

Air Education and Training Command's

# TORCH



November/December 2007

Combating human factors in fighters  
**'HELMET FIRES'**  
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## Stressed Out!

With frequent and longer combat deployments, along with more work and fewer people, the military workforce faces increasing anxieties at home and abroad

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Loud noise can destroy hearing

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Four Airmen struggle to survive blizzard

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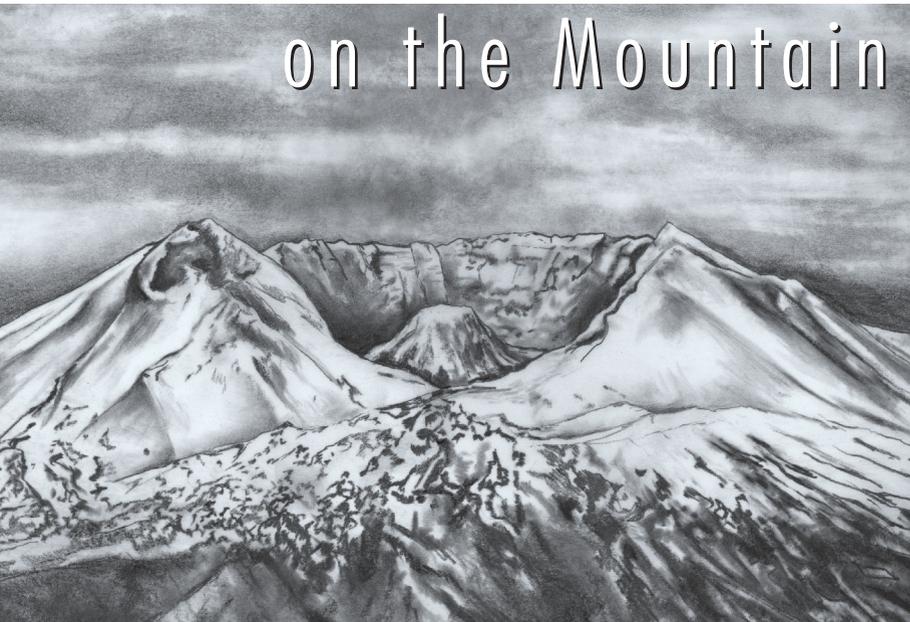
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With frequent and longer combat deployments, along with more work and fewer people, the military workforce faces increasing anxieties at home and abroad. Leaders have to know how to deal with everything from depression to post-traumatic stress disorder in their employees. Also see how increases in stress levels directly relate to increases in mishaps.

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by Sammie W. King

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TORCH is published bi-monthly to help promote safety awareness in Air Education and Training Command, the Air Force and Department of Defense. This funded Air Force magazine is an authorized publication for members of the U.S. military services. Contents of TORCH are not necessarily the official view of, or endorsed by, the U.S. Government, the Department of Defense or the Department of the Air Force. The editorial content is edited, prepared and provided by the Directorate of Safety, Air Education and Training Command, Randolph Air Force Base, Texas, following public affairs publication guidelines outlined in DOD Instruction 5120.4 and Air Force Instruction 35-101. All photographs are Air Force photographs unless otherwise indicated.

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## FROM THE DIRECTOR

By Col. **JOHN W. BLUMENTRITT**  
*AETC Director of Safety*

# NEW YEAR'S RESOLUTIONS

Experiencing the human capacity for change is a tremendous opportunity for personal growth. Of course, when it comes to following through with our New Year's resolutions, many of us don't get to feel the euphoria that this change can bring. Unfortunately, many beaches could be littered with the "bleached bones" of New Year's resolutions past that "died" shortly after they began in January.

That's really too bad. Because the top six killers in our society are heart disease, cancer, stroke, respiratory disease, accidents and diabetes. And while these killers may not be colorful, potential victims must embrace a human capacity for change to survive.

On many installations, the Air Force provides a place of hope for everyone in the form of a Health and Wellness Center, better known as the HAWC.

I recently toured the HAWC at Randolph Air Force Base, Texas, and was reminded that health and wellness enhance the ability of Airmen to accomplish their wartime mission. However, from an altruistic viewpoint, it also improves personal satisfaction and enjoyment of life.

Most importantly, though, it helps save lives.

The HAWC is not simply a gymnasium. Instead, it is a behavior modification facility that proactively champions healthy lifestyle behaviors via comprehensive health promotion and disease prevention programs. Indeed, health and wellness is a permanent life-saving lifestyle, versus a quick workout.

The HAWC staff is trained to turn around bad behaviors – even those learned early in life. In fact, eating and exercise behaviors are established early in children. In some cases, men and women develop a lifestyle of over-eating and physical inactivity, which leads to obesity. However, others may adopt a risky lifestyle of excessive exercising, unhealthy weight loss, steroid use and smoking. Finally, as they mature, some people fail to manage stress, time and anger. Indeed, these silent but aberrant behaviors may simmer for decades before they kill.

Without a doubt, the HAWC is a place of hope for these sufferers. As such, the staff directs four core health programs that include nutrition and fitness, controlling health risks, living tobacco free, and an additional healthy living program aimed toward stress and anger management.

While most military personnel appear healthy, many are at risk for the big six: heart disease, cancer, stroke, respiratory disease, accidents and diabetes. And while changing behavior to abate these destructive forces is difficult, succumbing to them is tragic for both professional and personal reasons.

Yes, change is tough, but the human capacity for change is a powerful force. Let's kick start our desires to evolve with a few simple New Year's resolutions. But this year, invite the HAWC to help you take your resolutions off of "life support," and instead, let them thrive. Together, you can achieve your goals for a better lifestyle and a better you.

**"Unfortunately, many beaches could be littered with the 'bleached bones' of New Year's resolutions past that 'died' shortly after they began in January."**

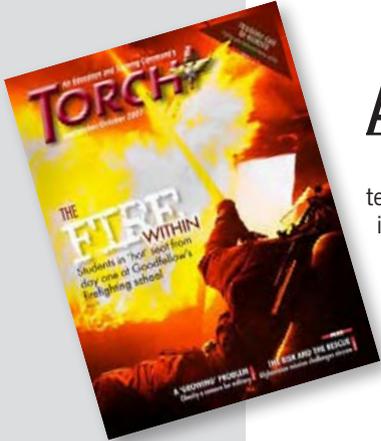
*John W. Blumentritt*

# 'FAT CHANCE!'

I thought "The Fire Within" story (September/October issue, page 12) was very well written. The photos and story really grabbed my attention. But one thing did keep nagging at me. You say Airman 1st Class Erin Metzger, the main fire school student featured in the story, "couldn't have been more than 5 feet tall and a hundred pounds, dripping wet." I realize she was the women's push-up champ, but it just seems to me that firefighters, man or woman, would need to be bigger to meet the extreme physical demands of the job.

Case in point, in the same issue, you run a story titled "A 'Growing' Problem" (page 8). It's all about how Americans are getting larger and larger and asks the question, "Are troops too fat to fight?" How does someone as petite as Metzger, even if she is in top shape, pull these ever growing Americans out of a burning building? I admire her moxie. But practically speaking, is that really a good fit? ... Fat chance!

*Brandon McNeil  
Via e-mail*



## A SALUTE TO FIREFIGHTERS

Nice job on "The Fire Within" article (September/October issue, cover story); I enjoyed it. I also got a chuckle out of the related article titled "It Ain't Easy Being a Hero."

America and the Air Force salute their firefighters; they truly are heroes!

*Amanda Purcell  
Via e-mail*

My husband, Staff Sgt. James Kennedy, was in the firefighting school class at Goodfellow Air Force Base, Texas, which you featured in the story "The Fire Within."

You guys do an awesome job! Thank you very much!

*Terry Walker  
Mendenhall, Miss.*

### LETTERS TO TORCH

Have a comment or complaint? Letters to Torch may be sent via e-mail to: [torch.magazine@randolph.af.mil](mailto:torch.magazine@randolph.af.mil). Or mail to Torch Editor, HQ AETC/SEM, 244 F Street East, Suite 1, Randolph AFB TX, 78150-4328, or fax to DSN 487-6982 or commercially to (210) 652-6982. For customer service, call DSN 487-5818, or commercially at (210) 652-5818. Please include your name, address and phone number.

## CLEVER ILLUSTRATION

I dig your illustration that goes with the "A 'Growing' Problem" article (September/October 2007 Torch, page 8). The (different take on the) Leonardo da Vinci drawing ("Vitruvian Man") was clever ... very clever! I love it!

*Karen Pettitt  
Scott Air Force Base, Ill.*

"A 'Growing' Problem" was an interesting article on obesity in the military. We've made strides in the Air Force with a new emphasis on fitness, but it might be time to take the next step.

*Randall Pack  
Via e-mail*



## POETIC JUSTICE

I was a member of the group that went through the combat convoy training course outlined in your July/August 2007 issue of Torch ("Combat Convoy," page 12). The people you featured are still in Afghanistan doing gun truck convoys. I'm a gunner with a transportation platoon there, and I recently wrote a poem about gun truck convoys (below). I thought you might be interested in seeing it.

*Airman 1st Class Kerri-Jo Hyde, Kandahar, Afghanistan*

### 'Gun Truck Convoy'

*Gun 6 says, "convoy rolling,"  
and then the fun begins.  
Roll through the gate,  
lock and load, all gunners go red.*

*Not much chatter on the comm,  
except within the truck.  
Mission weighing on our shoulders,  
trying to keep the spirit up.  
Who or what is out there,  
we really do not know.*

*Ready to fight whatever approaches,  
because that's just how we roll.  
Gun 1 leads us out,  
Gun 6 bringing up the rear.  
Every victor in between,  
depends on us to keep them clear.*

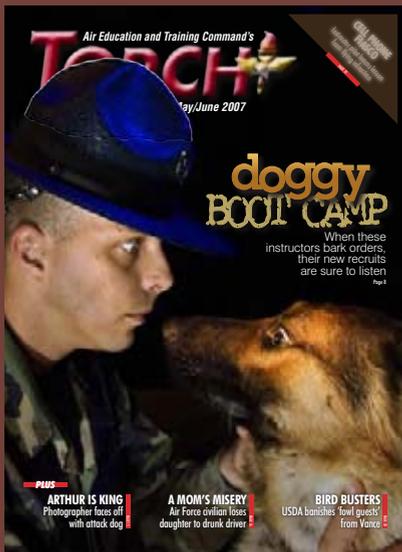
# CHANGING HABITS

I enjoyed the article and photos (you did on the cover story "Illegal Street Racing," July/August 2007 issue, page 8). Hopefully, it will help a few people with their driving habits.

Master Sgt. Prince E. Porter Jr.  
Colorado Springs, Colo.



## DOGGY BOOT CAMP FOR 'PROBLEM CHILD'?



I have a dog that is probably going to be destroyed. He bit a 13-year-old kid. Even though I think the kid provoked him by kicking at him, I have to go to court to decide if the dog should be put to death. He is a very smart, energetic dog. I feel the military might be just what he needs.

I read the article about "Doggy Boot Camp" in the May/June 2007 issue of Torch (page 8), but there was no information on how to get your dog in that

program. I would just love to save him — he is a wonderful dog! I love him dearly, as do my children, and he has been a very loyal and protective friend to us.

If you can give me more information on how to get him in the doggy boot camp, I would be forever grateful. He just might go from problem dog to hero. He deserves a chance! Please help him. It just might be mutually beneficial to the dog and our country.

Angela Hudson  
Via e-mail

**According to the military working dogs procurement unit with the 341st Training Squadron at Lackland Air Force Base, Texas, they do not take canine donations. Their dogs are procured from stateside and overseas vendors, as well as their local breeding program. They said their consignment standards are extremely rigorous and that 70 percent of the dogs they look at don't make the cut (and those dogs already are trained to standard).**

## TORCH CALENDAR

We have over 650 individuals working at the 42nd Services Division. Your calendars are very popular in our division. The calendars will be given to activity managers, flight chiefs and key personnel. Thanks for all you do for the military. Your magazines are informative, and the pictures are unbelievable. Keep up the good work.

Elizabeth A. Cooper  
Maxwell Air Force Base, Ala.

I am the program manager for the 80th Flying Training Wing aircraft maintenance organization, and your calendars are a real hit with my maintainers.

Bill Davis  
Sheppard Air Force Base, Texas

Your calendars are a huge hit every year at the Air Force Flight Test Center.

Col. Mike McKenna  
Edwards Air Force Base, Calif.



I'm the unit safety representative for the 12th Operations Support Squadron. I plan on distributing your 2008 Torch Calendar to some of our squadron members during the 2008 January Safety Challenge for individuals who come up with some correct answers to safety trivia. Last year's calendar was a big hit with our staff. The quality was outstanding, the pictures were awesome, and I used the "That Figures" as part of the safety media to our squadron throughout the year.

Debbie Fluhrer  
Randolph Air Force Base, Texas

# WATCHING OVER YOUR WINGMAN

WASHINGTON (AFPN) — In the last 17 years since Operations Desert Shield and Desert Storm, 82 Airmen have died in combat. During the same timeframe, 1,370 Airmen have lost their lives in preventable mishaps.

William C. "Bill" Anderson, assistant secretary of the Air Force for installations, environment and logistics, presented this daunting statistic before a captive audience of nearly 2,000 civilian industry and Air Force members from across the United States during a speech Aug. 29 in the nation's Capitol.

Anderson was the keynote speaker at the 23rd Annual National Voluntary Protection Programs Participants' Association Conference, where participants gathered to share safety, health and environmental best practices and programs.

"The Voluntary Protection Program takes occupational safety and health from a compliance-based program to a participation-based program," Anderson said. "It drives partnerships between management and labor, and industry and the federal government. Much like our Air Force wingman concept, it's focused on each person looking out for his or her co-worker."

VPP, administered by the Occupational Safety and Health Administration, focuses on improving safety and occupational health performance. So far, 18 Air Force bases are participating in VPP, including Air Education and Training Command's Altus Air Force Base, Okla. Air Force officials plan to take the innovative program service-wide within two years.

Statistics have shown that VPP sites have 30 percent less injuries than non-VPP sites, Anderson said.

"VPP gets employees digging deeper to see how they can do their jobs better and to identify more hazards," said Mike Matthews, the ground safety manager at Altus. "When you get employees at all levels taking a critical look at how we do business, the result is less injuries, less money and more mission accomplishment."

— Staff Sgt. Monique Randolph  
Secretary of the Air Force Public Affairs



**Honing in on aircraft maintainers**, such as Robert J. Spain II, a C-17 crew chief at Altus AFB, Okla., the Voluntary Protection Program aims to help employees identify better and safer ways to do their jobs. Aircraft maintenance makes up three-fourths of the civilian workforce at Altus, according to Mike Matthews, the base's ground safety manager.

by Tech. Sgt. Matthew Hammen

# AIRMAN, SON **SAVE TEENAGE GIRL**

LITTLE ROCK AIR FORCE BASE, Ark. (AETCNS) — In a coma, 19-year-old Katie Gleason of Little Rock didn't know Air National Guard Tech. Sgt. Sam Macheak or his son, Ross, a 42nd Composite Squadron Civil Air Patrol cadet major, before she slipped into the unresponsive state.

They all met Aug. 2, but she doesn't recall it. The Macheak's, who both learned self-aid and buddy care through their Air Force affiliations, helped stabilize her until rescue crews arrived.

Gleason was driving along Maumelle Boulevard when she attempted to make a left turn across two lanes of traffic. Unfortunately, she couldn't see past a row of cars going in the opposite direction that also were trying to make a left turn. She waited for an opening in the traffic. When she thought she had one, she pressed on the gas and accelerated into disaster.

Today, she still doesn't remember the 6,500-pound Ford F-250 that slammed into the side of her mid-sized, four-door Toyota Camry at about 55 mph.

As the truck hit, Sam saw a perfect bubble erupt from the car as the glass in Gleason's vehicle exploded in every direction from the collision. Sam and Ross ran to the rescue.

"Katie was semi-conscious for a moment," Sam said.

She was in good hands. Sam has current life-saving skills training in first aid, plus takes annual Air Force self-aid and buddy care training. Ross has received training from the Civil Air Patrol to search for downed aircraft, which includes lessons in first aid.

The truck had turned the car into a crumpled mess of twisted metal and broken glass.

"The (front) passenger's seat just basically disappeared," Sam said. "I don't know where it went, either."

Banged up, bruised and bloodied, Gleason had trouble breathing. Adding to the chaos and anxiety, a steady stream of smoke rose from her car's engine.

While Sam and Ross stabilized her in the driver's seat, another Good Samaritan unhooked the battery cables, which stopped the smoke.

Sam kept Gleason's airway open, while Ross checked her for serious injuries.

Within five minutes, emergency crews arrived on scene and removed the teen from her car.

Four excruciating days later, Gleason's eyes opened. She had suffered a bleeding brain injury, lacerations and a fractured vertebra in her back. She spent a month in the hospital, followed by weeks of physical and occupational therapy.

As traumatic as the crash was, Gleason was fortunate. She wore her seat belt, and she was wrapped in an airbag cocoon.

A lot of teenage drivers aren't so lucky. In 2003, 5,240 teens were killed in vehicle crashes, and 458,000 teens were injured, according to National Highway Traffic Safety Administration statistics. Sixty-three percent of the fatally injured 16-to-20-year-old vehicle occupants did not wear their seat belts.

— Master Sgt. Bob Oldham  
189th Airlift Wing Public Affairs

***She pressed on the gas and accelerated into disaster. ... She still doesn't remember the 6,500-pound Ford F-250 that slammed into the side of her mid-sized, four-door Toyota Camry at about 55 mph.***

## WINTER DRIVING **CHECKLIST**

You should keep your vehicle in top operating condition all year round for safety and fuel economy. It is especially important to prepare for winter driving by performing the following safety steps:

- ✓ Know your vehicle. Read your Owner's Manual and winterize the battery and lights; defroster and heater; motor oil; wiper blades and windshield washer fluid; antifreeze; tires; and brakes.
- ✓ Keep your gas tank full. This minimizes condensation and provides an extra margin of comfort and safety in case of delays or being stranded.
- ✓ Carry a CB radio or cellular phone. These can be lifesavers for you or another stranded motorist.
- ✓ Stock your car with basic

safety equipment. Include items such as emergency cash; scraper and brush; small shovel; jumper cables; tow chain; and bag of sand for tire traction.

- ✓ Carry a breakdown kit. Include road flares, blanket, gloves, boots, warm clothing, flashlight, extra batteries, food, water, candle, matches and a first-aid kit.
- ✓ Clear snow and ice from all windows and lights. Even brush off the hood and roof so you don't experience a "white-out" when driving.
- ✓ Plan your route. Know road conditions and learn what to do in emergencies.

— National Highway Traffic Safety Administration



**Are you prepared for winter driving?** Using the winter driving checklist from the National Highway Traffic Safety Administration can help keep the "blues" out of your holiday.

# SKIER GETS IN A 'BIND'

A Kerrville, Texas, native, the 22-year-old had been an above average athlete. He played football, basketball and baseball in high school and even got a college scholarship to continue his baseball career. He was still in great shape and loved all sports, so when a college buddy asked him to go to New Mexico on a snow skiing trip, he jumped at the chance.

The man had never been snow skiing before — not much opportunity for that in the hot temperatures of Southwest Texas. But he embraced new challenges — especially ones that tested his athleticism.

When they arrived at the ski slope, his friend, already an experienced skier, was ready to hit the more advanced slopes. He recommended that the first-time skier get a few lessons, get his balance and bearings on the beginner slope, and then move on accordingly.

But the young athlete scoffed at the notion that he needed lessons and said "there was no way" he was going on the "bunny hill" (the nickname for the beginner slope).

So he jumped on the ski lift and headed directly for the intermediate slope. He'd learn on the fly.

He quickly discovered that skiing wasn't quite as easy as it looked. He'd gain speed, but with no training in how to control or slow himself, he crashed and burned again and again. Each time he'd fall, his skis would release, and he'd have to retrieve them some distance down the mountain. Frustrated by this waste of time and good slope, a "light bulb" lit up in his brain.

"I'll just tighten the bindings so my skis won't fall off," he thought smugly.

## SNOW SKIING SAFETY TIPS

1. Have your bindings done by the professionals in the ski shop.
2. If it's your first time skiing or you ski infrequently, take lessons before "attacking the slopes."
3. Stay within your abilities to prevent an out-of-control experience that can lead to injury.
4. Maintain situational awareness to avoid other skiers and trees.

— Air Education and Training  
Command Ground Safety

So he took out his trusty Leatherman and went to work adjusting the skis.

When he got them as tight as he could muster, he stood there triumphantly. Then with a holler, he continued his descent. Tightening the bindings didn't help his control in the least. He soon accumulated too much speed and when he hit a slight bump on the otherwise smooth slope, he went airborne and out of control. He toppled as he touched earth and rolled down the mountain.

The problem is his skis didn't release, because of the now too-tight bindings.

With a sickening snap, the shin-bone in his left leg splintered, and he tore the anterior cruciate ligament in his right knee.

When he slid to a stop, he was still hollering. ... This time from pain.

A medical evacuation team had to carry him off the slope. Then the real "fun" began: surgery and more than a year of recovery and rehabilitation.

Unless you have proper training, you should take your skis and boots to a ski shop and let the professionals adjust the bindings. Proper binding adjustment is crucial for your safety — don't take chances.

— Tim Barela

**A novice skier severely injured both of his legs** when he over-tightened the bindings on his skis, and then lost control and went tumbling down the slope. The over-tightened bindings wouldn't let his skis release, a safety measure meant to prevent injury.



# HOW **NOT** TO CONVERT YOUR AIRMAN BATTLE UNIFORMS INTO **GLOW-IN-THE-DARK WIDOW-MAKERS**

Some Airmen may be unwittingly turning their new Airmen Battle Uniforms into glow-in-the dark widow-makers.

Laundry instructions for the ABUs, which became available earlier this year, specify not using any laundry detergents that contain "optical brighteners." Optical brightener additives make the uniform more detectable by night vision equipment, according to a talking paper posted on the Air Force Uniform and Recognition Programs page on the Air Force Portal. They also make it more visible in a low-light environment of any kind, by reflecting more of any available light, officials said.

Optical brighteners are chemicals that absorb the ultraviolet and violet region of colors in a fabric. They "trick" the eye into seeing a brighter shade and reflect more light. As a result, near infrared capability of the ABU is degraded when washed with optical brighteners, officials explained.

The problem is most commercial detergents contain optical brighteners. Adding to the difficulty, there is generally no way to tell whether a laundry product has optical brighteners by the labeling alone. (View the accompanying list of laundry detergents that do not contain optical brightener additives below, and clip and save for future use).

The impact of optical brighteners is permanent; it cannot be "washed out," officials said.

In a letter to senior enlisted leaders, Senior Master Sgt. Gerardo Tapia, special assistant to the chief master sergeant of the Air Force at the Pentagon, wrote, "As Airmen Battle Uniforms become more and more prevalent in our Air Force, proper care of the garment is critical, especially if you will be deploying in it. The wrong use of cleaning detergent on this garment has some very undesirable side effects."



by Senior Airman Stephen Caldeira

**Which uniform would you want to wear into battle?** Optical brighteners in many laundry detergents make the Airmen Battle Uniform more detectable by night vision equipment. At far right, the photo illustration demonstrates how a uniform washed in laundry detergent with optical brightener additives would look under an ultraviolet light, while the left side shows how it looks when washed without the optical brighteners.

## LAUNDRY DETERGENT BRANDS THAT DO NOT CONTAIN OPTICAL BRIGHTENERS

(OK FOR USE WITH AIRMAN BATTLE UNIFORM)

- ◆ Cheer (liquid and powder)
- ◆ Cheer Free
- ◆ Exchange Select Cold Water Wash
- ◆ All Detergent Free Clear
- ◆ Country Save Liquid Detergent
- ◆ Allens Laundry Detergent (powder and liquid)
- ◆ Bi-O-Kleen Laundry Detergent (powder and liquid)
- ◆ Charlie's Soap (powder and liquid)
- ◆ ECOS Free and Clear Laundry Detergent
- ◆ Mountain Green Liquid Laundry Detergent
- ◆ Nature Clean (liquid and powder)
- ◆ Oxy-Prime Powder
- ◆ Planet Ultra (liquid and powder)
- ◆ Seventh Generation Laundry Detergents

- ◆ Sportwash
- ◆ Sun and Earth Liquid
- ◆ Surf Powder (not Surf Liquid)
- ◆ Washeze
- ◆ Woolite (original and dark)

## WASHING AND CARE REQUIREMENTS FOR THE AIRMAN BATTLE UNIFORM

- ◆ To maximize service life and maintain optimum performance, follow these instructions when caring for the Airmen Battle Uniform: Wash in warm water with detergent containing no optical brighteners or bleach. Tumble dry at low heat.
- ◆ The ABU is literally a wash and wear item. In fact, starching, steam pressing and dry-cleaning the ABUs is prohibited, as these processes adversely affect treatments in the uniform, deteriorate the fiber and shorten the wear life.

— Courtesy of the Air Force Uniform and Recognition Programs Web page

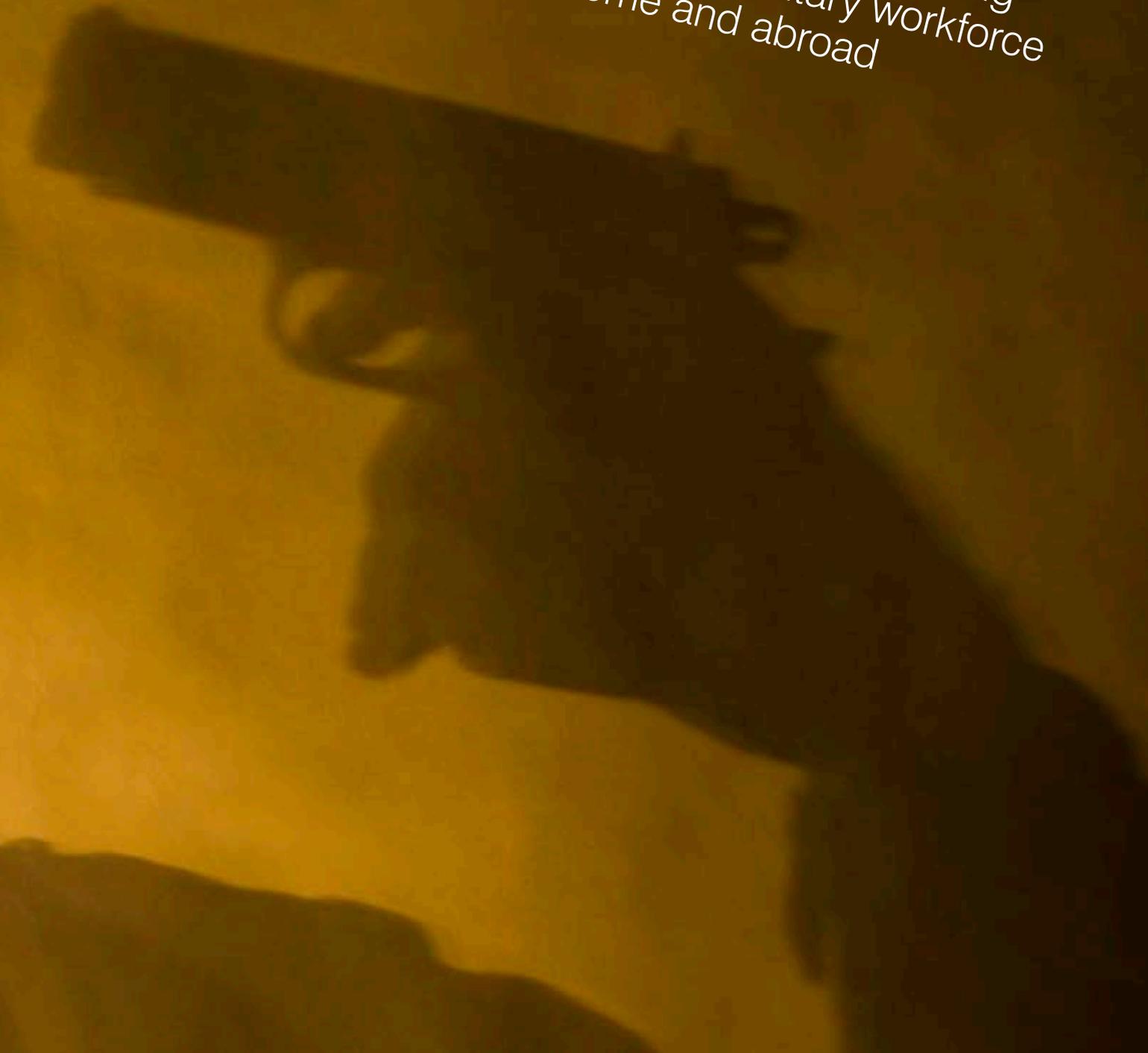


# Stressed Out!

With frequent and longer combat deployments, along with more work and fewer people, the military workforce faces increasing anxieties at home and abroad

By **TIM BARELA**

Photo by Tech. Sgt. **MATTHEW HANNEN**



## As Stress Rises, So Do Mishaps

Whether it's combat-related, holiday blues or a number of other anxieties, one thing is certain: Increased stress equals increased mishaps.

Stress that isn't handled properly can lead to a number of higher risks.

**Adrenaline junkies:** Members returning from combat might feel bulletproof and crave the adrenaline rush the combat environment provided. In replicating this "thrill ride" back home, they could take more risks, such as speeding on sports bikes.

**Road rage and/or aggressive driving:** Stress causes shorter tempers, which many people release on the dangerous roadways.

**Fatigue:** Stress causes many people to lose sleep; fatigue can lead to falling asleep at the wheel or mishaps in the workplace.

**Distractions:** People preoccupied with problems are inattentive and indecisive, which make them susceptible to "tunnel vision" and missing information required to make safe decisions. This can lead to costly, life-threatening mistakes.

**Alcohol/drug abuse:** Depressed or stressed out people often turn to alcohol or drugs to dull the pain. This can lead to workplace mishaps or drunk-driving tragedies.

— Air Education and Training Command Ground Safety

by Staff Sgt. Jacob Bailey

**T**wenty-three-year-old Shelly Barton headed to her nightstand, situated directly under the window in her apartment, just like she had every night since moving into the Khobar Towers housing complex at Dhahran, Saudi Arabia.

As an F-16 avionics technician, she'd deployed there with her unit — the 34th Fighter Squadron from Hill Air Force Base, Utah — on June 10, 1996. It was now June 25, and the weary-eyed senior airman just wanted to get her nightclothes, take a shower and go to bed.

A step away from her nightstand, the light in her room flickered, stopping her in her tracks. She couldn't explain it, but she could feel the pressure in her room change, as if someone had taken a giant vacuum and was sucking all the air out.

Then the building swayed.

An earthquake? she wondered.

The light turned to almost a greenish haze, and suddenly, the pressure changed again, like a balloon popping. Less than a foot from her face, the window blew in with violent force. Shattered glass, metal, dust and other debris flew within inches of her face as she stood like a statue frozen in place.

"A fraction of a second later and I would have been standing directly in front of that window and had my face blown off," she said, admitting the thought still sends chills up her spine.

She later returned to her room, and the only spot that wasn't covered with dust and debris from the explosion was where her feet had stood during the blast.

"It was eerie seeing my footprints surrounded by all the chaos," she said.

Eleven years after it happened, Master Sgt. Shelly Barton, now assigned to the U.S. Air Forces in Europe Inspector

General at Ramstein Air Base, Germany, vividly remembers the terrorist bomb attack on Khobar Towers, which killed 19 Airmen just two buildings down from hers. From the time her bedroom light flickered, until glass and metal shards flew past her blue eyes, less than two seconds expired. She, nevertheless, recalls dozens of details ... save for one.

She still has no memory of the sound from the enormous blast.

"I can tell you what I saw, how I felt and even how things smelled, but how it sounded? ... I have no idea," she said. "Everyone else who was there describes the blast as the loudest noise they'd ever heard. They can't believe I don't remember hearing anything."

While she doesn't remember hearing the blast, since that day Barton has had an aversion to loud noises.

"Stuff like noisy clubs, someone coming up behind me and making a loud noise, the television turned too loud — things that never bothered me before — now really annoy or even anger me," she said. "Loud noises can turn me into a real b----. I'm aware of it, but it's something I can't control."

According to Col. (Dr.) Bob Ireland, program director for mental health policy with the office of the assistant secretary of defense, health affairs, at the Pentagon and a former psychiatric

“Everyone else who was (at blast as the loudest noise believe I don't

consultant to the Air Force Surgeon General, Barton's mind blocking out the sounds of the bombing and leaving her with an aversion to loud noises is not abnormal.

"It's a perfectly normal defense mechanism for your body," he said. "Everyone's brain is wired for survival. If you're in Alaska and a grizzly bear comes out of the woods and mauls and eats your buddy, chances are you won't want to go back to that spot. You might get the shakes and sweats or another form of anxiety if put in a similar situation or if you receive some familiar stimuli, such as a certain sound, smell or visual cue."

That doesn't mean you're nuts, the doctor said.

"That's your body working perfectly," he explained. "It's warning you to be careful. It's doing exactly what it was programmed to do. These are defense mechanisms that have served us well as a species. They are key to our survival."

These reactions become a problem, according to the doctor, when they make people non-functional, or even suicidal. Thankfully, Barton is able to deal with the residual emotions from her ordeal and still thrive personally and professionally. She has proven to have a resilient personality.

However, that isn't the case for everyone.

Thirty-three Air Force members committed suicide in 2007 (through November), with six of the Airmen from Air Education and Training Command, according to the command surgeon office.

It's getting harder and harder to find troops who haven't served in some recent conflict, whether it is Iraq, Afghanistan or Bosnia, just to name a few. And the whole nation was exposed to the horrors of terrorism with the Sept. 11, 2001, terrorist attacks.

Ireland says today's Airmen are faced with an increasing number of stressors that can lead to everything from anxiety to more severe post traumatic stress disorder and suicide.

According to the National Center for Post-Traumatic Stress Disorder, PTSD is a psychiatric disorder that can occur after experiencing or witnessing life-threatening events such as military combat, natural disasters, terrorist incidents, serious accidents, or violent personal assaults like rape. People who suffer this disorder often relive the experience through nightmares and flashbacks, have difficulty sleeping, and feel detached or estranged. These symptoms can be severe enough and last long enough to significantly impair the person's daily life.

"Basically, post-traumatic stress can result from anything that scares the daylight out of you," Ireland said.

But a person doesn't have to have the disorder to experience anxiety and stress that can negatively affect them in the workplace and at home. That's why the Air Force developed the Leader's Guide for Managing Personnel in Distress, <http://afspp.afms.mil/leaderguide/default.htm>. This online distress roadmap provides guidance on everything from anxiety and depression to combat stress and suicidal behaviors. It helps leaders recognize the symptoms associated with a variety of stressors and assists in outlining what they can do to help.

"This leader's guide covers a lot of tough subjects — from combat stress to rape — and it's all available with the click of a mouse," Ireland said. "It's an excellent online guide, and I'd recommend it to anybody concerned about another member. It's like an emotional first-aid kit."✈

Khobar Towers) describes the they'd ever heard. They can't remember hearing anything."

# Anxiety in the Workplace Checklist

## Possible Symptoms

- Poor concentration
- Restlessness
- Irritability
- Muscle tension
- Problems with sleep
- Shortness of breath
- Rapid heartbeat
- Chest pain
- Numbness of hands and feet

## Potential Impact on Work

- Difficulties keeping on task
- Poor communication/work relationships
- Increased accidents and mishaps

## What Leaders Can Do to Help

- Know the behavioral signs
- Ask the person directly about anxiety and worry over stressors
- Ask how you can be supportive
- Ensure the person is safe at the workplace if focus/concentration is a concern
- Explain that treatment for anxiety doesn't hurt a career, but could save it
- Be vigilant for unhealthy coping responses such as alcohol or drug abuse (or suicidal gestures)
- Encourage the person to seek appropriate care (doctor, chaplain, life skills adviser)
- Use the Leader's Guide for Managing Personnel in Distress online at <http://afspp.afms.mil/leaderguide/default.htm>.

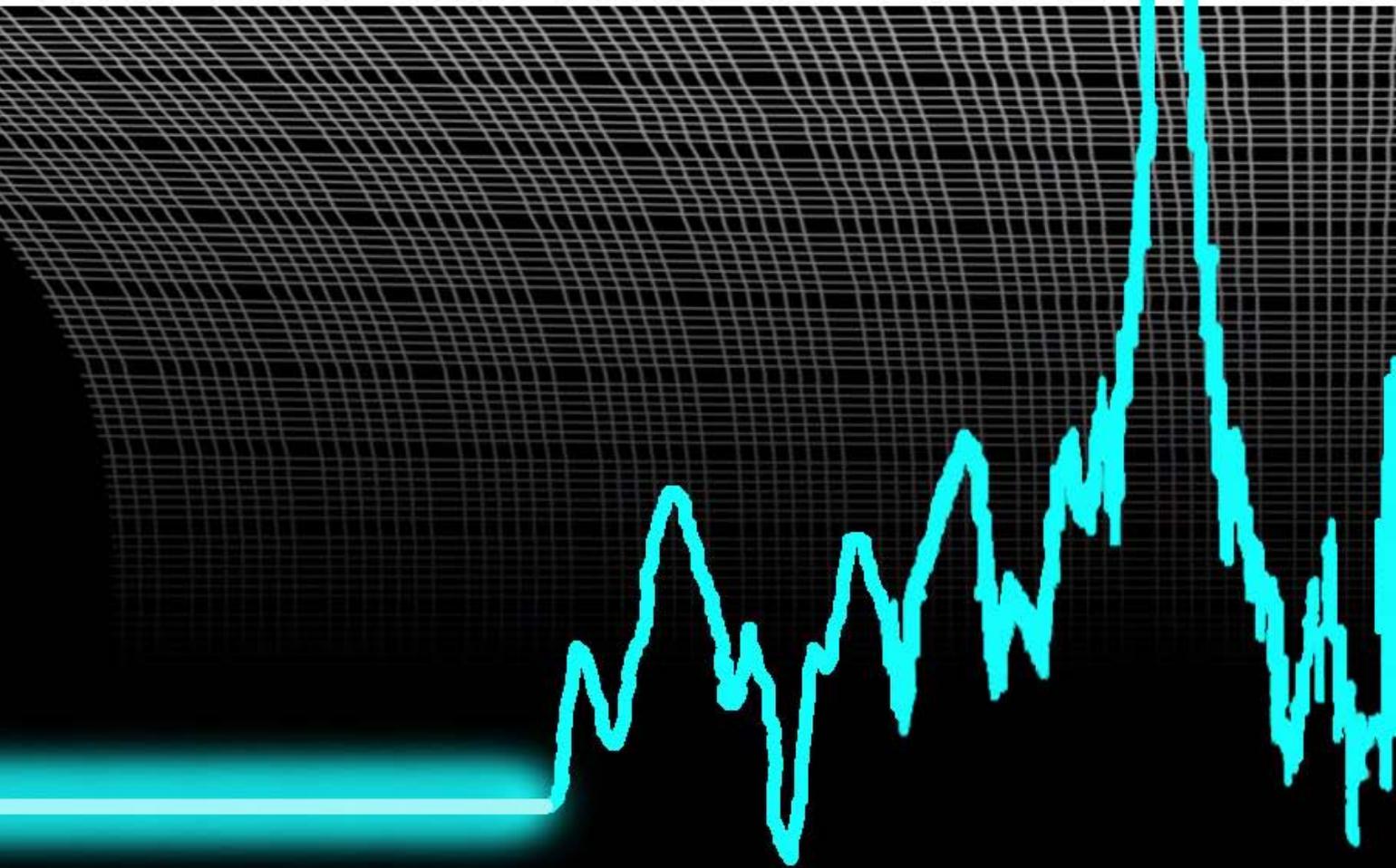
— From the Leader's Guide for Managing Personnel in Distress



# CAN YOU HEAR A PIN DROP?

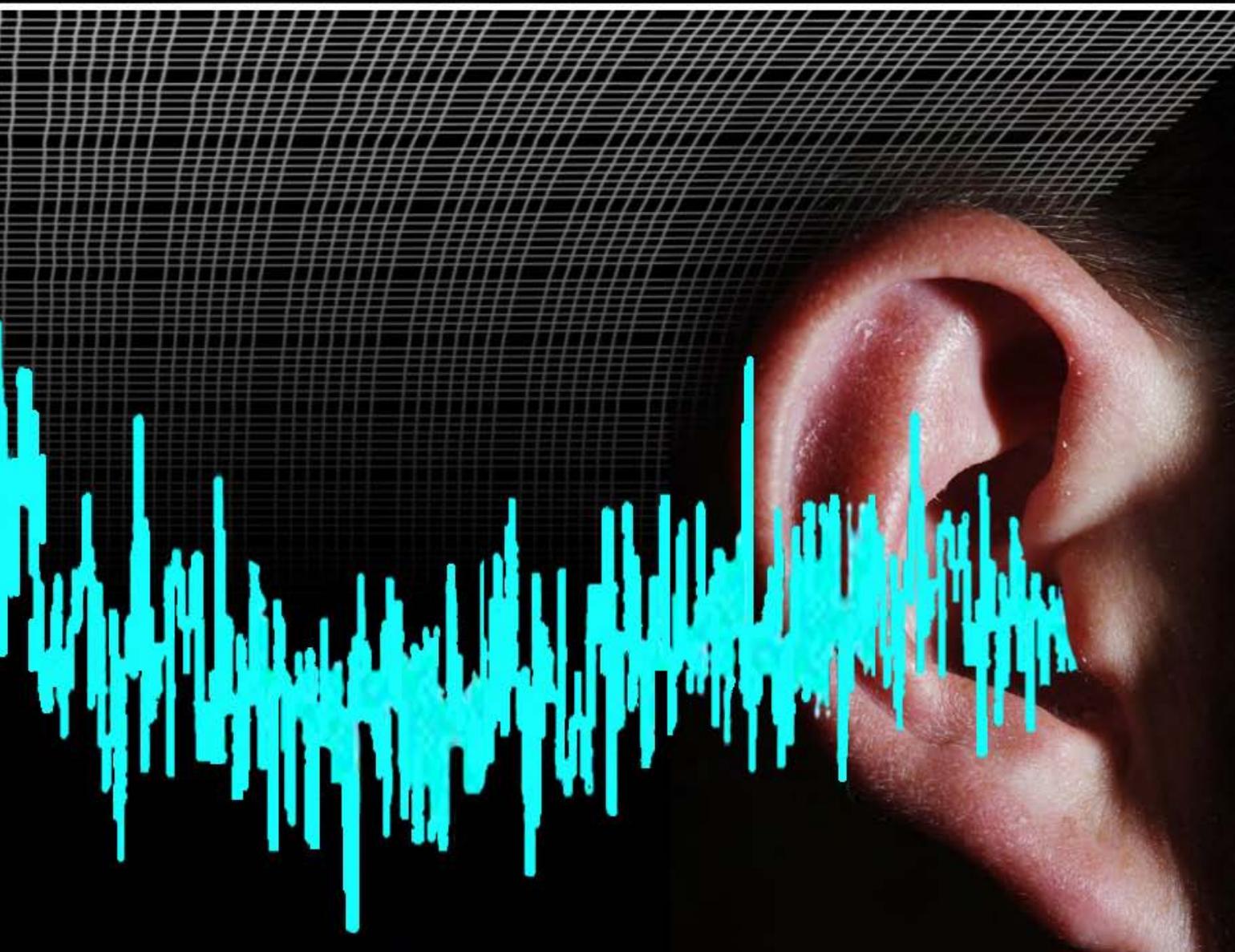
Loud noise can destroy hearing

By Dr. **DARYL HAMMOND**  
Photos by Tech. Sgt. **MATTHEW HANNEN**  
Digital image illustration by **SAMMIE W. KING**



**A**irplanes, cars, trains, lawn mowers, and even radios and television create unwanted sound, which we call noise. When soft and mild, noise is tolerable; but when it becomes too loud, it can be annoying and even destroy hearing.

Once hearing loss from noise occurs, it will never return to normal. The changes are subtle, and you might not even know there's a problem.



You may be unconsciously turning up the TV or radio volume, or blaming other's poor speech for your difficulty in distinguishing between certain consonant pairs that fall in the region where noise-induced hearing loss occurs (for example, D and B, or F and S).

I was one of those people. Years of working around loud engines, generators, and aircraft without proper hearing protection permanently damaged my hearing.

Every day, I see people — flight crews, aircraft maintenance personnel or civil engineering grounds maintenance personnel — making the same mistake I did: not wearing hearing protection or wearing it improperly. Before it's too late, protect your hearing and preserve your quality of life so you can continue to enjoy the sounds of nature and music and understand all of the conversation around you.

## Hearing Basics

How does noise cause hearing loss? Reviewing the basics of how we hear, our auditory system is divided into the outer, middle and inner ear. Sounds are gathered by the outer ear and funneled down the ear canal to the eardrum. At the eardrum, sound is changed into vibrations. These vibrations are picked up by three tiny, connected bones located in the middle ear. These bones couple the sound to the inner ear where it is changed into electrical impulses by tiny hair cells connected to the auditory nerve. The brain interprets the impulses and decides what the sound is and where it's coming from.

When loud noises occur, the tiny hair cells located in the inner ear become disfigured, flattened or fused together. This damage is irreversible and causes permanent hearing loss. Only by using protective equipment or by getting away from the noise can additional damage be

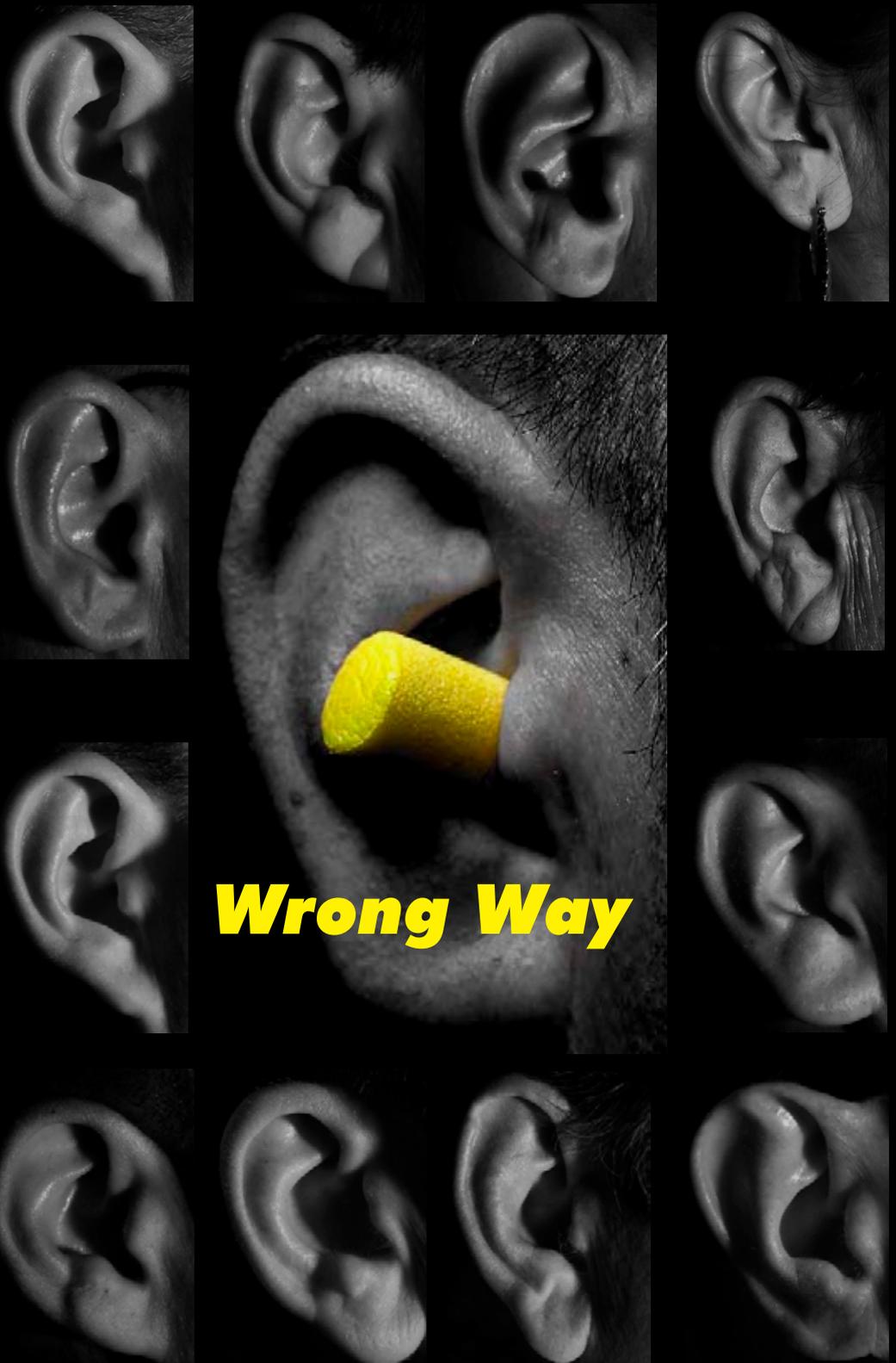
prevented. ... So how loud is too loud?

We know whispering and tiptoeing are soft sounds while lawn mowers, guns and screaming are loud sounds. Sounds are measured in what we call decibels, but under-

standing the scientific jargon about how sound is measured or how it affects us can be confusing.

Air Force Occupational Safety and Health Standard 48-20, *Hearing Protection Conservation Program*,

explains the terms, but sometimes it's just easier to remember the following general rule-of-thumb when it comes to noise: It's too loud when it hurts your ears or you have to raise your voice to talk to someone.





**Right Way**

## Line of Defense

You've got to protect your hearing by either getting away from the noise or by wearing hearing protection, such as earplugs, earmuffs or both. But these devices help prevent

noise induced hearing loss only if they are worn consistently and correctly.

Earplugs are the most popular type of hearing protection. They come in many forms, but those made of yellow expandable foam

that conforms to the ear canal are most familiar to us. To be effective, they must be installed properly, which means inserting them well into the ear canal to seal it entirely. Earmuffs fit over the ear to form an air seal and will not

seal properly around long hair or eyeglasses.

Whether earplugs or earmuffs are chosen, proper fitting is essential to obtain the best results.

## Importance for Air Force Workers

Noisy environments are a common occurrence for many Air Force specialists, such as aircraft mechanics, aircrew members, airfield and weapons range operations experts, and civil engineering workers. All of these people are exposed to dangerous levels of noise every day from vehicles, aircraft or other machinery. Air Force Occupational Safety and Health guidance requires all workers to wear hearing protection devices when performing duties in a noisy environment and to be trained on their proper wear.

Additional information about assessing workplace noise levels, safeguarding your hearing and proper wear of hearing protective devices can be obtained from your base bioenvironmental engineering or occupational health and safety office. Audiologists in the Aural Displays and Human Effectiveness Directorate of the Air Force Research Laboratory at Wright-Patterson Air Force Base, Ohio, also can answer your questions.

Remember — maximum protection of hearing can only be accomplished if hearing protectors are used and properly worn. Please take the time to correctly use earmuffs and install earplugs. It may mean the difference between hearing, or not hearing, a pin drop. ✈️

Dr. Hammond is the Air Force's chief electrical engineer, Headquarters, Air Force Civil Engineer Support Agency, Tyndall AFB, Fla. He previously served as a research engineer for the Bioacoustics and Aural Displays Branch of the Air Force Research Laboratory at Wright Patterson AFB, Ohio.

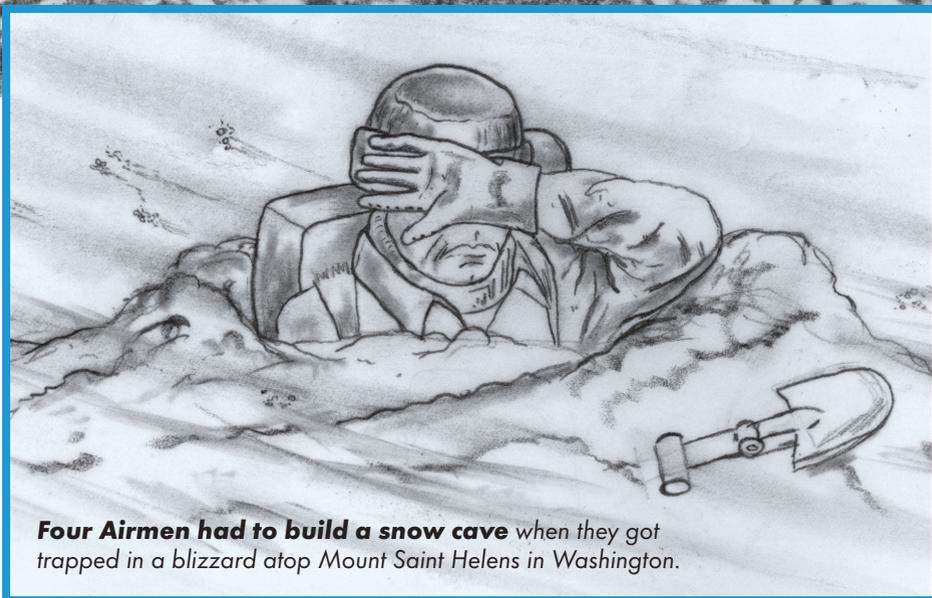
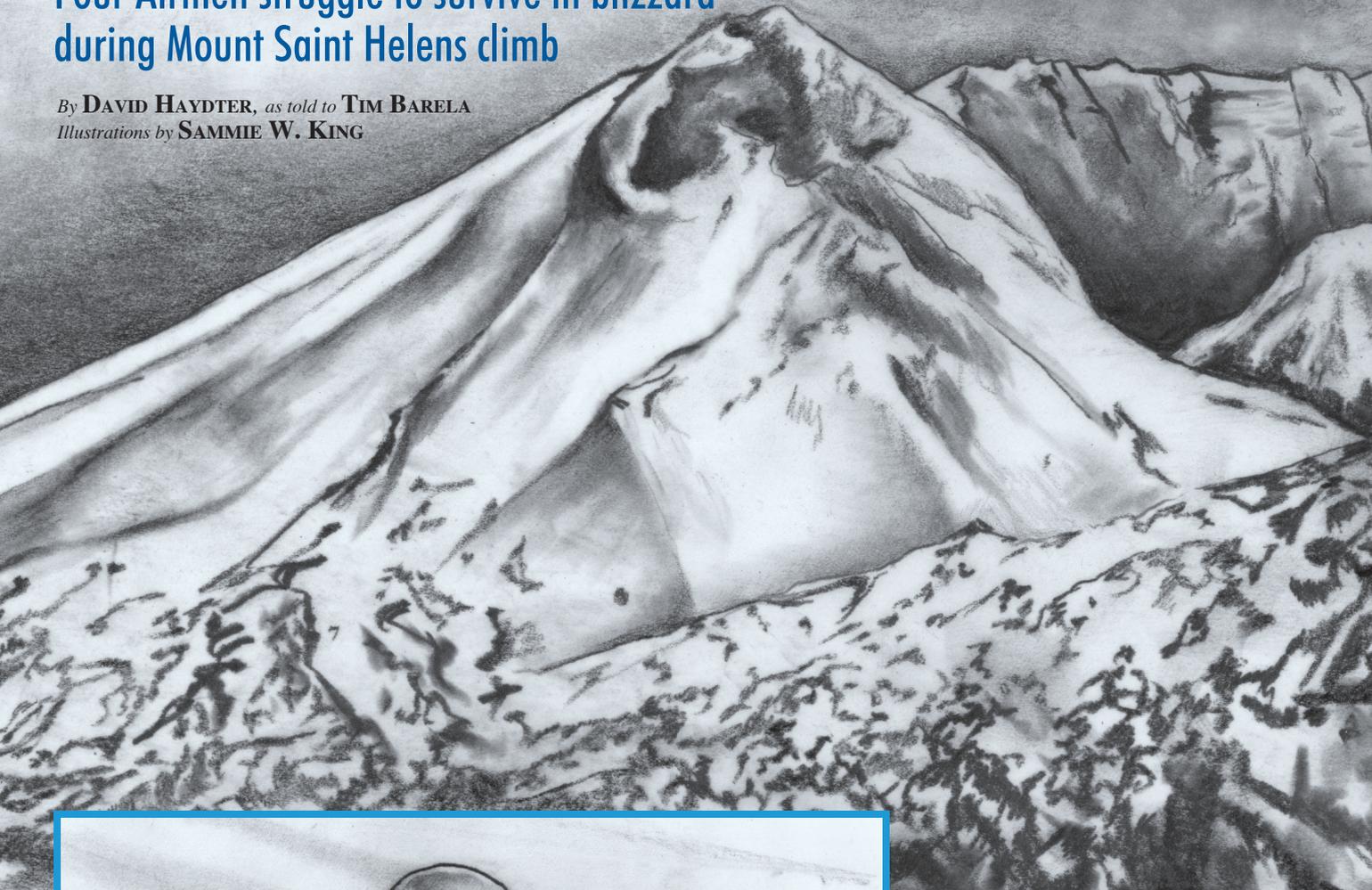
# MAYHEM

## on the Mountain

Four Airmen struggle to survive in blizzard during Mount Saint Helens climb

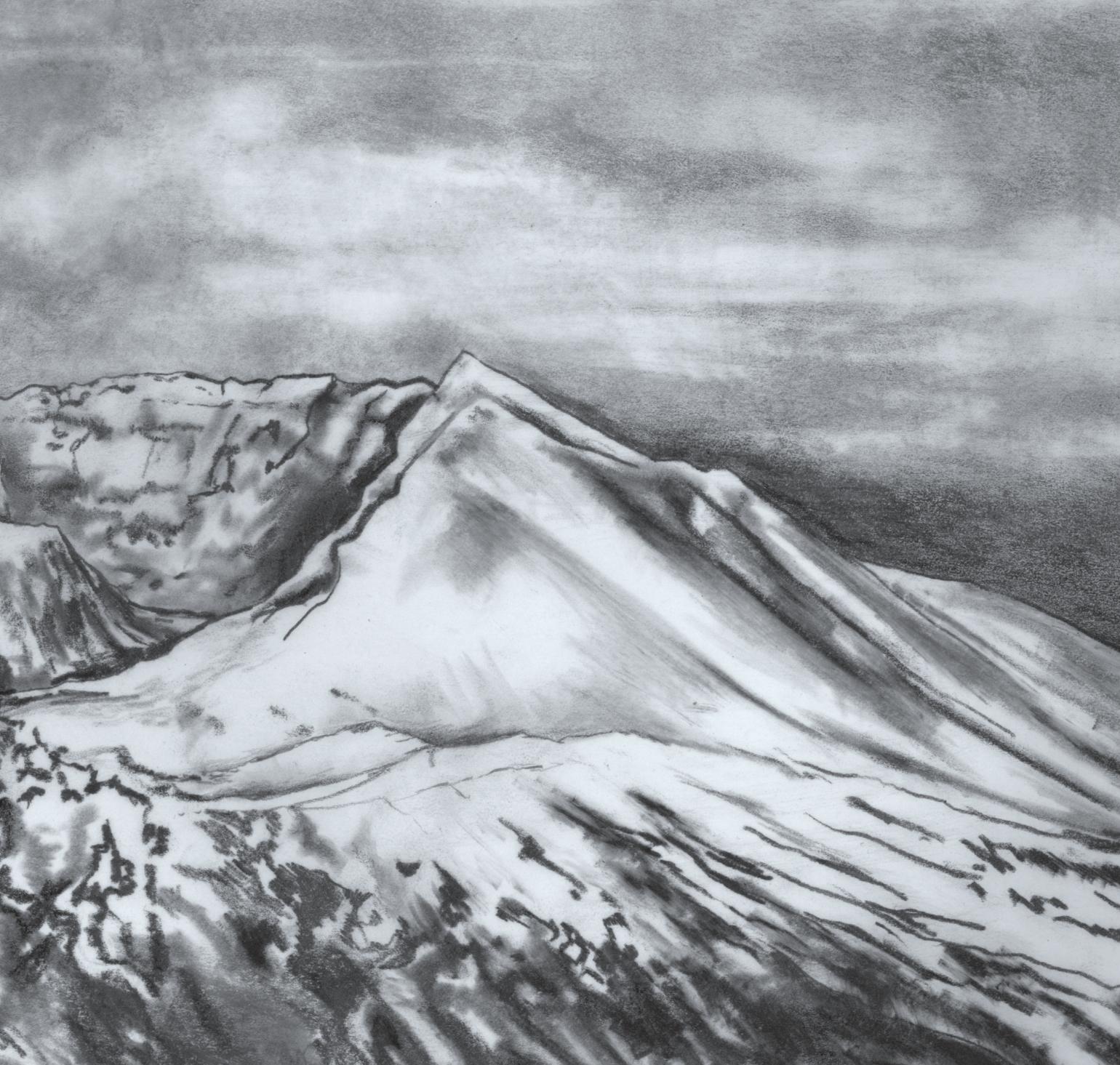
By **DAVID HAYDTER**, as told to **TIM BARELA**

Illustrations by **SAMMIE W. KING**



**Four Airmen had to build a snow cave** when they got trapped in a blizzard atop Mount Saint Helens in Washington.

**A** quiet stillness inside the snow cave we had dug made it feel eerily like a tomb. The cramped quarters had protected us from the unrelenting blizzard we'd faced that night, but I suddenly had the urge to be outside again. Maybe a little claustrophobia had taken hold of me. But I



*actually would describe the feeling as more of an impending doom.*

*I shook my head, as if to shed myself of the negative vibes. "Silly," I thought with a nervous half smile. Besides, if the storm still raged, we'd hear something wouldn't we?*

*I pawed at snow that had*

*accumulated at the entrance of our hastily hollowed "hotel room." I dug, and I dug ... and I dug. More than two feet later my fist finally popped through the snow. I cleared enough icy powder to pop my head out of our shelter.*

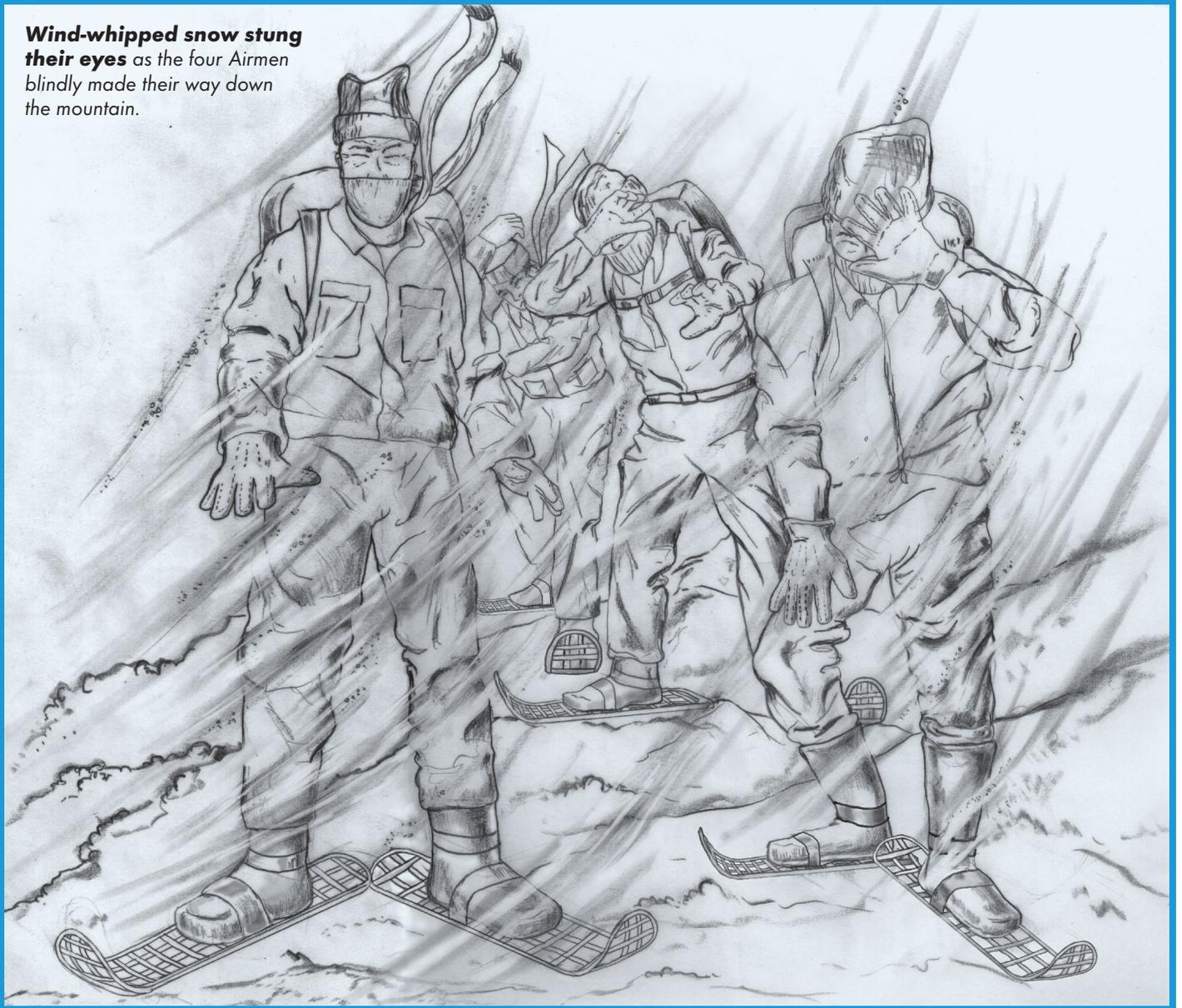
*What I witnessed took my breath away. Poking my head*

*out of the cave was like sticking it out of a car window while traveling 75 mph. The force of the roaring wind was so strong it blew the still falling snow horizontally.*

*It was a complete whiteout!*

*I sat back down in the cave, faced my friends, and said, "We're in trouble, boys."*

**Wind-whipped snow stung their eyes** as the four Airmen blindly made their way down the mountain.



## A Bad Decision

It was February 1998, and I was a young senior airman. Three friends and I, all Air Force survival, evasion, resistance and escape instructors at Fairchild Air Force Base, Wash., decided we wanted to climb Mount Saint Helens, the famous volcano in Washington.

We filled out our leave forms for three days, and then sat through our mandatory safety briefing ... which went in one ear and promptly out the other.

We weren't trying to be defiant, but for nearly four years safety had been pounded into our heads. Of course, there was a good reason for it; each of us was in charge of anywhere from four to 10 aircrew members every time we went into the woods for six days straight. Every instructor's greatest fear was to have a student in their element get seriously injured in those austere conditions, espe-

cially if it looked as though the instructor could've prevented it.

At times, though, the "safety bombardment" that helped achieve a stellar mishap record seemed to be a little too much to bear.

We were too smart and paranoid to take any shortcuts with our students, but by the time our trip to Mount Saint Helens came along, we were ready to take a break from this rigid safety regimen and cut loose. We were all 20-something, which already made us feel bulletproof. But throw in that we were also extremely fit and trained wilderness survival experts, and we brimmed with confidence.

So with little fanfare — or preparation — we packed our gear and took off.

We arrived at the volcano around 4 a.m. and took a nap in the car until 7. The base of the mountain was right around 3,000 feet. It looked like there was about

5 feet of snow at base level. Good thing we all brought snowshoes. Snowmobilers, skiers, snow boarders and hikers filled the parking lot. No one we saw appeared to be climbing to the summit.

"Odd," I thought.

We began climbing at 7:30 a.m. It was slow going at times as we sank to our waists in snow, even with the snowshoes. We popped out of the tree line around 4,000 to 4,500 feet. That was the last we saw of any other people on the mountain.

At around 3 p.m., the wind started to pick up. No big deal. We figured that's bound to happen when you climb in altitude up a bald mountain. By 3:30 we were right around 6,500 feet, still nearly 2,000 feet from the summit. The wind had picked up quite a bit more, and snow fell steadily. Visibility? Well, let's just say that bats could see better than we could at that point

Was this supposed to happen?

None of us bothered to check the weather before we left, so we had no idea what to expect.

## The Snow Cave

At this point, we had two choices, either descend, which would be difficult to do in the severe weather, or stay there for the night.

Ultimately, we based our decision on one main thing: Ego. We didn't want to go back to Fairchild and have to tell people we failed to make the climb. So we decided to stay the night and finish the climb in the morning.

None of us had tents, but with the wind picking up the way it was, they wouldn't have been sufficient anyway.

We had to dig a snow cave, but how?

We could use our hands, but they were already freezing. I had lost one of my gloves along the way. Luckily, the same guy who gave me his pair of extra gloves also brought a fold-up shovel.

Armed with the one shovel, we began a makeshift assembly line. One person would shovel as hard as he could for five minutes; two others would gather the snow that was shoveled out and push it away from the entrance. The fourth person would rest. Then we'd rotate jobs.

At one point, white waxy spots formed on two of my fingers. ... I had mild frostbite. I skipped the next rotation and kept my hands between my legs until they warmed up.

We continued this process for nearly two hours, until we had dug the cave big enough for all four of us and our equipment. Because we only had one shovel, we were exposed to the elements a lot longer than we should have been.

By the time we finished digging the cave, we were exhausted and a full-fledged blizzard raged outside.

Inside the shelter, we set up our sleeping bags and discussed our situation. We only had enough food to last the night, so we all agreed we had to finish the climb the next day no matter what conditions faced us on the mountainside.

## A Whiteout

At 7 the next morning, we woke up from a restless, uncomfortable night of sleep. The calmness in the cave buffered us from the mayhem taking place outside its walls. Not until I dug through more than two feet of snow that had covered our entrance that night and stuck my head out of the shelter did we realize what a predicament we were still facing.

Mother Nature had served us up a complete whiteout.

We dressed, packed up our gear and discussed what to do next.

Knowing it's impossible to climb in those conditions, we finally relented and reluctantly admitted there was no way to reach the summit. So we stayed in the cave a couple more hours in the hope that the storm would subside some. And we made plans to descend.

When we finally climbed out of our temporary lodging, we realized Mother Nature wasn't in an accommodating mood. With the wind howling like a pack of hungry wolves, we couldn't decipher words unless we were within a foot of each other yelling at the top of our lungs. We couldn't see each other unless we were within 3 feet, and even then the person next to you appeared more as a ghostly outline.

As if we didn't have enough to overcome, the violent wind blew straight uphill. None of us had goggles, because the ill-prepared rarely do have the things they need. If we kept our eyes open, stinging snow pelted them. Even when we tried putting our hands over our eyes and looking through the cracks between our fingers, the snow still honed in on our eyeballs.

I swung my pack up to put it on, and, almost comically, the wind blew me over. I'd be lying if I didn't admit how nervous I was. I no longer felt invulnerable.

## Blindly Down the Mountain

Once we put on our snowshoes, we began walking downhill with our eyes shut. We only opened them now and then to get accountability for everybody and to avoid hazards in the terrain.

A short time into the descent, one of my climbing partners grabbed my shoulder, roughly jerking me back a step. Irritated, I opened my eyes and asked him what he wanted. He kicked snow and pointed down. The snow disappeared.

I had nearly walked off a cliff!

I felt the hair rise on the back of my

neck. The guy who saved me was the same one who brought the shovel and lent me the gloves. I was beginning to think he also might carry a halo, because he was sure turning out to be my guardian angel.

We went around the cliff and continued to descend. About an hour later, we saw our first tree. This sight made us all feel like little kids opening our first Christmas presents. We huddled up and released tension with war whoops and hollers of relief and joy.

We continued down and hit the timberline about an hour later. By the time we entered the forest, we were at a low enough altitude that the storm had died down some. A little further down, we realized we were lost. Our "beeline" down had obviously drifted to the left or right.

Fortunately, one of the guys had a compass and had taken a heading on the way up. We took the reciprocal heading

and found that our path had drifted to the left. We turned right about 30 degrees and continued downhill. An hour or so later, we hit a snowmobile trail and followed it to the parking lot. We made it.

## A Lucky Lesson

We were fortunate. Our experience and physical condi-

tioning, along with the preparation of one person and a fair amount of luck, helped us overcome our bad decisions.

For me, this "little adventure" served as a wakeup call. It reinforced why Air Force leaders put so much emphasis on preparation and cultivating a safety culture. And it showed that the Air Force survival school didn't get its incredible safety record by accident.

Even before this experience, I never would've taken shortcuts that risked the safety of my students. But now, I'll never take shortcuts with myself. The mayhem on the mountain cured me of that. ❄️

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Haydter served as an Air Force survival, evasion, resistance and escape instructor at Fairchild AFB, Wash., and as a trainer with the Aerospace Physiology Training Flight at Randolph AFB, Texas.

## 'RULE OF THREES'

If stranded in freezing temperatures, it's important to remember the "rule of threes":

1. You can survive for three hours without shelter.
2. You can survive for three days without water.
3. You can survive for three weeks without food.

— Air Force Arctic Survival School instructors

# Fly Like an Eagle

Yankin' and bankin',  
a photojournalist  
gets the ride  
of his life

Story and photos by Tech. Sgt. MATTHEW HANNEN  
Digital composite by DAVID M. STACK



**Aerial photographer** Tech. Sgt. Matthew Hannen photographed this single-seat F-15C from Tyndall AFB, Fla., while flying in the back seat of an F-15D, the two-seat version of the aircraft.

**M**y brains felt like they were going to explode inside my helmet as the F-15 Eagle corkscrewed through the atmosphere, dropping about 10,000 feet per minute on a collision course with the deep blue sea. Reaching speeds up to 510 mph, we pulled close to eight Gs – the gravitational forces placed on your body as the fighter aircraft yanks and banks. Pulling eight Gs amounted to roughly the same as having a 1,200-pound milk cow sit on my chest. I nearly blacked out. And for a moment, I was sure the cheese omelet I'd eaten that morning would splat for the second time in one day.

The pilot called these basic fighter maneuvers – the kind you'd use in an eyeball-to-eyeball dogfight against enemy air forces. Basic? Good thing they weren't "advanced" fighter maneuvers. Otherwise, I might have been spitting out pieces of my lung, liver, intestines and bladder as I literally puked my guts out.

As an Air Force aerial photographer, I'd flown in nearly every aircraft the Air Force has in its inventory, from T-38 Talons and F-16 Fighting Falcons, to the C-130J Hercules and the C-17 Globemaster III. I'd even flown in the newest aircraft to join the Air Force inventory – the CV-22 Osprey (kind of a cross between a helicopter and a fixed wing aircraft). But a ride in the F-15 Eagle had eluded me to this point in my career. So when duty called and I was tasked to take aerial photos of the F-15 at Tyndall Air Force Base, Fla., I chomped at the bit in anticipation of my flight in this highly maneuverable tactical fighter.

Maj. Andrew "Stoep" Dean from the 95th Fighter Squadron at Tyndall would be piloting the aircraft I'd fly in that day. I felt good about that as the major had a stellar reputation within his squadron, logging nearly 1,000 hours in the F-15 with nary a mishap.

Of course, safety first. You don't just get to jump into the back seat of a high performance fighter jet and enjoy the ride. I received refresher water survival and egress training first. Egress training teaches you how to safely get out of an aircraft if things go terribly wrong, and water survival training was necessary because we'd be doing most of the flight over open water above the Gulf of Mexico.

Next I got fitted for personal protective gear – specifically, my G-suit and helmet.

Then I waited for the crew brief, where the pilots discuss the training flight in detail to help them prepare for the mission and to anticipate anything and everything that could go wrong.

After the crew brief, we still had nearly an hour before take-off. That gave me time to stew in my own thoughts. While I'm a seasoned flyer, I still get nervous before a flight – especially in an aircraft I've never flown in before – and like to meticulously

go over the game plan in my mind. I mean, let's be honest, you never want to be known as the guy who accidentally bumped the stick that caused the aircraft to go out of control or the one who inadvertently pulled the ejection handle that unnecessarily put water survival training to the test.

Thoughts like these tend to get my heart pounding and are the reason why I have to make three or four trips to the restroom before a flight.

As final preparation before we stepped to the plane, I met up with Major Dean for a flight brief to go over our mission plan one last time. Yes, these guys are thorough; but you have to be when you're "driving" multi-million dollar jets and lives are at stake.

While the pilot performed his pre-flight inspection of the aircraft, I finally strapped into the jet. The crew chief helped hook me up to the oxygen, the G-suit, the communication system, the seat belts, etc. There were so many cords, straps and plugs coming off of me that I looked like a puppet.

Major Dean told me to hang on because we were going to practice basic fighter maneuvers. This is great news if you like roller coaster rides on steroids (which I do), but bad news for an aerial photographer (which I am). It's tough to get good quality photos when the camera feels like it weighs 100 pounds from the G forces and you're being jerked back and forth.

We soared to 30,000 feet to avoid other aircraft as we began our game of cat and mouse. We started out as the mouse, so we scurried away at a mere 500 mph. That's what you call Mighty Mouse! With another F-15 screaming in hot pursuit, the major performed a series of maneuvers that caused my G-suit to tighten so much I had bruises on my legs for two weeks afterward. Not surprising since the most intense maneuvers made me feel like a bug smashed on a windshield.

During the mock dogfight, I had to use all my training to avoid passing out. I performed my anti-G straining maneuver to keep the blood and oxygen in my brain. Still, my vision got weird at times, and the sides started getting black – kind of like I was peering into a tunnel. Only the breathing techniques and muscle contractions I was taught kept me from fading into "la-la land."

Additionally, I felt queasy several times, but somehow managed to keep my breakfast down.

Despite some of the more obvious drawbacks to engaging in a dogfight, flying in the F-15 Eagle proved to be one of the most thrilling experiences I could imagine, next to landing on the moon. Now I know why they call the pilots "fighter jocks." Major Dean is a real pro. And the F-15 can do things no machine should be able to do. It was the ride of my life! ✈



"Basic fighter maneuvers? Good thing they weren't 'advanced' fighter maneuvers. Otherwise, I might have been spitting out pieces of my lung, liver, intestines and bladder as I literally puked my guts out."

— Tech. Sgt. Matthew Hannen

# 'HELMET FIRES'

## COMBATING HUMAN FACTORS IN FIGHTERS

By Lt. Col. EDWARD LINCH

Photos by Tech. Sgt. MATTHEW HANNEN

Digital composites by DAVID M. STACK



In the pursuit of understanding fighter pilots, the study of human factors in aviation has evolved and grown. But, one constant remains: The majority of flight mishaps are still caused by human factors. In other words, jets crash more often than not because the pilot just screwed up or let his guard down.

"Helmet fires" (otherwise known as task saturation, mis-prioritization, situational awareness and channelized attention) can get the best of us, resulting in mishaps. As a matter of fact, task mis-prioritization, situational awareness and risk assessment/decision making are the three most frequently cited causes of Air Force fighter mishaps.

Modern day mishap statistics indicate 70 to 80 percent of aviation mishaps are caused by human factors. Throughout aviation history, even though we have dramatically reduced mishaps overall, the human factor rate has remained fairly constant. For example, a 1943 pilot information file states, "Pilot error is the cause of 70 to 80 percent of all aircraft accidents." Sound familiar?

Solomon was right when he wrote in Ecclesiastes, "What has been will be again, what has been done will be done again; there is nothing new under the sun."

Fighter pilots, specifically single seat pilots, face some of the most challenging flight environments. We have to organize our own resources plus work as a team to accomplish the mission while preparing for such immediate contingencies as weather, threats, in-flight emergencies and alternate missions, to name a few. Most

of the time, these unexpected and unanticipated contingencies can only be overcome by skill, experience and/or training.

Nevertheless, skill-based errors (i.e., inadvertent ops, checklist errors, procedural errors, over/under control, inadequate anti-G straining maneuver) overwhelmingly comprise the greatest number of pilot errors as the root cause of most fighter mishaps. Most safety programs don't address how to fix skilled-based errors. The bottom line is the pilot has to fix the problem because the pilot, not the safety system, is most likely the problem.

Putting out helmet fires involves staying ahead of the jet through preparation and anticipation; that is, *preparing* for the worst case and *anticipating* the next event in the chain. Anticipation is forecasting using your best judgment — a byproduct of experience. It's thinking ahead.

Techniques on how to manage helmet fires vary, but there are some proven concepts that have helped me survive almost 3,000 hours in fighters (see "Save Your Jet and Yourself" on the next page). Maybe these concepts and techniques can help you get your act together and help us reduce the skilled-based errors that are destroying our fighter force.

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Colonel Linch is the chief of flight safety with 12th Air Force and Air Forces Southern at Davis-Monthan Air Force Base, Ariz. He is a command pilot with more than 3,000 flying hours in the F-16 and F-111, including more than 150 combat hours.

# SAVE YOUR JET AND YOURSELF

## PREPARATION

**Mission planning:** The flight should plan together as a team to produce a smoother mission equipped to overcome contingencies or problems. Simple plans with realistic and focused tactics have a higher chance of succeeding than complex plans with little margin for error or room for contingencies. Flights should be planned to minimize the workload through the use of user-friendly, organized products, such as a communication-card with frequencies listed in sequential order. Even the way a pilot folds a map prior to the flight can reduce in-flight distractions and give the pilot more time to think and react to other situations.

**Know the capabilities of your flights:** Are you flying with a new wingman? What are the currencies of everyone in your flight? The flight commander should be the key to answering any questions regarding personnel issues, capabilities, currencies and problems. Task saturation demands proficiency in the basics of tactical flying.

**Briefing:** The "on-time" briefing has the most impact on the flight and should be the melding of mission planning information, tailored to the least experienced pilot, and not an introduction to the plan. A disjointed and rushed briefing (or a briefing that ends right at "step" time) usually equates to a flight filled with multiple "helmet fires." By the way, if you're eating lunch during the flight brief, then you're most likely missing critical bits and pieces of the brief that could prevent a helmet fire.

**Preflight:** Slip your start, check-in, taxi and takeoff times to accommodate last-minute changes. Disruptions to pacing and habit patterns increase task saturation.

**Ground operations:** Review your game plan for such things as takeoff emergencies where critical actions must be accomplished with little time for analysis. Thinking through your game plan (otherwise known as "chair flying"), before you really need to set it into motion, can increase your chances of not having a mishap.

**Proficiency:** When was the last

time you accomplished an emergency procedures simulator or cracked open your Dash One? Did you *really* accomplish situation emergency procedures training last month? Know your jet! Remember, you're responsible for your own proficiency and knowledge, and during an emergency is not the time to discover you're not as proficient on things as you need to be.

**Personal life:** Are you fit to pull high Gs? If you're 3 percent dehydrated, then your G-tolerance is cut in half. You should have a personal fitness program, including proper nutrition (a balance of carbs, proteins and good fats), and you should be getting enough pilot rest to maintain a high degree of alertness and beat fatigue.

## ANTICIPATION

**Communications:** Flights should anticipate radio changes and use clear concise 3-1 communication. This will help prevent missing critical information and avoid task saturation.

**Cross-checks:** At low altitude, anticipate checking "near rocks" and "far rocks" prior to accomplishing any other tasks and use an effective crosscheck between your heads-up display and round-dials. This can reduce helmet fires in poor weather or at night.

**Training rules:** If you anticipate a training rule violation about to occur then don't be afraid to "knock-it-off" before a violation or mishap occurs. Believe it or not, training rules violations have been the cause of several mishaps in the past few years.

**Weather:** Anticipate weather changes so you're not caught without enough fuel to divert. Pressing the fuel for one more pass or engagement can only cause stress on the return to base.

**Gut feeling:** This actually may be your most reliable anticipation cue in the jet. The human body is able to detect stimuli long before the mind has consciously put it all together. So, trust your gut feelings. If the hair on the back of your neck is standing up, then knock-it-off and check six.

**Distractions and fixation:** If you're distracted in the cockpit or find yourself fixated on something, then stop, look around and check six.

**Always have an out:** Always have a back-up option to execute for all aspects of the mission to include such basic actions as formation overshoots, weather aborts from low altitude, or unusual attitudes at night with night-vision goggles. Having an out is key to risk reduction.

**Risk assessment:** Just ask the question, "Can I live with the consequences of my next action?" It's that simple! You don't need a computer program or chart to make basic risk assessments and decisions.

**See and avoid:** Midair collision avoidance and controlled flight into terrain are at the top of the list for non-engine related fighter mishaps. Anticipate where you expect to encounter close-calls between both civilian and military aircraft and then force yourself to clear your flight path. If you're terrain masking in mountainous terrain, then you need to have your eyes focused outside the cockpit and not on the radar display.

**Night flying:** Even with night-vision goggles, processing and recognizing data at night is more difficult than night vision itself. Keep your night tactics very basic to process information more effectively. If you operate with the same mentality as in the day, then the chances of making a mistake are significantly greater.

**Know and respect your limits:** If you are pressing your limits, back off the intensity of the mission and reassess. You can always flex to an alternate mission that is less demanding, such as basic intercepts or instrument training. If you're the flight lead and notice your wingman is consistently having an issue, then knock-it-off and find out what the problem is before continuing the mission.

**Don't let your guard down:** The mishap database is full of reports for mishaps that occur on return to base — most of the time because the intensity of the mission dropped significantly and the pilot relaxed and stopped paying attention. It's easy to let your guard down and take a break. But keep the focus; you can relax once you're back on the ground.

— Lt. Col. Edward Linch

# STATE-OF-THE-ART RAPTOR MAINTENANCE FACILITY OPENS



**SHEPPARD AIR FORCE BASE, Texas (AETCNS)** — A new era of training started at Sheppard Oct. 19, with the opening of the Air Force's F-22A Raptor Maintenance Training Facility.

All maintenance training for the nation's newest fighter aircraft will take place in one facility. Airmen learn how to be Raptor crew chiefs, armament specialists, avionics specialists, egress specialists, fuels specialists and engine maintainers.

"We have really changed how we view training," said Col. Steven Morani, 82nd Training Group commander. "This building is the model for the future."

The new facility will provide "fifth gen-

**An F-22 Raptor drops a small diameter bomb** from its weapons bay during a test mission Sept. 5 over Edwards AFB, Calif. The drop was made to ensure the small diameter bomb would have a safe, clean separation when released from the F-22.

eration" training through its computer-heavy classrooms and the brand-new, multi-million dollar trainers built for the facility. These trainers are exact replicas of the F-22, with some training additions.

"Our trainers are 80 to 90 percent actual aircraft parts," said G. Jay Brown, program manager with DME Corporation, the company that produced the cockpit trainer and seat and canopy trainer. "It's

what (the maintainers) will actually see and feel on the real aircraft."

This is all possible because the Raptor is built from the ground up with maintenance in mind, said Pam Valdez, F-22 Sustainment director for the Boeing Company. She said the aircraft will self-diagnose potential problems and give instructions to the maintainer on how to fix it, all through the portable maintenance aid designed to improve safety and reliability.

The high-tech, \$21 million facility began construction in March 2005, and its first classes will begin in January.

— Airman 1st Class Jacob Corbin  
82nd Training Wing Public Affairs

by Darin Russell



## SPATIAL DISORIENTATION CAUSES F-15A CRASH

**LANGLEY AIR FORCE BASE, Va. (ACCNS)** — A pilot's spatial disorientation during an air combat training mission caused an F-15A Eagle to crash approximately 42 nautical miles west of Arch Cape, Ore., in the Pacific Ocean on June 26 Air Force officials announced in late September.

The pilot of the aircraft died immediately on impact and was the only crewmember aboard the single-seat fighter aircraft. The mishap occurred during a dissimilar air combat training mission with F/A-18s from Naval Air Station Fort Worth, Texas.

Spatial disorientation occurs when a pilot's response to false sensations, attitude, motion, velocity, acceleration or position causes the pilot to misinterpret his or her position in flight relative to the earth or other aircraft.

The pilot was assigned to the 123rd Fighter Squadron, 142nd Fighter Wing, with the Oregon Air National Guard.



# CV-22 OSPREY FLIES FIRST SEARCH AND RECOVERY MISSION

KIRTLAND AIR FORCE BASE, N.M. — A CV-22 Osprey assigned to the 58th Special Operations Wing here participated in the aircraft's first search and recovery mission Oct. 5, responding to the fatal crash of a medical aircraft in the mountains of southern Colorado.

Airport officials lost contact with the Arizona-based Beechcraft King airplane at 11:22 p.m. Oct. 4, as the air ambulance headed toward San Luis Regional Medical Center while responding to a medical call.

At about 9:15 a.m. Oct. 5, the Air Force Rescue Center contacted Kirtland Air Force Base. Initially, the mission was considered search and rescue because the condition of those aboard the downed aircraft was unknown.

The response team quickly prepared to take off. Aircraft included the CV-22, a pair of HH-60G helicopters, and an MC-130P — to provide aerial refueling and serve as air mission control for the operation. Capt. Scott Gwin, aircraft commander on the Osprey, credits the maintenance crew for preparing the aircraft for the speedy search and rescue effort.

The Osprey took off between 11:35 and 11:40 a.m.

"We knew our piece of this was to get up there as quickly as we could and find the crash site," Gwin said.

The captain pointed out that an advantage of the Osprey is that it can take off and land just about anywhere — saving minutes and hopefully lives.

The Airmen knew that weather and altitude would be major obstacles in the rescue effort. The last known radar of the air-ambulance placed it near the top of a huge mountain. The altitude of the crash was expected to be higher than 11,000 feet. Helicopters of any kind have challenges in higher altitudes.

Gwin searched the west and then the east side of the mountain as high as the Osprey could go before clouds made it impossible to see. By then, the MC-130P was orbiting above the site and above the cloud cover and was able to find the crash site with its sensors.

The MC-130P passed the crash location coordinates to the Osprey crew so they could make visual contact and determine if there was evidence of survivors.

Seeing no such evidence, Gwin gave the coordinates to the HH-60Gs so they could land at the crash site and search the area.

Capt. James Grigson, also of the 58th Special Operations Wing, was co-pilot for the HH-60G. He said the crew took out some of the fuel tanks from his helicopter to make the aircraft lighter. This allowed the helicopter greater flexibility in landing in a higher altitude.

The HH-60G crew picked up a local paramedic to help them decide which medical facility was appropriate after seeing the injuries of any survivors, Grigson said. They then flew to the crash site.

The helicopter landed on the mountain at nearly 12,000 feet. The civilian paramedic and a pararescueman searched for survivors but found none. The crews called in civilian rescue workers to retrieve the three bodies of the crash victims: a nurse, a paramedic and the pilot of the fallen aircraft.

Though the Osprey was primarily built to be an amphibious assault transport of troops, equipment and supplies from assault ships and land bases, it has proven it can be versatile on search and rescue missions. A tilt-rotor aircraft, the Osprey incorporates features of a helicopter and a fixed-wing plane.

Kirtland AFB has four CV-22 Ospreys, with plans to add two more by fiscal 2010.

— Lia Martin

377th Air Base Wing Public Affairs

**The Airmen knew that weather and altitude would be major obstacles in the rescue effort. The last known radar of the air-ambulance placed it near the top of a huge mountain.**



*Flying near a mountain on the border of the New Mexico and Colorado wilderness, a CV-22 Osprey crew got to put its training to the test when it participated in its first search and recovery mission Oct. 5 to find a small civilian aircraft that crashed.*

by Staff Sgt. Markus Maier

# Don't Fuel Flight Mishaps!

Human error still causes most major flight mishaps. Carefully prepare for your mission and anticipate potential hazards.



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