eat approximately two-thirds of their normal intake and drink copious amounts of flu-



B-52s FLY AROUND

Squadron, Barksdale Air Force Base, Louisiana, took off on a once-in-a-lifetime non-stop flight around the world. Planning for this milestone mission began four months earlier when Maj Scott Thumser, 2d Bomb Wing conventional planner started laying out the basic route of flight. The crews spent the week prior to takeoff planning and addressing issues such as alternate airfields, communication plans, go/no-go checklists, weather, medical/physiological factors, charts, foreign clearance guide research, and fuel planning.

The 47-hour mission included five

tail sections of the aircraft were pieces from the original Douglas World Cruisers, the first aircraft to fly around the world in 1924.

The crews were briefed on vital information including rest/duty cycles, circadian rhythm, diet, and nutrition by a representative from Armstrong Laboratory, Brooks AFB, Texas. One exceptionally useful product was a custom-built schedule of recommended sleep periods for the flight, taking into account the takeoff time, time at home station, time of day in

ids. He briefed which foods wouldn't spoil within 48 hours and also recommended foods that move slowly through the digestive track: non-health conscious foods such as pizza, meats, chips, sandwiches, candy, and dried fruits. The doctor also recommended maintaining hygiene to heighten aircrew alertness. The crews used alcohol wipes, mouthwash, gum, electric shavers, and a change of underclothes.

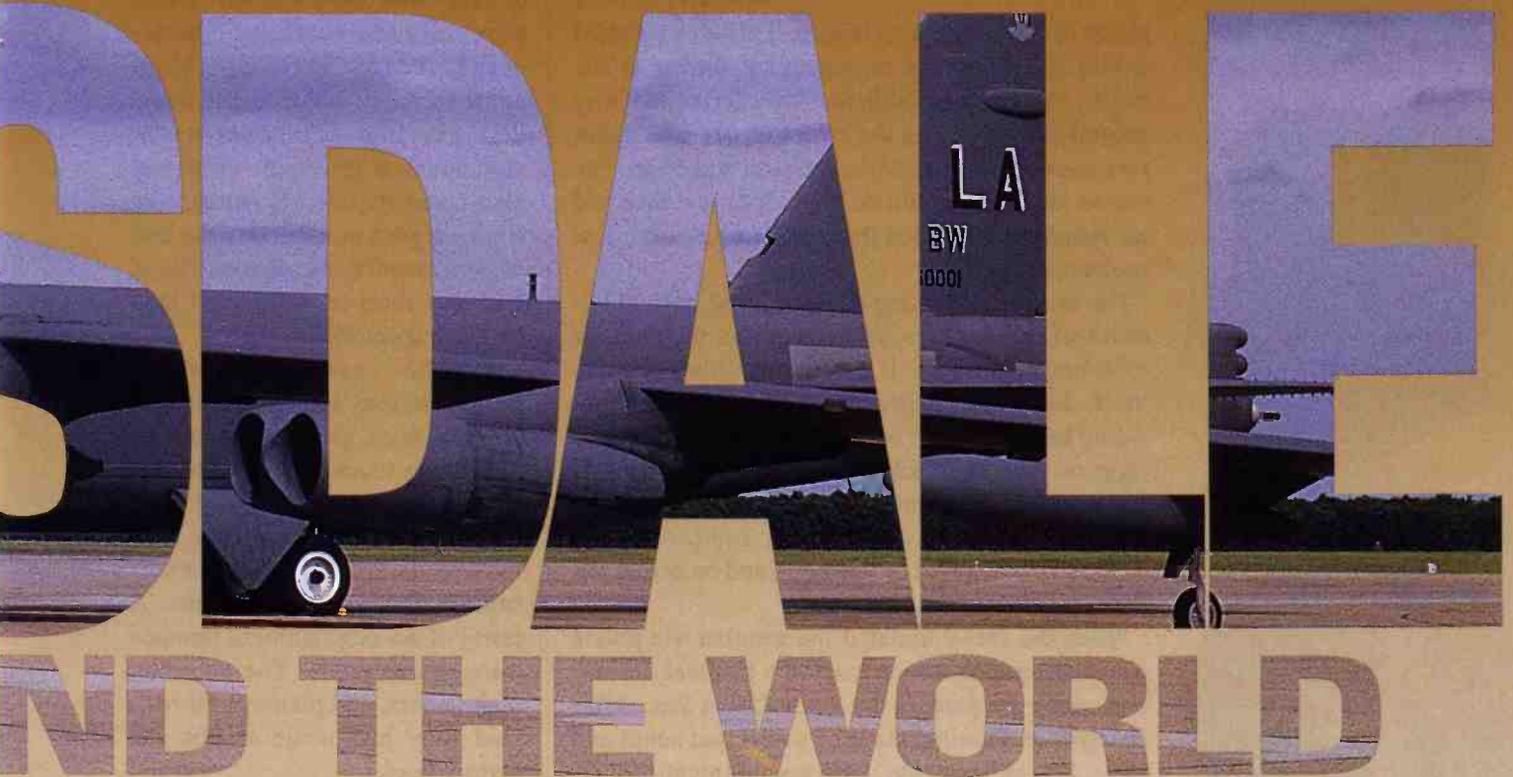
Finally, after all the planning and considering of contingencies, the jets taxied to the hammerhead. As they rolled, the crews were bid farewell and saluted by a formation of

maintenance personnel, the hardest workers in the Air Force. Without them the mission would be impossible. We took off on time with one minute spacing between aircraft, followed by a joinup to one mile trail. At this point the crews checked out all of their systems to ensure the BUFFs were fully global capable.

The first problem for the flight occurred when a Spanish air controller informed us that our trans-Mediterranean flight plan had been lost. The crews phone-patched back to the command post and they solved the problem. The first of three nights in a 47 hour period came early.

ardous area), or in a hammock strung up in the aisle.

The second air refueling was over Saudi Arabia. The jet's easterly heading had the crews looking directly into the sun as it was rising. The smoked face shield provided little protection as the sun's rays burned retinas and the sweat rolled



Three hours later the bombers arrived at the air refueling initial point (ARIP), and, as expected, the air refueling systems were fully functional. The crews proceeded east across the Atlantic with only 42 more hours to go. With the next ARIP about ten hours away, crew members opted to eat, sleep, or read to pass time. The Aircraft Commander in the second bomber, Storm 02, Captain Warren Ward, had smoked a beef brisket the day prior, and the Radar Navigator, Captain Steve "Beef" Pomeroy had prepared lasagna casserole to eat over Sicily. There wasn't a shortage of food.

Each aircraft carried the five primary crew members: Aircraft Commander, Pilot, Radar Navigator, Navigator, and Electronic Warfare Officer, plus an augmentee Pilot and Radar Navigator. In addition, the lead aircraft had the Wing Commander on board and the number two aircraft carried a Flight Surgeon. With eight flyers and their gear on board, space was at a premium. The B-52H has only one bunk; therefore, other ingenious places to sleep were invented, such as the floor space near the urinal (a possible haz-

ardous area), or in a hammock strung up in the aisle.

Seventeen hours after takeoff was the heart of the mission: putting bombs on target while commemorating the fourth anniversary of the Iraqi invasion of Kuwait. The Kuwaiti range control officer cleared the aircraft onto the range, and Storm 01 released 27 Mk-82 AIRs, a one-half capacity load, from its cavernous bomb bay. The range controller was so impressed by lead's weapons, he forgot to give the second B-52 a "cleared hot" call. After a prompt from the crew,



he cleared Storm 02 hot at seven seconds to the target. The number two aircraft released 27 weapons and continued to pulverize the target in a devastating display of airpower for the Kuwaiti Defense Minister and a group of distinguished visitors. This all happened within three seconds of scheduled timing at the target, a truly remarkable feat after flying halfway around the Earth. As the crews turned east again they knew the climax of the mission was over. The rest of the flight would be high altitude cruise and air refueling, provided there were no mechanical problems.

The third air refueling was the most critical because of the distance between it and the next air refueling near Japan. If the tankers didn't make it, the B-52s would recover in Spain and the flight would be just another sortie. But, the KC-10s were right on time and each aircraft unloaded approximately 200,000 pounds of fuel. Flying on, the BUFFs traveled across Bahrain, south of India, over Thailand, south of Vietnam, and on across the Philippines.

When the crews updated the weather via phone patch, the metro station briefed a tropical depression along the route in the South China Sea. After in-flight replanning, the crews deviated south and east. The storm made radio communications extremely difficult and time consuming. The adrenaline from encountering the storm had just about worn off, when Storm 02's Master Caution light illuminated. The aircraft had suffered a hydraulic pump failure in the rudder/elevator system. The crew complied with the appropriate checklist

and flew the remaining 18 hours on an auxiliary hydraulic pump.

After taking on more gas in the Pacific, the fourth air refueling, the bombers turned northeast to Alaska. Thirty-

six hours into the flight, the lead aircraft suffered an engine malfunction. The number five engine was stuck at 95 percent and would not respond to throttle movements.

Forty-four hours into the flight the crews accomplished the final refueling over Montana at night. The pilots used extreme caution moving into contact, since their circadian peak had long since passed.

The lack of quality sleep on the aircraft had affected the crews physically and mentally. The average crew member slept approximately six to eight hours during the flight. Forty-seven non-stop hours of jet engine noise had also taken its toll. However, the flight surgeon noted no serious loss of performance. He also said there was less short-temperedness than he had expected.

As the crews approached Barksdale they looked forward to landing with great anticipation. The B-52s touched down and taxied into parking in front of Base Operations. A mob of media, family, friends, and Air Force warriors came running toward the jets. A sense of accomplishment pumped through everyone. The aircrews, maintainers, and planners all realized they had made it into the history books.

Storm 01 and 02 were the 8th and 9th aircraft in the history of aviation to successfully complete a non-stop circumnavigation of the globe. It was the first and only mission in history to deliver ordnance in conjunction with an around-the-world flight, and it was the longest flight by jet aircraft in the history of aviation. On August 3, 1994, the 96th Bomb Squadron and the 2d Bomb Wing, Barksdale Air Force Base, confirmed the reality of ACC's Global Power concept for the United States Air Force. ■



PILOT SAFETY AWARD OF DISTINCTION

Capt Edward Corcoran, 27 FS, 1 FW, Langley AFB VA

Captain Corcoran was number three of a four-ship of F-15s on an Air Combat Training mission with an Air Force Academy cadet in the rear cockpit receiving a familiarization sortie. After the mission was cut short by a wingman's inflight emergency and subsequent RTB, Captain Corcoran returned to Langley AFB for an overhead pattern and "routine" landing. Captain Corcoran's recovery and overhead pattern were normal. Upon landing (approximately five minutes after the IFE) in the normal touchdown zone, he pulled his nose up for a full aerobrake when he noticed a civilian sedan enter the runway from the left, approximately 1000-1500 feet from his position. The sedan drove onto the left half of the

runway and turned toward the F-15. With only a split second to react, Captain Corcoran immediately selected full afterburner on both engines, applied right rudder to steer to the opposite half of the runway, and became airborne—passing within 100 feet of the car. Captain Corcoran informed tower and Security Police of the intrusion on the runway. Captain Corcoran's superior airmanship and split second judgment allowed him to make the proper decision that avoided catastrophic results. His keen situational awareness saved two lives in the F-15, one on the ground, and a valuable Air Force aircraft.



CREW CHIEF EXCELLENCE AWARD

*TSgt Donald D. Shontz, Jr., TSgt Paul J. Warnolf, SSgt William W. Henderson
391 FS, 366 WG, Mt Home AFB ID*

Sergeants Henderson and Shontz were performing prior to launch procedures on a 391st Fighter Squadron F-15E that was loaded with a live AIM-7 missile. Both engines were running and flight control checks were in progress when Sergeant Henderson noticed that the Jet Fuel Starter (JFS) was on fire. He immediately notified the aircrew, who discharged the aircraft fire extinguishing system and shut down both engines. Sergeant Shontz caught the fuel dumped from the engines on shut down while Sgt Henderson assisted the aircrew in ground egress of the aircraft. At this point, Sgt Warnolf arrived on the scene and aided Sergeants Henderson and Shontz in fighting the fire with a fire bottle until the fire was extinguished. Due to a faulty fuel shut-

off valve in the JFS the fire flared up repeatedly and was extinguished three additional times before it was finally brought under control. The base fire department arrived at the scene and verified that the fire had been properly extinguished. The quick actions and teamwork of Sergeant's Henderson, Shontz, and Warnolf prevented the possible loss of life and saved a multi-million dollar aircraft from severe damage.





FLIGHTLINE SAFETY AWARD OF DISTINCTION

Sgt Anthony L. King, II, 77 FS, 20 FW, Shaw AFB SC

"There I was, deployed to Roving Sands '94 at Fort Bliss Army Airfield in El Paso, Texas. It was "high noon" on a Wednesday in blistering "Texas heat," and the "first-goes" were in the pattern returning to base. My crew and I were dispatched to perform weapons de-arm procedures at end-of-runway (EOR). My crew chief was out front taxing the aircraft into position. When given the signal to de-arm, I started pinning the aircraft. I was familiar with the sound of the aircraft, but this time I heard an unusual noise coming from the emergency power unit (EPU) area. Sure enough, the pilot had inadvertently activated and fired the EPU system. I saw my

buddy standing directly beneath the EPU exhaust. He was disoriented, dazed, and began to "wonder walk." I grabbed my buddy and his eyes were blood shot. I signaled my crew chief to evacuate the area as I carried my buddy to safety. I immediately stripped my buddy down to his underwear. The fire department arrived in seconds and washed my buddy down to get the hydrazine out of his eyes and off his skin. All five of us were contaminated with hydrazine exposure. Luckily, my buddy was treated and released at the hospital with no ill effects." Sgt King's quick thinking prevented his buddy from wondering into the aircraft intake in his disoriented state of mind.



GROUND SAFETY INDIVIDUAL AWARD OF DISTINCTION

TSgt Kenneth H. Morris, 20 CRS, 20 FW, Shaw AFB SC

On 6 Jun 94, at 0830, I picked up my 16-year old son from home to take him to a doctor's appointment on base. As I was traveling westbound on Frierson Road, I saw a late-model Toyota attempting to negotiate a 30-degree curve heading eastbound at a high rate of speed. The driver lost control and crossed over the double yellow line as the car skidded sideways. I immediately pulled onto the soft shoulder of the road to avoid a collision. While skidding, the driver overcorrected and headed back to the right side of her lane. As the vehicle left the road, it hit a dirt embankment and flipped over approximately three times coming to rest on three

of its wheels. The fourth wheel—the left rear—came off the vehicle at impact and headed toward my son and me. The tire came to rest about ten yards in front of my truck. I rushed over to the vehicle and shut off the engine because massive amounts of fluid were draining from the smoking hood. Another bystander and I tried to open the driver's door, but it had been damaged during the impact, so we pulled the female driver through the shattered driver's door window. Three children were in the car and we removed them through the undamaged right side doors. The rescue squad arrived shortly, but thankfully, no one was seriously injured.

UNIT SAFETY AWARD OF DISTINCTION

Det 1, 82d Aerial Targets Squadron, 475 WEG, Tyndall AFB FL



Detachment 1, 82d Aerial Targets Squadron is a geographically separated unit of the 475th Weapons Evaluation Group operating QF-106 Full-Scale Aerial Targets (FSAT) at Holloman AFB. When presenting unmanned target drones, the unit's expertise and attention to detail becomes apparent. In all the unmanned drone launches during this time period, our controllers have been 100% successful in recovering aircraft that survive their drone presentation. Drones have been landed in the difficult to fly auto-pilot backup mode, without canopies, and with the hook falling off at cable engagement - all without further damage or incident! A three-ship unmanned QF-106 formation mission, the first ever at

Holloman, was flown immediately after an extended grounding period due to a fleet-wide landing gear problem. To fly an unmanned three-ship FSAT mission at WSMR is difficult enough, but to execute it flawlessly after a 2 1/2 month no-fly period benchmarks this Det for excellence. In a unit with over 60% motorcycle riders (any commander's nightmare), we have 100% participation in the base motorcycle safety course—reflected in our perfect driving safety record. In fact, we have had absolutely no ground accidents or mishaps, on or off base, civilian or contractor, through the entire period.

ARE YOU WHERE YOU WERE WHEN YOU LAST TOLD US WHERE YOU WERE?

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

Have you received the latest issue of **The Combat Edge** magazine? No! Well, why not? Are you sure you're on distribution for it? Has your unit deactivated? Ship decommissioned? Base closed? Unit moved, realigned, or redesignated? Are you getting too many or not enough issues? None of these are insurmountable problems. We can fix almost anything. An AF Form 764a will take care of things at your Publications Distribution Office (PDO) if they service your account. If you receive copies shipped directly from the printer and we maintain the address listing, send the AF 764a or write a letter to us (be sure to

include your old address, if applicable); or even give us a telephone call. Our address is: HQ ACC/SEP, 130 Andrews St Ste 301, Langley AFB VA 23665-2786. You can reach us at (804) 764-3658 (DSN 574-3658) between 0800 and 1700 EST. We want to keep the record straight as far as addresses and quantity are concerned. The Air Force ratio of one copy per 10 persons assigned still applies. Our job is to keep you the customer satisfied. We can't do this without your help! Thanks to all who have kept us informed—keep those cards and letters coming.

BACK IN THE SADDLE

*Maj Steve Sague
OLDA 4525 CAS
Offutt AFB NE*



As I prepare to return to the cockpit after an enlightening three-year staff tour, I find myself asking: “How did we win in Desert Storm? What principles were demonstrated? What should I put in my bag of tricks and prepare to share with my crew?” Reading my “Dear Diary from Desert Storm” The search begins...

“On 18 Jan 91, I led a three-ship of B-52s on a night low level mission as part of the first combat mission of the 801 BMW (Provisional). The mission profile required every flying skill we had ever developed in peacetime — and more. As flight lead and airborne commander, my crew and I fine-tuned the plan to include two near-silent air refuelings with KC-10s, a low level ingress and egress of the target through the steep mountains of Turkey and Iraq, the destroying of a strategic nuclear, chemical and biological warfare target and return to base. This mission was unique. It was the first time B-52s flew combat at night low-level in the mountains.

Principle # 1: For either good or bad, I fight the way I train.

The stress of knowing we may get shot down brought the same cold gut feeling that I experi-

enced on the Assault Course in basic training. Nearly 20 years ago I learned “when getting knocked around by the Assault Course Guerrillas, get up and keep moving, stay focused on finishing the course.” When the AAA was tracking by our cockpit and the electronic warfare officer called breaks for SAM launches, the feeling and the thought was the same, “stay focused, finish the course.”

“The 13-hour mission was very eventful. The takeoff included the launch of seven KC-10s and seven B-52s. The smooth coordination en route to the first air refueling in European airspace attested to the day-to-day flying skills my crew always accomplished over the US. The first near-silent air refueling was flawless. Practicing near-silent refuelings made me comfortable to do it in combat. Refueling with three bombers and three tankers made minimum communications a must. The next three hours were occupied with working safe passage with the US Navy and AWACS.”

Principle # 2: Know the aircraft.

“The low level descent to avoid the enemy’s early warning radar was accomplished through a dense fog and total darkness. The precise

radar navigating skills of the lead bombardier, Capt Al Reynolds, and the innovative use of the infrared optics (FLIR) by the navigator, Capt Barry Leiher, saved the formation from destruction in the steep mountains. The pilots were flying blind!"

The ground certainly has a 100 percent probability of kill, so don't fly any lower than you have to. On the other hand, the FLIR works fine when tuned by a skilled radar navigator. During our Bull Rider deployment to Clinton Sherman OK in 1988, we flew every flight at night low-level through the mountains of the Utah Test Range. My observation was that the FLIR worked well low level, just don't let the rocks stay in the same position too long! Bull Rider was supposed to demonstrate that the old BUFF would fall apart with minimum spare parts, but I guess the computer models up at Air Staff did not know the capability of our maintenance troops. Maintenance brings up the next principle.

Principle # 3: Maintain a team attitude with your crew and the people that maintain your airplane.

"Approaching enemy territory, Capt Gary Scott, the electronic warfare officer, jammed the enemy's early warning radar. The gunner, TSgt John Wright, tracked the trailing formation. In Iraq, the crew coordinated skillfully to hide around mountains to avoid as many of the enemy anti-aircraft (AAA) and tactical missiles as possible. Often attacked, I pushed the aircraft below 200 feet altitude to evade all the AAA and missile launches. The target was supposed to be lit; but with AAA going up all around the aircraft, the target had been warned and all the lights were off. Final drift corrections were made, bombs released and the target went up in flames — a beacon for the remaining bombers to strike."

The crew chiefs, the same ones I learned to respect during Bull Rider, provided an incredible weapon. Our formation destroyed the target with 114,000 pounds of high explosives within 60 seconds because of excellent maintenance. Keep them close, listen and communicate with the troops that empower the aircrews. Without their exhausting efforts and safe performance I would

have aborted many missions or worse — died!

Principle # 4: Know the enemy in the mirror. (Know thyself)

"The post-target flight was filled with over 30 minutes of evading more missiles and AAA. If low-level valley flying did not "break lock" their defenses, then flares and chaff did. Safe back in Turkey, the formation went to two mile spacing, assessed the battle damage and told AWACs that the target appeared to be destroyed. With these duties finished, a post adrenaline letdown took over."

Make sure all crew members are watching each other. My crew scheduled naps to give all of us a rest before the last air refueling. The navigator, Capt Leiher, and the gunner, TSgt Wright, were familiar with the important instruments at the pilot stations. Their tag-teaming permitted the pilots to take turns napping, and their extra set of eyes were again life savers at 2:00 in the morning. There were no lone islands. Together we lived and won; alone we would have died.

"The second AAR was critical to get the bombers back home for the next mission and was accomplished as planned. In the midst of crew fatigue, the end of the 13-hour combat mission occurred with the graceful landing by the pilot, Capt Mark Medvec. It was sunrise on the second day of Desert Storm for the 801 BMW."

Soon I'll have the opportunity to fly the B-52 again. The leadership principles I saw demonstrated will steady me. My commanders' one-liners are stuffed in my bag of tricks. Our Squadron Commander said, "My duty is to make sure you are trained to successfully return from combat." The Wing DO (now OG) told us to "train every day like this was the last training sortie you had before you go to combat." The Wing Commander always made sure all the support was on station before he sent us to combat. He knew the B-52 needed AWAC's, Weasels and MIGCAP to survive. And in Desert Storm he knew the enemy allowed us to dictate the night of battle. The details may change, but these principles are available for all of us back in the saddle. ■

ACColades

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	TOTAL			ACC			ANG			AFR		
	AUG	THRU AUG		AUG	THRU AUG		AUG	THRU AUG		AUG	THRU AUG	
		FY94	FY93		FY94	FY93		FY94	FY93		FY94	FY93
CLASS A MISHAPS	1	19	18	1	9	9	0	9	8	0	1	1
AIRCREW FATALITIES	0	8	7	0	6	6	0	2	1	0	0	0
* IN THE ENVELOPE EJECTIONS	0/0	15/1	17/0	0	4/0	7/0	0/0	11/1	9/0	0	0	1/0
* OUT OF ENVELOPE EJECTIONS	0	0/2	0	0	0/2	0	0	0	0	0	0	0

* (SUCCESSFUL/UNSUCCESSFUL)

CLASS A MISHAP COMPARISON RATE

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

	FY	MONTH											
		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
ACC	FY 93	2.0	3.1	2.2	1.6	1.7	2.1	1.7	1.7	1.7	1.6	1.6	1.8
	FY 94	0	1.1	1.5	1.8	2.4	2.4	2.0	1.7	1.7	1.8	1.8	
8 AF	FY 93	0	5.2	3.7	2.7	2.1	1.6	1.4	1.2	1.0	0.9	0.8	2.3
	FY 94	0	0	0	0	0	0	0	0	0	0	0	
9 AF	FY 93	6.7	6.5	4.4	3.3	3.9	3.1	2.7	2.3	2.7	2.4	2.2	2.0
	FY 94	0	0	0	2.1	3.3	4.0	3.2	2.8	2.2	2.1	1.9	
12 AF	FY 93	0	0	0	0	0	0	0	0	0	0	0	0
	FY 94	0	0	2.0	1.6	1.3	1.1	.9	.8	1.4	2.0	2.4	
DRU	FY 93	0	0	0	0	0	2.8	2.4	4.2	3.7	3.3	4.4	4.0
	FY 94	0	14.9	8.6	6.7	11.2	9.5	7.9	7.0	6.3	5.7	5.3	
ANG	FY 93	0	2.2	2.9	2.1	3.5	2.9	3.1	2.7	3.4	3.0	3.2	3.3
	FY 94	0	1.9	2.6	2.2	2.7	3.7	3.2	3.4	3.5	4.0	3.6	
AFR	FY 93	0	0	8.0	5.9	4.8	4.0	3.4	3.0	2.7	2.4	2.2	4.0
	FY 94	0	0	0	0	0	0	0	0	0	1.4	1.3	
TOTAL	FY 93	1.3	2.7	2.7	2.0	2.4	2.4	2.2	2.1	2.3	2.1	2.1	2.4
	FY 94	0	1.2	1.7	1.8	2.3	2.7	2.1	2.1	2.2	2.4	2.3	

* (HOURS NOT AVAILABLE)

Fleagle

THIS IS TH'DAY TINY LEARNS WHO IS MASTER OF TH' LINKS.



HE CLAIMS HE AIN'T NEVER PLAYED AN' WOULD LIKE ME TO SHOW HIM A FEW OF TH' FINER POINTS OF TH' GAME.



HEH! HEH! HEH! THAT SURE DO MAKE IT EASY TO FIGURE OUT WHERE MY POCKET MONEY IS COMING FROM FER TH'NEXT COUPLE OF DAYS.



YOU JUS' BROUGHT ONE CLUB...?



YEAH. I ONLY USE ONE BAT IN SOFT-BALL. WHY IS THIS GAME ANY DIFFERENT?

I ALMOST HATE DOING THIS TO TH' BIG GUY.



OKAY, TINY. TH' HOLE IS 468 YARDS AWAY. TRY AN' GET AS CLOSE AS YOU CAN IN SAY, 8 OR 10 HITS.



HEH! HEH! HEH!

OKAY.

CRACK!

OH NO. MY BALL IS ON TH' LITTLE GREEN PLACE RIGHT NEXT TO TH' LITTLE FLAG POLE.



DO THAT MEAN I LOSE FER NOT USING ALL 8 OR 10 HITS? FLEAGLE... WHERE YA' GOING? FLEAGLE...?





THE CREWS OF FUTILITY MAGELLAN

*Lt Col Eric M. Vogel
AL/CFTO
Brooks AFB TX*

“...Yes, fatigue is a factor in all our tasks and it does impact the mission. But fatigue does not prevent us from doing our mission. We may not be smooth, but we will be effective.”

-Futility Magellan Crewmember

“Futility Magellan?”

Ever wonder where planners come up with those crazy code words for an operation?

Since mid-1993, B-1B and B-52H squadrons have been flying quarterly Global Power training missions. These missions, approximately 20 hours long, provide realistic training and validate the concept of operations outlined in the USAF Bomber Roadmap. In 1992, the Sustained Operations Branch of Armstrong Laboratory, Brooks AFB TX, was tasked by ACC to assess human factors issues, particularly fatigue, associated with flying repeated long-duration (36 hour) missions. Data were obtained from eight B-1B crews who volunteered to fly three 36-hour simulated missions in Weapons

Systems Trainers (WST) at either Dyess or Ellsworth AFB.

Thirty-six (!) hours in a B-1? Not quite enough time to follow Magellan's path, but enough time to go a great distance — but not in a WST. Because of WST software, even a trip to the Middle East and back must be simulated by successive runs from the central US to the far reaches of Northeast Canada. It seems like an exercise in futility doesn't it — but training is the key.

Three missions were flown in sequence by the crews, with approximately 32 hours of crew rest prior to and between missions. Sustained Operations personnel recommended crew sleep schedules while they were in premission crew rest and during the mission. Crews found these schedules in-



HELPING CREWS COPE WITH LONG MISSIONS

ACC News Service (ACC 94-70 & 71)

In April 1993, B-1s from the 384th Bomb Wing, McConnell AFB KS, flew a 21-hour mission to a range on the French island of Corsica. This flight marked the beginning of ACC's global power training program. Since then aircrews from 8 ACC bomb wings have flown more than 53 global power missions.

The global power program requires each bomb wing fly a minimum of one long-duration, long-range, round-robin training flight outside of the United States once each quarter. All bomber units — B-52, B-1 and eventually the B-2 — fly global power missions.

Global power missions demand a lot from ACC bomber crews. Think about an 8-hour non-stop passenger flight. Remember how uncomfortable and cramped airline seats can be? Now consider the average global power mission is 21-hours long, and Air Force bombers are not built for comfort.

To help the bomber crews, ACC provides them with preflight and inflight survival tips from experts at the Air Force Armstrong Laboratory at Brooks AFB TX on how to deal with long-endurance flights. Human factors engineers, experimental psychologists, physiologists, biochemists, flight surgeons and rated aircrew members provide the guidance to ACC's bomber crew members.

These professionals give global power aircrews help with preflight preparation, inflight sleep management, preflight and inflight nutrition, ways to combat boredom during long overwater legs, knowledge of biorhythms, crew resource management, and many other areas to help aircrews cope with the long flights.

Most crews can tough out a single global power mission. However, with the help of the experts at Armstrong Laboratory, the goal is to teach aircrews techniques they can use to physically handle consecutive global power missions; missions similar to what they might have to fly in the opening days of a conflict while safely maintaining mission effectiveness.

creasingly helpful as time progressed. Training augmented the crews' ability to maintain their circadian vigilance peak while over target. We also advised the crews on how to apply boredom-reducing techniques during the long hours of cruise.

As part of the study, crewmembers completed questionnaires after each mission. This information complemented scientific data by providing insights into aircrew sentiment on fatigue issues. The analysis of the questionnaires is used by Sustained Operations Branch personnel to prebrief Global Power crews; the results may provide "food for thought" for those crews about to embark on their first (practice or actual) long-duration flight.

Crewmembers took turns sleeping in sleeping bags during non-critical phases of flight. (Why spare expense for comfort?) A pilot and an OSO/DSO were in the seats at all times. Crews reported that they had "no trouble" sleeping twice as often as those who "had trouble" sleeping. Reasons given for trouble falling asleep were largely environmental (light, cold, hard floor, noise), or were related to self (insomnia, coffee, not tired, "afraid of missing something"). There was a consensus that sleep periods should range from 3-5 hours, with an absolute minimum of 2-3 hours to recover from and prevent fatigue. Short naps (less than 30 minutes) are also beneficial. The importance of a 2+ hour "sleep" versus a nap is that 2+ hours is

physiologically necessary to recover/recuperate from fatigue or to prevent it from becoming severe. A variety of suggestions were offered by crewmembers to improve sleep: use ear plugs, eye shields; have a good air mattress or pad; limit sugar and caffeine; have a schedule; use relaxation techniques.

Crewmembers reported occasional difficulty with premission crew rest: considering all premission crew rest opportunities, individuals indicated that they were able to rest appropriately twice as often, as not. For those who responded that they had not rested appropriately, the majority stated that they wished that they had napped. Crewmembers generally entered the first mission with a moderate sleep debt. Beyond being chronically sleep-deprived, difficulty with taking or scheduling nap periods was a problem for approximately one-third of the crewmembers. Transient insomnia, the occasional inability to sleep when trying to rest, is a primary indication for medications that promote sleep. However, two-thirds of the crewmembers indicated that they would not consider using a sleep promoting agent to combat episodes of insomnia that can occur prior to stressful events like a first combat sortie.

In addition to the imprint of the instrument panel on one's forehead, crews recognized fatigue in several ways. Mental signs included a decreased ability to concentrate, slower thoughts, absentmindedness, and, in one individual, claustrophobia. Physical signs included "heavy" eyes, head nods, drowsiness, blurred vision, restlessness, and incoordination. Crewmembers

cited irritability, impatience, frustration, apathy, and lethargy. A number of crewmembers recognized fatigue by a decrease in their level of operational skills: reduced situation awareness (not being "as far ahead of the aircraft" as when they were rested), slower crosscheck, the forgetting of procedural items, the missing of data and crew information, and carelessness.

Talking and listening to music served as a primary means of coping with fatigue. Also mentioned: exercise (in-seat isometrics, pushups, keeping head and eyes moving, stretching), games (trivia type questions among crewmembers, for example), and mental exercises (reflecting on self-improvement, "thinking positive," "thinking goals," analyzing aircraft performance, etc.). Sleep itself was occasionally mentioned ("sleep as suggested," "sleep when you can," "control sleep cycle," naps). Finally, aspects of eating and drinking were listed as methods to combat fatigue: caffeine, coffee, regulating type of food, scheduling eating ("slow, steady"), "good food...normal time...no snacks," "small snacks," remaining hydrated.

Although the investigators did make nutritional recommendations, crews were asked if food (kind, amount, frequency) contributed to fatigue, or to their ability to cope with fatigue. There was general agreement on: the importance of food quality (box lunches and MREs were highly criticized; investigators noted that almost all crews were buying their own food by the second mission); the value of warm/hot meals (crews were permitted to heat food in a microwave oven); and the importance of remaining hy-

drated. In general, crews favored healthy snacks ("grazing") eaten more frequently, but slowly. Nevertheless, individual preferences came into play: one crewmember preferred heavier meals — the spicier, more fat, and more sugar, the better! Fresh or dried fruits, vegetables, and nuts were specifically mentioned as being liked. Sugar and coffee/caffeine were seen as "positive" or "negative," depending on the individual. During one period of decreased vigilance on the part of the investigators, one crew managed to send out for pizza — a nifty trick at 30,000 feet!

Several physical discomforts were cited. Thirty of 32 crewmembers complained about the seat on at least one of their questionnaires. Headsets, helmets, and harness were also mentioned. Key sore points? Not surprisingly, neck, back, and legs. Not to mention a pain in the ____.

Crewmembers stated that completion of a Crew Resource Management (CRM) course helped them complete the flights. Benefits included: CRM emphasis on cooperation, training in the proper handling of emergencies, and an appreciation for a thorough prebrief. CRM training also helped crewmembers face fatigue issues: dealing with various personalities, recognizing how attitudes change with fatigue, and exerting extra effort as a crew.

Crews were asked to what extent that their highest level of fatigue affected their ability to effectively perform mission tasks. Considering all crew positions, the average ranking reflected a feeling that there was less than a "Minor Impact on Effectiveness." When asked to identify specific tasks which were impacted by fatigue more than others, two

tasks clearly stood out: "Crew Coordination" and "Cruise." The effects of fatigue most often paired with the named tasks were "concentration was difficult" and "task seemed more difficult than usual." When rating the fatigue effect on a list of flight crew general characteristics (Judgment, Reaction Time, Ability to Concentrate, Ability to Deal with Multiple Data Sources, Crew Coordination, Crew Rapport), crews felt that these factors were affected between "Not at All" and "Somewhat, No Impact on Mission."

The majority of crewmembers did not identify any task performance which was improved by fatigue — other than sleep itself! However, for a few crewmembers a heightened awareness of fatigue helped. For example, crew coordination, extra effort, concentration, and the "double-checking of everything" were cited.

Crewmembers noted diminished performance in others. Regarding the crew as a whole, aviators noted that others were becoming irritable, more temperamental, and impatient. Attitudes changed with fatigue and people became more frustrated. Situational awareness and crew coordination decreased. Response time to questions and checklists increased. Typical critiques of others included deficiencies in air refueling, slow decision-making, and a preoccupation with other's tasks. Also, a radar altimeter was not reset, tempers flared, and checklist responses were not remembered. Crewmembers ignored details due to fatigue; one crewmember was slow with radar updates. Coordination and communication between pilots and OSOs/DSOs

declined.

After three consecutive 36-hour missions, 12 percent said that they could continue to fly at this pace indefinitely. Who said "gluttons for punishment" don't exist? The remainder of the individuals felt that they could safely fly a finite number of consecutive missions; their replies formed a loose "bell-shaped" curve with a peak located between flying two or three missions. After completing the series of missions they proposed, most crewmembers replied that they would need 60 hours of crew rest before embarking on another series of flights.

Investigators asked participants for recommendations for crew training associated with long-duration B-1 missions. Several crewmembers stated that planning should be stressed, not just for the mission itself, but for the long-duration aspects. Others listed considerations already mentioned in questions dealing with food, fatigue, and discomfort, such as: cushions for seats, proper diet (including hot food, remaining hydrated), the importance of sleep (using a schedule, following recommendations). The value of the "TZLUX" log (a form showing "body clock" time, Zulu time, actual time in zone where located, and amount of outside illumination crewmembers could expect) was specifically cited. Others recommended teaching exercises, relaxation techniques, and fatigue management. An OSO suggested a greater crossflow of information between DSO and OSO, and training in each other's tasks. Finally, a suggestion was made that the results of this "Futility Magellan" study be briefed and/or studied during long-duration training.

Crews had two key recommendations for aircraft modifications in order to help cope with fatigue. First, seat modifications were suggested (lumbar support, cushion, seat tilt). Second, crews urged the installation of a galley, including a refrigerator for cold storage and some type of oven for the preparation of hot food. Domino's doesn't deliver in the real world of 30,000 feet!

A majority of crewmembers felt that a course in fatigue management would be useful. I know you'll find this hard to believe, but most would recommend a 30-36 hour simulator training mission. As stated before, quarterly long-duration "Global Power" training missions are now being conducted.

The Global Reach - Global Power concept of operations has increased the importance of considering fatigue issues in the operational environment. Futility Magellan showed that long-duration missions are within acceptable limits. The first mission was the hardest, but crews learned to cope with fatigue. The actual Global Power training missions now being flown are building on the foundations of this study and continue to expand the knowledge and experience of bomber crews. Through awareness, training, and planning, crews can cope with the fatigue of sustained long-duration operations, thereby increasing flight safety and contributing to a credible deterrent.

Magellan lives — and the right training is not an exercise in futility! ■



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