

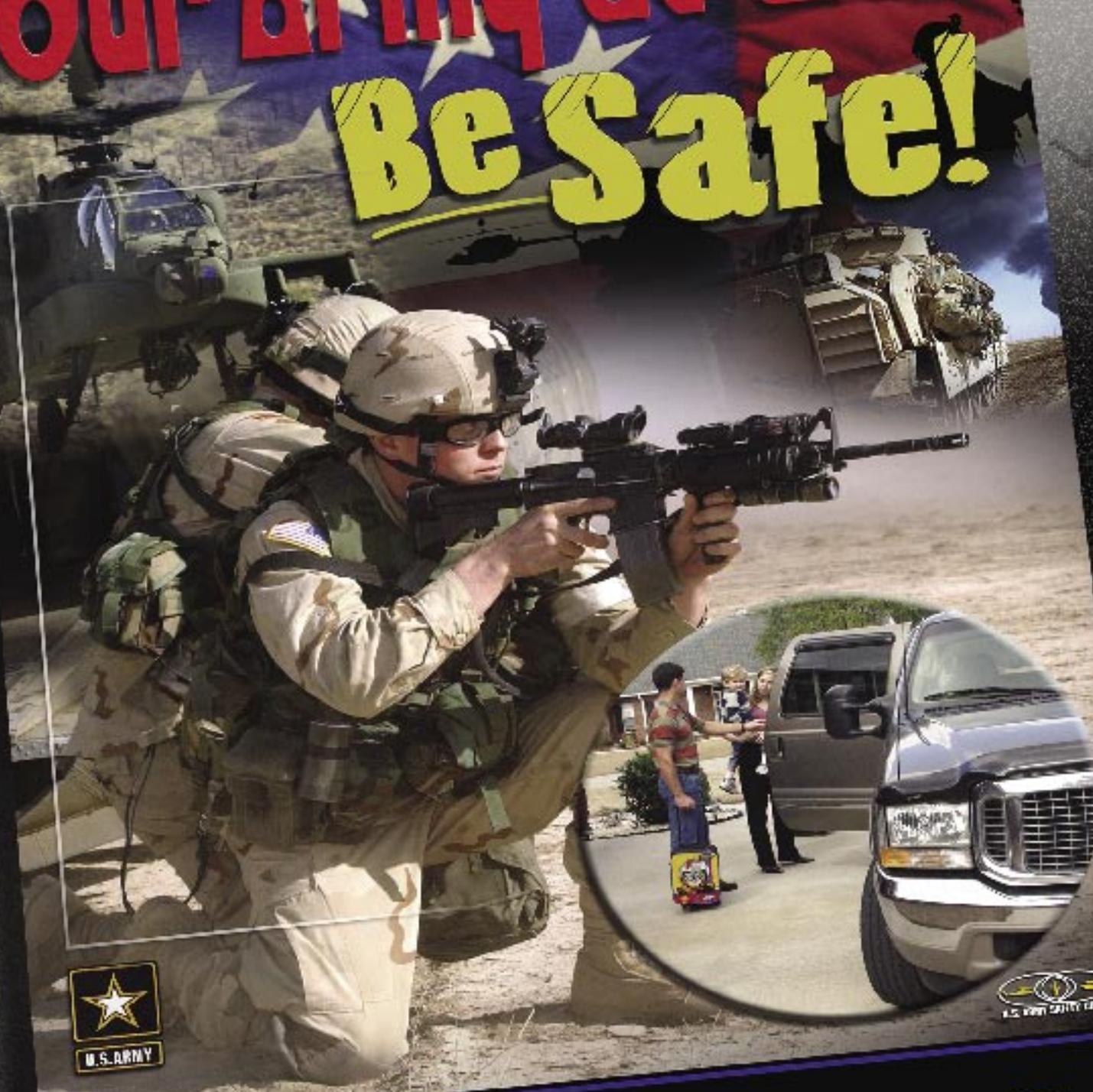
Flightfax

ARMY AVIATION
RISK-MANAGEMENT
INFORMATION

APRIL 2004 ♦ VOL 32 ♦ NO 4

Our Army at War

Be Safe!



Make it Home

Flightfax

ARMY AVIATION
RISK-MANAGEMENT
INFORMATION

BG Joseph A. Smith – Commander and Director of Army Safety
 COL John Frketic – Deputy Commander
 COL Christopher Gallavan – Publishing Supervisor
 Paula Allman – Managing Editor
 Danny Clemmons – Graphics
 Julie Shelley – Staff Editor
 e-mail - flightfax@safetycenter.army.mil
 http://safety.army.mil



Page 4



Page 8



Page 20

CONTENTS

DASAF's Corner

Incoming! The Army Safety Campaign.....3
 Operation Guardian Angel.....4-5
 An In-flight Movie for Soldiers.....5
 USAREUR's Reintegration Program
 Eases Iraq Returns6-7
 Do You Really Know If That
 Weapon Is Loaded?.....8-9
 Peeing White, Ready to Fight! 10-11
 Aviation Safety Investment
 Strategy Team 12
 Coming Soon to a Unit Near You—ACTE..... 13
 TSAS: Can It Save Lives and Aircraft? ... 14-15
 Can You Lead Us Home?..... 16-18
 Your Opinions Can Change Things..... 19
 From Our Aviation Branch Chief..... 20-21
 Knowing Your Enemy 22
Accident Briefs 23
Poster: "Vipers Strike to Kill" 24



Flightfax is published by the U.S. Army Safety Center, Building 4905, Fifth Avenue, Fort Rucker, Alabama 36362-5363. Questions about the editorial issues addressed in Flightfax should be directed to the editor at DSN 558-9855 (334-255-9855) or flightfax@safetycenter.army.mil. Distribution questions should be directed to Media and Marketing at DSN 558-2062 (334- 255-2062).

Joe Smith
 JOSEPH A. SMITH
 Brigadier General, U.S. Army
 Commanding

**Our Army at War
Be Safe!**

DASAF's Corner
FROM THE DIRECTOR OF ARMY SAFETY



Incoming!

The Army Safety Campaign

Our Acting Secretary of the Army, the Honorable Les Brownlee and our Army Chief of Staff, GEN Peter Schoomaker, send a letter to every Army family who has lost a Soldier while serving in the Global War on Terrorism. For those of us who have had to write those somber letters, we will never forget how heart wrenching it was each and every time. The welfare of our Soldiers is our greatest responsibility, and the death of any American Soldier is something our senior leadership takes very personally.

The Army leadership has always emphasized the enforcement of safety. However this January, Secretary Brownlee hit a new point of emphasis; he was simply sick of sending letters to families who lost loved ones to accidental fatalities. During Fiscal Year 2003, 255 Soldiers died in accidents. In the first 4 months of this year, 101 Soldiers have died. We certainly have a tough job to do for our Nation, and we cannot afford to be risk-averse. Accidental fatalities are NOT the cost of doing business—engaged, caring leadership can prevent accidents from happening.

In a January trip to Iraq, Secretary Brownlee saw first-hand the effect of quality leadership in the actions of a young company commander. Before any vehicle rolled out on a mission, the captain looked each Soldier directly in the eye and said, "I want YOU to be safe!" He wasn't doing it out of procedure or obligation. He was doing it because his unit was a "band of brothers" who truly cared about each other's safe return. Because they cared so deeply for one another, safety was personal.

When Secretary Brownlee returned from Iraq, he charged the Army Safety Center to develop an Army Safety Campaign and inspire units across the Army to adopt the model he saw in Iraq. The motto for the Army Safety Campaign is "BE SAFE!" Why be safe? Because your Soldiers are counting on you to bring them home safely, and your family is counting on you to make it home.

The practice of bringing all your soldiers home safely is a lot tougher than writing it on paper. Commanders and leaders in the field are already doing a great job at pushing the importance of safe practices and protecting their Soldiers' welfare. However, the Army Safety Campaign will apply Army-level resources, communication tools, and knowledge that are not available at the unit level. The Campaign will have two main efforts: (1) to enable Army leaders at all levels to risk manage more effectively through the use of new web-based tools, and (2) to inspire stringent enforcement of basic standards through a multi-faceted communication campaign.

The Army Safety Center is working overtime to build and refine Web-based programs and put Army-level safety knowledge at the hands of all Soldiers. These tools, the Army Safety Management Information System- I (ASMIS- I), Risk Management Information System (RMIS), Accident Reporting Automation System (ARAS), and the Commander's Safety Brief, if used, give the leader on the ground the ability to predict and prevent the most likely accidents.

Communication of the Army Safety Campaign began with emphasis at the highest level. The campaign plan was briefed to general officers at the Senior Army Leader Conference in early February. Secretary Brownlee, GEN Schoomaker, and Sergeant Major of the Army Kenneth Preston personally appear in the Army Campaign Safety Video found on our Web site, providing every Soldier and Army employee with their message. SMA Preston has taken the lead in communicating the importance of proper training and standards enforcement throughout our Army. For example, in this issue of Flightfax he addresses the troubling problem of negligent discharges.

In addition to our senior leadership, the Army Safety Center has provided new tools to help you communicate the importance of safety to your Soldiers. The "Drive to Arrive" series of videos includes top country music stars and NASCAR drivers asking our young Soldiers to use risk management and stay safe.

All of our new risk-management and communication tools can be found on our Web site at <http://safety.army.mil>. Be part of the Army Safety Campaign; take 5 minutes to look and see what is there. Inspire the Soldiers in your unit to do the same. It may help your unit predict and prevent the next accident. Most of all, rigidly enforce those basic standards that may be inconvenient but, nonetheless, keep your Soldiers safe. A simple correction or additional question may prevent you from having to send a terrible letter.

**Our Army at war—Be Safe!
Make it Home! Wherever you are!**

Operation

Guardian Angel

CW4 Darrel "D" Smith
V Corps Aviation Safety Officer

D

uring war, Army buddies watch over each other.

However, when they leave their buddies and return

home, they need family and friends to watch over and assist them through what can be a difficult time of readjustment.

Why are Soldiers returning from war at high risk?

Many Soldiers are returning from a war zone where they have served for 12 months or longer. Returning home will be a major readjustment for them. They will have to readapt to a normal lifestyle again because driving, social interaction, and everyday life will be much different from what they experienced in Iraq. Some Soldiers may tend to drink too much, while others may experience difficulties with relationships. These factors place them at high risk for accidents and injuries.

What is Operation Guardian Angel?

Operation Guardian Angel is a national campaign that encourages families, friends,

neighborhoods, and communities to remind Soldiers to be safe after they've returned home.

Operation Guardian Angel's goals are to protect Soldiers from accidents and injuries, to let Soldiers know Americans are proud of them and care about them, and to provide citizens an opportunity to get involved with Soldiers. Anyone, civilian or military, who cares enough to help Soldiers can be a Guardian Angel.

What can Guardian Angels do?

Guardian Angels can talk to Soldiers and remind them to drive carefully, have a designated driver if they drink, or offer to call a cab to get the Soldier home safely. In recreational activities such as hiking or swimming, Guardian Angels can remind Soldiers of the importance of using the buddy system and appropriate safety gear. The Guardian Angel's role, just as the name implies, is to be there for Soldiers and help them be safe for the sake of themselves, their families, friends, and the Army. ♦

Editor's note: The Guardian Angel program was initiated by LTG Ricardo S. Sanchez,





Commander of Combined Joint Task Force 7 (CJTF-7), Baghdad, Iraq. CW4 Darrel "D" Smith, V Corps Aviation Safety Officer, developed the program for soldiers returning from Iraq. For more information on Operation Guardian Angel, contact CW4 "D" Smith at 06221-57-5664 (DSN 370) or e-mail glavnsafof@hq.c5.army.mil.

If you would like to apply to be a Guardian Angel, you may do so on the U.S. Army Safety Center Web site at <http://safety.army.mil/guardianangel/index.html>.

An In-flight Movie for Soldiers

Think you'll be bored on that flight back from Iraq? While you're munching the airline pretzels, the Army will provide you a little entertaining encouragement to be safe—Southern style. The man with the deep-Southern drawl is retired Mississippi State Patrolman Captain Pete Collins. The video you'll be seeing is part of the Army's "Be Safe" Campaign and has a much focused theme.

When it comes to safety, Collins explains, "No one cares until it's personal. 'Safety' is just another word unless it knocks at your door."

The 30-year veteran state patrolman has worked 184 fatalities. He talks about a chilling experience where he held a little boy thrown from his drunk father's pickup truck. The father didn't buckle the boy's seatbelt, and he died in Collins' arms as his father watched from a distance. He also recalls the day he knocked on a mother's door to tell her all three of her children died on the way to their school's homecoming football game. The driver who hit them had a blood alcohol content of .38.

He explains that although he was trained to write down names and not get involved, he could not follow those rules.

"I committed the cardinal sin as a trooper. I let my job get personal and it changed my life forever," he said.

Because of his experiences, he wants to make safety "personal" to others in the hope it may one day save their lives. He said he is honored to be part of the Army's Safety Campaign because it allows him to give something back to the Soldiers who keep the American flag flying.

Jon R. Anderson
Heidelberg, Germany

USAREUR'S

Reintegration Eases In

Troops and family members eagerly anticipating reunion after a year of untold hardships—both in Iraq and at home—might feel like they’ve earned a nice, long vacation. But there are a few things returning Soldiers need to take care of first.

GEN B.B. Bell, U.S. Army Europe (USAREUR) Commander, has made one thing clear: “Don’t worry. No training, maintenance, or other unit work until troops have had plenty of time for rest and recuperation.” GEN Bell calls this time an opportunity “to heal the warrior spirit.”

The first 7 days

Officials have mapped out a 45-day program designed to smoothly transition troops from the combat zone to home station. The process is called the Deployed Cycle Support Program and is designed to focus on the human dimension of redeployment. That process begins the moment the plane touches down in Europe. The main objective is to account for each Soldier and get them reunited with their family or into the barracks.

Each wave of arriving troops will be greeted by a general officer and a brief welcome-home ceremony. The only other speed bump before being released is that Soldiers will have to turn

in weapons and any other sensitive items.

The next day begins a 7-day series of briefings, medical screenings, and other tasks. That’s 7 days straight—no weekends or federal holidays that happen to fall within that window. The good news is that Soldiers will be on a half-day schedule, working only about 4 hours a day. The idea is to gradually reintroduce Soldiers to life outside the combat zone and allow leaders to identify any Soldiers who might be having a difficult time readjusting.

There will be deployed unit chaplains and local community chaplains “working in tandem” to prepare Soldiers and their spouses for the stress and family friction that typically come in the wake of a long deployment. Community leaders also are planning a number of retreats not only for couples, but also for single Soldiers. Meanwhile, school leaders will have teams of counselors and psychologists on hand to help children deal with any reunion anxiety.

GEN Bell calls
this time an
opportunity
“to heal the
warrior spirit.”

The fun begins

After Soldiers have ticked off all 17 required “pre-block leave” items on their reintegration checklist, they will be eligible to immediately begin 30 days of vacation. The Army has reopened the Von Steuben Hotel in Garmisch specifically for returning troops and those

on mid-tour rest and relaxation (R&R) leave. The Patton Hotel, another Army-run lodge in Garmisch, has dedicated half of its rooms for troops just out of the combat zone. Both facilities are offering discounted packages. Returning troops and their families also can expect deep discounts in their local communities for everything from trips and

tours to arts-and-crafts programs.

Plans are also in the works to extend the time

parents can remove their preschool children from child development centers without being charged. Currently, parents can take their children out for 2 weeks; however, 4 weeks is being requested so families can spend the entire block leave together without having to pay for child care not being used. Likewise, teachers and administrators of Department of Defense Dependents' Schools in Europe are preparing for extended absences among school-age students. Students will have 2 weeks to make up any missed assignments upon returning.

Show me the money

"With tax breaks and combat zone stipends, many troops should have plenty of cash waiting for them when they get home. But they should also be prepared to see a lot of that extra money in their paycheck disappear," said COL Kevin Troller, Commander of the 266th Finance Command. On average, most troops have been getting an extra \$1,000 a month; however tax exclusion, hazardous duty, and hostile-fire pay all end once Soldiers leave the Middle East.

Back to work

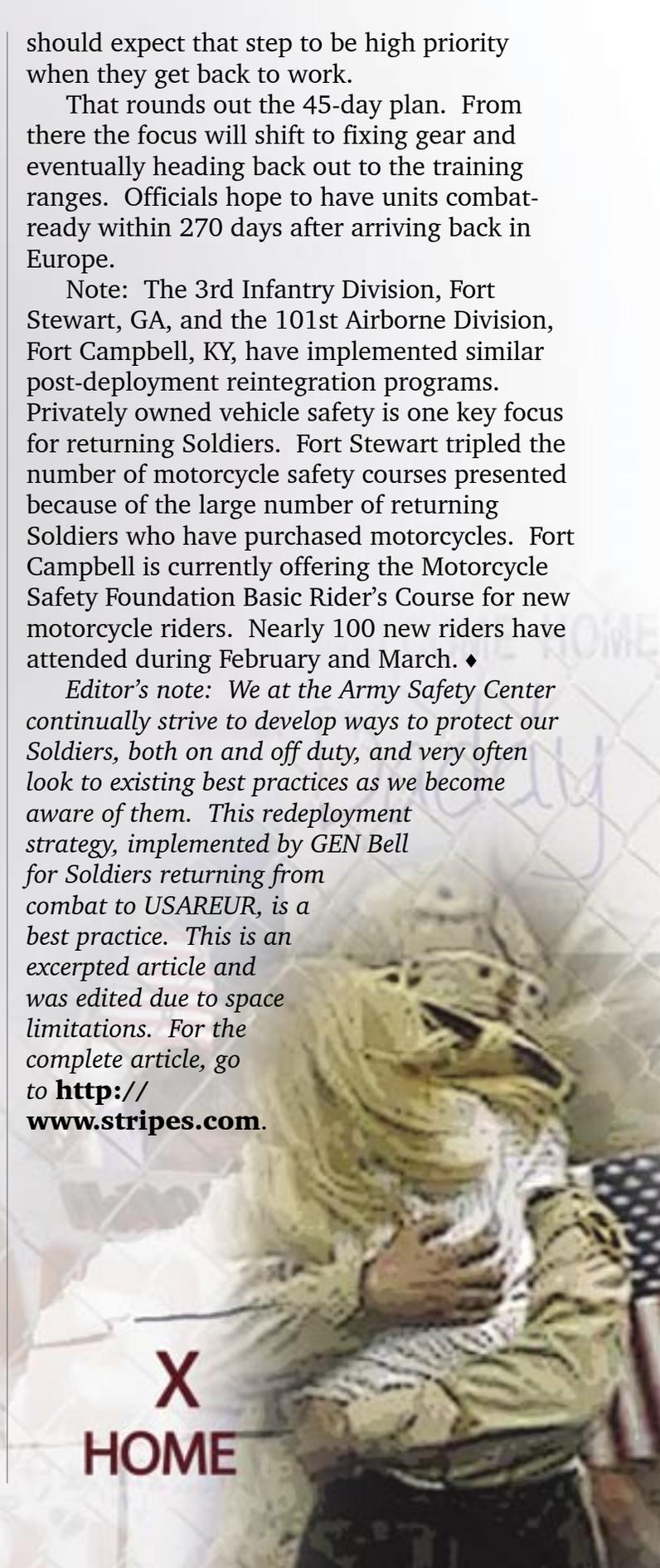
Once block leave is over, officials say a final 8 days have been carved out for Soldiers to finish up any unresolved personal issues. That's also the time to check off any remaining items on the reintegration checklist. Battalion commanders will use the checklist to certify each Soldier has completed the reintegration process with USAREUR Headquarters, so troops

should expect that step to be high priority when they get back to work.

That rounds out the 45-day plan. From there the focus will shift to fixing gear and eventually heading back out to the training ranges. Officials hope to have units combat-ready within 270 days after arriving back in Europe.

Note: The 3rd Infantry Division, Fort Stewart, GA, and the 101st Airborne Division, Fort Campbell, KY, have implemented similar post-deployment reintegration programs. Privately owned vehicle safety is one key focus for returning Soldiers. Fort Stewart tripled the number of motorcycle safety courses presented because of the large number of returning Soldiers who have purchased motorcycles. Fort Campbell is currently offering the Motorcycle Safety Foundation Basic Rider's Course for new motorcycle riders. Nearly 100 new riders have attended during February and March. ♦

Editor's note: We at the Army Safety Center continually strive to develop ways to protect our Soldiers, both on and off duty, and very often look to existing best practices as we become aware of them. This redeployment strategy, implemented by GEN Bell for Soldiers returning from combat to USAREUR, is a best practice. This is an excerpted article and was edited due to space limitations. For the complete article, go to <http://www.stripes.com>.



X
HOME



Do You Really Know If That Weapon Is Loaded?

SMA Kenneth O. Preston
Sergeant Major of the Army

About a year ago, then Sergeant Major of the Army Jack Tilley published an article in *Countermeasure* magazine discussing negligent weapons discharges. It's time to revisit this serious issue. Since the beginning of the Global War on Terrorism, 25 Soldiers have died and another 14 have suffered permanent disabilities because of negligent weapons discharges. In almost every case, it was another member of the Soldier's unit who was responsible. How tragic to survive the battlefield only to be shot by your battle buddy! Who is the real enemy?

Some think these numbers are relatively low, but I'm here to tell you even one is unacceptable and we, as leaders, can't stand for it. We must identify the problem, establish solutions, and train our Soldiers so we'll never have to tell another family member their loved one died because of "friendly

fire." Accidental or negligent discharge—call it whatever you want—is a core safety issue I am focusing on as Sergeant Major of the Army.

Many of these discharges occurred in base camps or areas where the weapons control status was "green" except for Soldiers in a security role. So what went wrong in these incidents?

In almost every case Soldiers didn't follow established procedures on when, where, and how to clear their weapons. We call these procedures standards. You'll find clearing barrels at the entrances of compounds and base camps, at the base of guard towers, and at helipads. Clearing barrels are the focal point for leaders such as OICs, NCOICs, and convoy commanders to ensure their Soldiers' weapons are cleared and in green status.

In one incident a Soldier was shot and killed in his tent because another Soldier didn't clear his weapon when his team returned from a mission.

Peeling the onion a little more, we found this Soldier was riding in the back of a truck with several other Soldiers and was asleep during the clearing process. These Soldiers weren't required to dismount the truck, so instead they handed their weapons to another Soldier on the ground to clear them. Unfortunately, one weapon—the one involved in the shooting—was missed. In this incident, unit leaders failed to hold Soldiers responsible for clearing their weapons and NCOs responsible for supervising the process. The result of leaders not enforcing standards and allowing Soldiers to become complacent was the needless death of a young Soldier.

In another incident a Soldier was killed when he was shot in the head by a 25 mm cannon on an M2A2 Bradley Fighting Vehicle (BFV). The deceased Soldier and another Soldier were standing approximately 20 feet in front of the BFV, which was positioned on the unit

perimeter for security operations.

The crew kept the 25 mm cannon loaded, with the “ghost round” cycled. The BFV was unmanned until the driver entered the vehicle to start the engine. When he switched on the MASTER POWER switch, the 25 mm cannon cycled and fired a round, killing the Soldier. The other Soldier was severely wounded in the neck by a discarding petal from the projectile.

I told this story while visiting troops stationed around Iraq and asked them if they would ever stand in front of a loaded weapon on a range. In every case the answer was “Never!” We must emphasize that we train as we are going to fight.

In this incident, unit leaders allowed Soldiers to become complacent about the potential danger associated with weapons orientation. Unit leaders did not enforce keeping loaded crew-served or vehicle-mounted weapons manned at all times.

I love to watch seasoned Soldiers and leaders moving along a busy city street. Seasoned Soldiers know their weapons are lethal and ensure their muzzles are never pointed at anyone as they move among the populace. These Soldiers instinctively practice muzzle awareness all the time.

When in the ready position, seasoned Soldiers

keep their trigger finger poised alongside their weapon’s magazine well and off the trigger until they need, or anticipate the need, to shoot. How do Soldiers become seasoned and skilled? The answer is training and experience.

Training enforces important disciplines such as muzzle awareness and trigger finger position. Leaders must teach and enforce the right standards and never allow Soldiers to become complacent in weapons handling. Weapons handling is a perishable skill. Repetitive focused training builds experience, creating Soldiers who are inherently safe.

Long periods of time between training events or during combat operations (when it might be hard to train) can lead to complacency. Recurring focused training on weapons handling and unit standing operating procedures can combat complacency and reinforce established standards. We need the discipline of first-line leaders along with the oversight of senior leaders to halt these needless, tragic deaths.

Negligent discharges often happen because of the reasons listed below:

- **Lack of muzzle awareness and discipline.**
- **Insufficient training.**
- **Ineffective supervision.**
- **Negligence.**

- **Inattentiveness.**
- **Indiscipline.**

These same reasons caused nine Soldiers to be killed or seriously wounded while cleaning their weapons. Soldiers not clearing their weapons and maintaining a weapons control green status in designated areas killed or wounded 18 others. Twelve Soldiers were injured or killed because of a lack of muzzle awareness and discipline, coupled with unintentionally pulling the trigger. Learn the standard, teach the standard, and enforce the standard.

I’ve learned during the last year that if a unit doesn’t have well-established standards and discipline *before* they deploy to Afghanistan, Iraq, or the Balkans, they’ll have a tough time establishing standards once they’re there. Ultimately, it’s Soldiers who pay the price in needless deaths and accidents.

Weapons proficiency is the province of the NCO. From the youngest corporal to the Sergeant Major of the Army, we’re the primary trainers and guardians of the standard. Competence is our watchword. Our young Soldiers look to us for an example to follow.

The Soldiers we train today will be tomorrow’s leaders; just as today’s leaders will be tomorrow’s senior leaders. We must give our Soldiers and leaders the tools, techniques, and procedures to prepare them for that task.

I need your help! ♦

PEEING white,

LTC Joseph F. McKeon
Command Surgeon, U.S. Army Safety Center

This is serious. We are a Nation at war, and we keep getting Soldiers hurt or killed! You, the Soldier or civilian reading this article, matter... truly. I don't care if you're an MH-47 pilot or a contractor in a tool room. You matter. There aren't enough of us to go around as it is. Take care of yourself and your battle buddy. Make sure you make it home! Odds are you are only about one-fourth of the way through your life. Don't rush things and end up dead. Take a minute and do it right!

Okay, here we go again... another article on heat injury prevention. Is it almost summertime already? Time flies, whether you're doin' 20 or just getting through your initial obligation. Any way you look at it, it's going to get hot. And heat kills, literally. Batteries, paint jobs, unwatered plants, dogs left in cars, or unacclimatized Soldiers—the single biggest environmental threat is heat.

And it's *unforgiving*.

Here's the deal. We've got four divisions moving in, four moving out. Everybody is going to be exposed to a heat threat this summer. Whether you are deployed for a month to a maneuver training center (NTC, JRTC, or CMTC) or for a year elsewhere, you *will* be faced with a heat threat in the coming months. When you're packing your full battle rattle with your sleeves down and your gloves on, you're a walking teapot. As your body sweats to cool off, you're losing water. If you wait until you're thirsty enough to want to drink, it's too late—you're already behind the curve! Do you realize that just a 2-percent decrease in your total body water will lower your functional IQ? Who can afford to lose intelligence? Heck, if I had 10 more IQ points, I could have been a pilot instead of just a flight surgeon!

So how can you tell if you're adequately hydrated? You've seen the charts that tell you how much to drink for a

certain workload in a given environment. Some Soldiers think “more is better”—so as long as they continue to down water, they'll be okay. However, metabolic needs vary with the individual, and it's possible to become water intoxicated and die. A good rule of thumb is you should have to hit the latrine every 90 minutes to 2 hours. Check your urine color. It should *not* be a concentrated yellow color. We used to say, “Peeing white, ready to fight!”

If it's lunchtime and you haven't gone since you got up, you aren't drinking enough. Coffee doesn't count. Caffeine (also from sodas) is a diuretic. That means it makes you urinate more than you drink. You are “bouncing checks” as far as hydration goes (more coming out than going in). So drink water, not coffee or sodas.

If you're a leader, check on your troops. If you think you aren't a leader, think again. Whenever two or more are gathered, somebody is the

Ready to Fight!

leader! Look out for your battle buddy, and look out for yourself. Drink water, avoid strenuous work in the heat of the day, and acclimatize before

stressing your troops. Take care of yourself. Where else are you going to live? ♦
Editor's note: For a more in-depth discussion of heat

*injury prevention, see the April 2003 **Flightfax**.*

—LTC Joseph F. McKeon, USASC Command Surgeon, DSN 558-2763 (334-255-2763), joseph.mckeon@safetycenter.army.mil

Fluid Replacement and Work/Rest Guide

Acclimatized (after approx two weeks training) Wearing BDU, Hot Weather

Heat Category	WBGT Index, (F°)	EASY WORK		MODERATE WORK		HARD WORK	
		Work/Rest	Water Intake (Qt/h)	Work/Rest	Water Intake (Qt/h)	Work/Rest	Water Intake (Qt/h)
1	78-81.9	NL	½	NL	¾	40/20 min	¾
2 (Green)	82-84.9	NL	½	50/10 min	¾	30/30 min	1
3 (Yellow)	85-87.9	NL	¾	40/20 min	¾	30/30 min	1
4 (Red)	88-89.9	NL	¾	30/30 min	¾	20/40 min	1
5 (Black)	> 90	50/10 min	1	20/40 min	1	10/50 min	1

- The work-rest times and fluid replacement volumes will sustain performance and hydration for at least 4 h of work in the specified heat category. Fluid needs can vary based on individual differences ($\pm \frac{1}{4}$ qt/h) and exposure to full sun or full shade ($\pm \frac{1}{4}$ qt/h).
- NL= no limit to work time per hour.
- Rest means minimal physical activity (sitting or standing), accomplished in shade if possible.
- **CAUTION:** Hourly fluid intake should not exceed 1½ quarts.
- Daily fluid intake **should not exceed 12 quarts.**
- If wearing body armor add 5°F to WBGT in humid climates
- If wearing NBC clothing (mission-oriented protective posture (MOPP 4)), add 10°F to WBGT index for easy work, and 20°F to WBGT index for moderate and hard work.

Easy Work = Walking hard surface 2.5 mph <30# load, Weapons maintenance, Marksmanship training
Moderate Work = Patrolling, Walking sand 2.5 mph no load, Calisthenics
Hard Work = Walking sand 2.5 mph w/load, Field assaults

Note: Soldiers who are overweight, dieting, or past heat casualties are more prone to heat injuries. As a result, their activities must be closely monitored.

Aviation Safety Investment Strategy Team

Dr. Mike Cupples
U.S. Army Safety Center

Over the last 10 years, the Army has experienced a favorable trend of reduced aviation accident rates. It is generally accepted by Army leaders that these aviation safety successes have been driven by three factors: (1) a systematic process for developing aviation training, (2) the disciplined development of leaders, and (3) the introduction of system safety design principles into aviation materiel systems. However, since September 2002 and the beginning of the War on Terror, the increased operations tempo and worldwide deployments have resulted in an increase in aviation accidents.

Army Aviation is not risk averse. The high cost of training, however, combined with the harsh environments we expect our aviators to operate in daily equal high risk. As part of a risk management campaign to enhance readiness and protect the capability of the force, Army leadership directed that the Aviation Safety Investment Strategy Team (ASIST) chart a path towards improving aviation safety. The team was chartered to define measurable accident prevention goals and identify the most important Armywide investments to achieve these goals.

Specifically, ASIST will integrate accident prevention and risk management requirements into the aviation planning, programming, and budgeting system and prioritize and validate requirements in various areas of doctrine, organization, training, materiel, leader development, personnel, and facilities (DOTML-PF). The ASIST initiative responds to the increasing risks in Army Aviation operations, as well as to proposals from the Office of the Secretary of Defense to establish department-level aviation safety goals.

Defense Secretary Donald H. Rumsfeld challenged all the services to reduce accidents by 50 percent over the next 2 years, starting in May 2003. To contribute to the accomplishment of this goal, ASIST is analyzing all aviation accidents, identifying significant hazards and controls, and providing relevant results to enhance Army readiness through aviation safety improvements.

A series of ASIST aircraft-specific analysis working groups have convened for the MH/UH-60, MH/CH-47, and AH-64A/D helicopters during January, February, and March 2004, with future analysis groups scheduled for the remaining aircraft from April through June 2004. The analysis covers Fiscal Year 1999 to present—to include available accidents in Iraq and Afghanistan—and will update the ASIST master database for applicable aircraft types.

Identified aircraft hazards, preliminary associated controls, and other relevant information were loaded into a Microsoft Access database on a laptop during each analysis group meeting. Twenty-five or more subject matter experts representing the following organizations worked together to analyze the aviation Class A, B, and C accident reports.

- U.S. Army Safety Center
- U.S. Army Aviation Center (USAAVNC) Aviation Branch Safety Office (ABSO)
- U.S. Army Aviation and Missile Command (AMCOM) Safety Office
- Aircraft Product Manager's Office
- Program Executive Officer-Aviation (PEO-AVN)
- Aviation and Missile Research, Development, and Engineering Center (AMRDEC) Aviation Engineering Directorate (AED)
- U.S. Army Research Laboratory (ARL)-Human Research and Engineering Directorate (HRED)
- U.S. Army Aeromedical Research Laboratory (USAARL)
- U.S. Army Training and Doctrine Command (TRADOC) System Manager
- 1st Battalion, 223d Aviation Regiment, USAAVNC
- 1st Battalion, 14th Aviation Regiment, USAAVNC
- Directorate of Training and Doctrine (DOTD), USAAVNC
- Directorate of Combat Developments (DCD), USAAVNC

The updated ASIST database should produce more descriptive and informative reports and tables that will be available to influence Army Aviation DOTML-PF in the near future and annual fiscal program objective memorandum (POM) development drills.

The ASIST is chartered and guided by the Commanding Generals of the USAAVNC and AMCOM, the PEO-AVN, and the Director of Army Safety (DASAF). The success of this analytical effort continues to be the ability to identify hazards and controls based on the analysis of actual aircraft accidents. Establishing measurable objectives and directing a plan to achieve them is an important step from senior Army leadership toward making aviation safety a proactive, requirements-based program. ASIST and the associated activities of the Army Safety Coordinating Panel provide a sound basis for Army participation in the Department of Defense Safety Oversight Council and the Army Safety Campaign Plan. ♦

—Dr. Mike Cupples, Senior Systems Safety Engineer, Aviation Systems and Aircraft Investigation Division, USASC, DSN 558-9858 (334-255-9858), e-mail mike.cupples@us.army.mil

Coming Soon to a Unit Near You

Aircrew Coordination Training Enhancement

ACTE

In early 1998, the Army identified the need for a comprehensive effort to revitalize, sustain, and maintain the Aircrew Coordination Training (ACT) program. The results of their study included an imperative to design, develop, and implement a fully integrated, continuous ACT program. ACT was taught in a traditional manner, using slides and lecture-based course material. Although somewhat effective, this type of generic instruction was not designed for updates or continuous refinement. In March 2003, ACT Refresher requirements were added to reinforce the original training.

The U.S. Army Safety Center (USASC) has teamed with the U.S. Army Aviation Center (USAAVNC) to provide commanders with a single-source training solution aimed directly at improving the crew and team coordination effectiveness of Army aircrews and aviation leaders in their day-to-day mission planning and flight operations. This new ACT program, entitled Aircrew Coordination Training Enhancement (ACTE), is now ready for implementation.

ACTE uses state-of-the-art instructional courseware to collect all existing training requirements and allow for automated updates. ACTE provides behaviorally-based, mission-oriented initial and sustainment training with Web site-based, periodic updates. Strategies for training and evaluating ACT behaviors will include tools and techniques relevant to aircraft and unit missions. Scenario-based

practice sessions will complement the Army's risk management process by applying ACT skills to reduce crew-level errors and to monitor and manage errors arising during a mission.

ACTE will be deployed to the entire aviation community over the next year, with the intent to provide the first training to those units with impending deployments. The program will be taught using Classroom XXI facilities. If these facilities do not exist, the training team will provide instruction using laptop computers preloaded with the required courseware.

During initial fielding and instruction, USASC will manage the program, providing a course manager, training calendar, and travel coordination. The Directorate of Evaluation and Standardization (DES) will administer the program using a four-to-six person mobile training team. Upon completion of initial unit training, USASC will transfer control of the entire program to USAAVNC.

The program is exportable, tailorable, and non-disruptive. The certified ACTE trainers will deploy to your unit home station or forward-deployed location and provide train-the-trainer (TTT) instruction to standardization

pilots, senior instructor pilots, and standardization instructors. Once these personnel have completed the required 4-day TTT course, battalion or company commanders

can weave TTT-taught instructor pilot, pilot-in-command, and pilot training into existing training schedules. The only burden will be accessing a computer with a CD-ROM drive!

Although a final training schedule has not been established, initial plans include immediate train-up of active-duty, Guard, and Reserve units preparing for deployment. Training for active-duty units will be completed at

home station, while Guard and Reserve training will be conducted at centralized training facilities. Training might include simulator and aircraft scenarios in addition to classroom scenarios, depending on available resources.

Undoubtedly, proper use of ACTE can provide commanders with another tool to ensure all crewmembers are fully trained and able to execute the full spectrum of Army Aviation operations. Those units desiring priority training or more information should contact MAJ Steven Van Riper at steven.vanriper@safetycenter.army.mil or CW5 Eric Schimmer at eric.schimmer@safetycenter.army.mil. ♦

The U.S. Army Safety Center has teamed with the U.S. Army Aviation Center to provide commanders with a single-source training solution aimed directly at improving the crew and team coordination effectiveness of Army aircrews and aviation leaders in their day-to-day mission planning and flight operations.

TSAS:

Can It Save Lives and Aircraft ?



Braden McGrath, Ph.D.
NAS Pensacola, FL

Spatial disorientation (SD) and its effects and remedies have been taught in physiology training and reviewed in every ready room repeatedly, yet we continue to lose aircraft and lives. Based on accident rates for the Air Force, Navy and Army, SD accidents result in the tragic loss of 40 lives on average per year. The cost of SD accidents also includes mission failure, the impairment of mission effectiveness, the monetary value of aircraft and equipment lost, and fatalities and disabilities. The estimated annual materiel cost of SD accidents is in the billions of dollars. These figures are staggering and, in today's military aviation, there is an added emphasis on night flying, all-weather capability, and low altitude missions, all factors that increase SD.

CAPT Angus Rupert at the U.S. Naval Aerospace Medical Research Laboratory (NAMRL) developed the Tactile Situation Awareness System (TSAS). TSAS uses the sense of touch to provide SD and situational awareness (SA) information to aircraft operators, especially in degraded visual conditions. The system consists of a matrix of tactile stimulators (tactors) embedded into a lightweight air-cooling vest originally developed by Defence R&D Canada. The vest is modified with a quick-disconnect fitting (which does not impede egress in an emergency) and supports the tactors in close proximity to the torso.

The environments and utilization for TSAS are numerous. TSAS is designed to improve aircrew SA, reduce aircrew workload, and demonstrate potential suitability for the missions of military aviation. Used in a tactical environment in unforgiving terrain and brownout conditions, the

system can provide pilots and aircrews with the aircraft's flight condition. When flying in this severe environment, TSAS provides SA and the ability to maintain an outside scan while trying to recognize ground cues to make a landing. TSAS also is designed to provide missile warning and terrain SA by using variable frequency directional inputs.

Using data from existing aircraft sensors or a custom self-contained sensor package for non-bus aircraft, TSAS obtains the aircraft position, velocity, attitude, altitude, and threat information. Similar to pages on a multi-function display, TSAS has the following modes that display critical information needed during a particular phase of flight:

- In the hover mode, TSAS provides horizontal drift and vertical altitude information.

- In the forward flight mode, TSAS provides attitude and altitude cueing. It also can provide backup navigational cueing in conjunction with existing navigation displays.

- In the approach mode, the system provides glide slope and course information, as well as airspeed deceleration information.

- In the threat mode, TSAS provides the threat direction and general distance to the pilot without the pilot actually having "eyes on." As the aircraft is turned, the tactors continuously provide threat position and relative distance. This mode of operation enables the pilots to fly with their eyes outside the aircraft in a hostile environment. The Army's 160th Special Operations Aviation Regiment (SOAR), with funding from Special Operations Command (SOCOM), specifically requested that TSAS provide approach cueing for



Figure 1: TSAS testing in aircraft and simulators

a pilot-adjustable hover altitude, as well as a zero-zero, no-hover landing. This cueing provides deceleration and lateral drift information during the approach and will aid in alleviating brownout and whiteout landing accidents. A recent review of Army operational accidents for Fiscal Years 2002 and 2003 predicts that TSAS could have helped prevent up to 66 percent of these accidents.

The TSAS has been tested in the CV-22, MH-53M, and the MH-60K simulators, and the UH-60A, MH-53M, and Canadian Bell 205 aircraft (figure 1).

The consensus from the helicopter pilots that have participated in the various simulator and flight tests is that TSAS can save lives and aircraft. Results suggest that TSAS reduces pilot workload and increases flight safety by decreasing instrument-scanning requirements while flying in degraded visual conditions. Qualitative and quantitative data showed that hover performance improved with TSAS usage (figures 2 and 3, respectively). The system is intuitive, easy, and simple for pilots to learn. Within 2 minutes in the simulator, pilots were able to hover without the aid of visual instruments.

One Army pilot commented that in instrument meteorological conditions (IMC), the TSAS vest could be the difference between mission success and an accident. A Marine pilot said that of all the gear and equipment tested for aviation, the TSAS was perhaps the most practical item that had major potential in giving pilots useful information in a non-encumbering manner.

An added benefit of the system is the cooling effect provided by the air-cooling vest. TSAS currently provides ambient air through the vest to provide the pilots with some cooling and can be modified to provide heated and chilled air through



Figure 4: TSAS system



the system. The weight, size, ease of installation, relative affordability, and potential aircraft and aircrew survivability make this system a promising technology for Army Aviation (figure 4). ♦

—Braden McGrath, Ph.D., is a Research Aerospace Engineer with the Henry M. Jackson Foundation and is assigned to the NAMRL, NAS Pensacola, FL. He can be reached by calling DSN 922-4441 (850-452-4441) or e-mail brad@namrl.navy.mil. Dr. McGrath received a Ph.D. in Aeronautical Engineering from the University of Sydney and a Master of Science in Aeronautics and Astronautics from the Massachusetts Institute of Technology. He has 14 years' experience in military research and development applicable to aircraft avionics and simulator design related to SD. He currently is the Principal Engineer for the Spatial Orientation Systems Department at NAMRL.

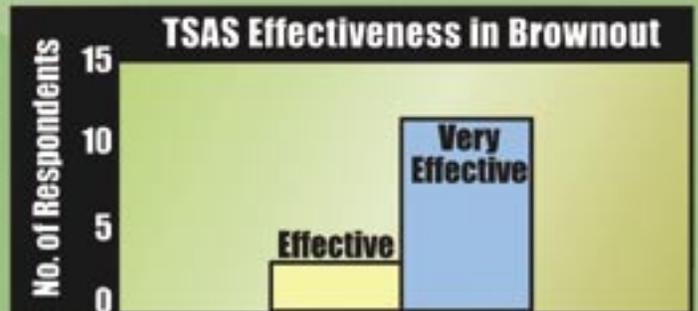


Figure 2: Questionnaire if TSAS cues are effective when hovering in brownout conditions. (Data are from 15 160th SOAR pilots representing a total of 216 years of military service.)

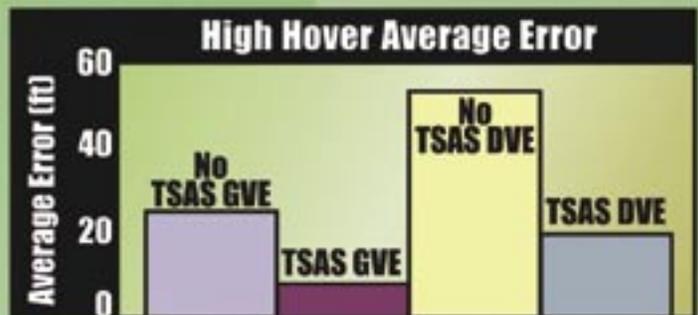


Figure 3: Hover error in good visual environment (GVE) and degraded visual environment (DVE) with and without TSAS cues. (Data are from 11 pilots [Army, Air Force, and Canadian] directed to maintain a stable 150-foot hover over a point on the airfield.)

Can You Lead Us Home?

COL Curt Potts and LTC Dan Williams
3rd Infantry Division
Fort Stewart, GA

Here is another success story of a unit that trained effectively in preparation for Operation Iraqi Freedom (OIF) and made it home to tell about it.

It was 13 March 2003, and this was the final rehearsal for the first battle of the campaign the world knows now as Operation Iraqi Freedom (OIF). The mission was to destroy the border observation posts along the Iraqi-Kuwaiti border. The plan called for a joint and combined operation involving Army attack aviation, artillery, and Air Force air power, and was precisely timed with cruise missile attacks deep inside Iraq. This was the kickoff for a ground invasion for the 3rd Infantry Division (3ID).

The mission had been planned and rehearsed many times from the operational level down to the individual crewmembers in each cockpit. The aviation brigade was 3ID's main effort for this operation. The aviation brigade commander controlled and commanded this mission from a C2 UH-60 console aircraft. The brigade operation had

two companies of AH-64D Longbow Apaches, and the battalion commander from 1-3rd Aviation Battalion had 13 aircraft. The 2-3rd General Support Aviation Battalion supported this operation with a C2 UH-60, four standby UH-60s with immediate personnel recovery teams onboard, and six MEDEVAC aircraft.

We knew combat was imminent, we just didn't know how soon it would happen (one week later). This rehearsal was a high-profile, corps-level operation run to precise timings on a tactical satellite (TACSAT) communications suite of radios. Unfortunately, the weather didn't cooperate with our plans for war.

About a month earlier, a UH-60 Black Hawk had encountered inadvertent instrument meteorological conditions (IIMC) and crashed, killing all onboard. The rapid buildup for war brought many units together

from all over the world; some of those units were used to flying in many different kinds of environments. However, IIMC recovery plans, in-depth procedures, and aviator in-country experience were all in a state of development at the time of the crash. As a result, our task force paid particular attention to the weather on 13 March.

Our attached Air Force weather detachment gave the report "500-2." We were looking for 1,000-3, especially since the fine dust that seemed to hang in the air over Kuwait was especially bad that week. It coated everything like a fine powder. We mitigated the risk by using our best crews and executing additional rehearsals. Then we launched.

On the night of the mission, illumination was zero percent, which we had all trained for, and the dust clouds were thick. Still, the time had come for combat



and we felt the pressure to execute. This was real, and we had to do it! At 2100 local, the armada took off fully loaded and integrated with all the corps assets that would make this operation successful in battle. The Air Force cancelled due to weather. Their part would be simulated.

In our Longbow battalion, all the front-seaters wore night vision goggles (NVGs) as an aid when forward-looking infrared (FLIR) conditions were less than optimal. I remember how bad the target acquisition and designation sight picture was that evening. The dust was thick and prevented all but the hottest targets and ground features from showing up. The Kuwaiti desert looked like one large pool table, and we were “game on.” I also remember looking through the UH-60 crew’s NVGs and thinking they were much worse off with no FLIR.

What saved the Apaches that night has worked many times over the years—embedded FLIR symbology and a knowledge of obstacles along the route. Those two factors created confidence as a counterbalance to a first-generation FLIR on a bad night. I thought about our C2 UH-60 pilots in the front

and the brigade commander in the back working the myriad of necessary joint and corps-level communications suites, to include TACSAT. The best pilot in the brigade, the brigade standardization instructor pilot (SP)—a CW5 and Master Army Aviator—was at the controls. I knew we would pull this off!

About 10 minutes from the airfield, I heard transmission calls from the UH-60 about the weather. “Can you guys see anything up there?” and “This stuff is thick!” Much of the same was transmitted on internal secure nets between my commanders, but we all felt the pilot night vision system symbology and flat desert terrain would allow us to continue.

I was flying about 5 rotor discs behind my B Company, and the UH-60 was about 10 discs behind me. We were all blacked out and traveling about 120 knots a few hundred feet off the sand en route to our attack by fire positions. This was the kind of night flying that leaves you a little nauseous and dry-mouthed, and one in which key aviation leaders must participate in the air if they are to earn and keep the respect of their aviators.

In the back of the UH-60,

the brigade commander was pleased with the effectiveness of the complex command and control communications suite. His code words had precise meaning to the ground artillery, Air Force, intelligence, and division and corps-level ground commanders. However, he suddenly began to sense uneasiness in the cockpit. He asked the experienced crew if everything was all right. They commented on the weather and thought they could still make out the battalion commander’s Apache. The flight continued and the weather deteriorated to a steady condition, but marginal, even for a final combat mission rehearsal exercise (MRE).

In the 21st century, precise navigation systems due to global positioning system technology and heads-up display (HUD) functions have greatly pushed the envelope for night and poor weather flying. Without these types of technologies, none of us could have flown that mission. But that night, even those technologies had problems in the Black Hawk.

Again, discussion in the UH-60 cockpit ensued and button-pushing began. The brigade commander asked, “Is

everything okay up there?” The brigade SP replied, “Sir, we’ve lost our HUD and our GPS isn’t working. We have no navigation and I can barely see the Apache—I’ve lost him!”

The aircraft slowed to about 50 knots, causing the distance between the battalion commander and the brigade commander to increase exponentially as the mission continued. “Sir, we’re going to have to land or go back; I have no navigation and can’t see anything.”

The brigade commander, a seasoned combat veteran, knew he would fight another day and the Apaches would continue with the rendezvous as briefed and accomplish the mission. He called the battalion commander. “Viper 06, this is Falcon 06, we have lost our onboard navigation and cannot see your flight. Can you see us and can you lead us home?”

I turned the battle over to my senior company commander and gave instructions to continue the mission. We then broke with the flight. We moved cautiously back up the route with a reduced airspeed as we searched for the UH-60, trying to avoid a midair collision. At about 50 discs away, we asked the Black Hawk pilot to flash his position lights. He did, and we soon found him. We passed the UH-60 on the right and returned slowly to Camp Udairi.

Once safely on the ground I calculated my fuel and checked the mission timeline. I asked the brigade commander to allow me to return to the route, link up with my companies, and continue the MRE. He told me to be careful and make all calls on FM to the division. The lack of TACSAT in Apaches during OIF made the use of UH-60 aircraft a necessity, yet the ability to fly in adverse weather differs from airframe to airframe depending on the encountered conditions. Aviation leaders must be aware of these differences and maximize their capabilities under all conditions.

I took off again and flew in relative silence for about 20 minutes until barely audible FM communications broke over the waves. I contacted my companies on their internal UHF HAVEQUICK nets and determined they were precisely on timeline and about to engage the targets. I assumed the battle, took over the sync matrix calls to higher headquarters, and completed the mission.

Would we have done anything different? No, probably not. We had planned and briefed the mission thoroughly. We had conducted multiple rehearsals at the brigade, battalion, company, and platoon levels. The weather was legal and initially good for the mission. Crews were battle-rostered

according to experience. We had 6 months of desert training under our belts, and the brigade’s leadership was involved in every facet of the mission. We flew the aircraft we were issued to the limits of their capabilities in the conditions we encountered. We were going to war! War is always a “come as you are” proposition. We had trained under blackout conditions and in less-than-favorable weather before. The Black Hawks were necessary for command and control and a valuable part of the brigade’s attack mission. Key leaders and decision makers were present in the flight and evaluated and took the same risks asked of their aviators.

This is a true vignette and an example of what we call the “brotherhood of war.” Just a week later and after the successful destruction of 13 observation posts by our unit, my pilot in command and I lost most of our onboard flight and navigation systems after taking fire and conducting evasive maneuvers. “Viper 06, this is Falcon 06, can you lead us home?” would be replaced with “Falcon 06, this is Viper 06, can you lead us home?” But that’s another story in itself. ♦

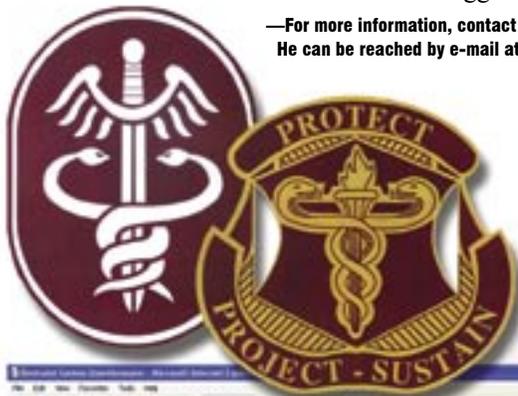
—COL Curt Potts, “Falcon 06,” is the commander of 4th Aviation Brigade, 31D. He can be reached by calling DSN 692-8469 or by e-mailing curtis.potts@stewart.army.mil. LTC Dan Williams, “Viper 06,” is the commander of 1-3 Attack Battalion. He can be reached by calling DSN 352-6217 or by e-mailing daniel.williams1@us.army.mil. Both COL Potts and LTC Williams are Master Army Aviators. They recently returned from OIF.

YOUR OPINIONS Can Change Things!

Tired of inconvenient, uncomfortable, inadequate, or hard-to-use seatbelts in Army vehicles or aircraft? Do you have an idea for making those seatbelts more user-friendly, comfortable, and effective?

Now is the time to make your opinion known! The U.S. Army Aeromedical Research Laboratory would like to hear what you've got to say. Just take a few minutes and fill out their seatbelt questionnaire at www.usaarl.army.mil/seatbelt/seatbelt.htm. All suggestions or comments will be kept confidential.

—For more information, contact Mr. John F. Gouda, USAARL, Fort Rucker, AL.
He can be reached by e-mail at john.gouda@us.army.mil.



www.usaarl.army.mil/seatbelt/seatbelt.htm

From Our Aviation Branch Chief



Effective February 23, 2004, the Army announced the initial results of its ongoing review of Army Aviation. The comprehensive review has produced several strategic recommendations that will be acted on now to ensure Army Aviation meets the current and future challenges of an evolving operational environment and incorporates lessons learned from the Global War on Terrorism. BG E.J. Sinclair, our Aviation Branch Chief, gives us an update.

The lessons learned after 2½ years of war have provided our Army and our branch the opportunity to assess known requirements and build increased capabilities to meet the threats of the operational environment. Several recent decisions on modularity, force stabilization, and Active Component/Reserve Component (AC/RC) optimization reflect many of the changes our Army has made to maintain its relevance and readiness. Each of these decisions increases lethality, enhances combat capability and unit cohesiveness, improves Soldier and unit predictability, and balances force requirements.

Based on a comprehensive review of Army programs conducted by the Aviation Task Force, we have made some strategic decisions that fix Army Aviation now and improve future capabilities. As a result, we will restructure aviation organizations to reflect current and anticipated needs, increase aircraft survivability, sustainability, and operability, divest programs that no longer meet the needs of the changing operational environment, and extend aviation

capabilities beyond the 2020 timeframe. These strategic aviation decisions support the termination of Comanche. By using the resources currently allocated for 121 Comanche platforms, we can accelerate transformation of Army Aviation to meet our needs through the next two decades.

“Our Soldiers deserve the best equipment and support that our Nation can provide to them, especially during this period of national emergency.”
BG E.J. Sinclair

We must ensure all concerned fully understand the positive impact of these decisions. Our Soldiers deserve the best equipment and support that our Nation can provide to them, especially during this period of national emergency. We must ensure they understand that lessons learned in 2½ years of war have greatly amplified our abilities to assess and develop future

capabilities to meet 21st Century security challenges and changes in the threat. These assessments have resulted in decisions that will propel Army Aviation in a way that will greatly improve our combat capabilities in the near term and in the future.

All of the resources allocated to the Comanche program will be reallocated within



Army Aviation programs. This will allow us to restructure and revitalize Army Aviation to meet our current and future needs. Specifically, the revitalized Army Aviation program will:

- **Accelerate aircrew protection and Aircraft Survivability Equipment (ASE) fielding initiatives to meet the current and evolving threat while providing every aircraft with the best possible equipment.**

- **Recapitalize 1,400 aircraft to extend aviation capabilities beyond 2020.**

- **Acquire almost 796 new aircraft (through FY11) to meet our requirements—this is in addition to the 101 UH-60s and 6 CH-47s already in the FY05 budget, so we really end up with 903 new aircraft.**

- **Add \$300M to accelerate the unmanned aerial vehicle (UAV) program to extend battlefield awareness and strengthen manned-unmanned teaming.**

- **Transform Reserve and Guard aviation by replacing 870 aging aircraft (422 UH-1s and 458 OH-58s) with 303 Light Utility aircraft. This will also allow us to standardize AC and RC aviation organizations.**

- **Leverage the technology base and knowledge gained through the Comanche program as appropriate and invest in joint aviation programs for the future.**

- **Fund a new aviation munitions strategy that ensures we have missiles and rockets to meet our wartimes**

requirements and our training requirements. It will fill the gap in rockets shortages for training impacting our aircrews.

- **Allow us to integrate combined arms and support (CAAS) cockpits and fly by wire technology into our UH-60 and CH-47 fleets, greatly reducing maintenance requirements and the logistics tail.**

- **Implement the multi-functional aviation brigades immediately and should be completed within 3 to 4 years. 3ID has already begun to reorganize under this structure and we will accelerate the reorganization Armywide.**

- **We will implement the two-level maintenance concept by FY08 and will field a common aviation logistics automation system—CTS-A while the CH-47 fleet retains AMAC beginning this year.**

I hope this gives you a better understanding of why some decisions were made. It will take the 100 percent support of every Soldier in our branch to successfully execute this strategy. It is truly exciting times in our branch. If you have any questions, please feel free to ask. But, again we need to speak with one voice and move our branch forward. ♦

Above the Best!

BG E.J. Sinclair
Commanding General
U.S. Army Aviation Center

Knowing Your Enemy

LTC Joel E. Best and CW5 Michael A. Moore
HAATS, COARNG



This enemy has killed many of our friends, destroyed countless aircraft, wrought havoc in units, and wasted valuable assets. It is without emotion, beliefs, or motives. Fearless and uncompromising, it cannot be reasoned with. What is this most lethal of enemies? It is all around us—it is the environment.

The enemy without

The evidence continues to mount; the environment can be and often is *more* lethal to the successful accomplishment of Army Aviation's mission than the human enemy. The most recent proof is the spate of brownout accidents in Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF), as well as high, heavy, and hot accidents in Afghanistan. Together these operations account for over 75 percent of recent accidents. Whether it is brownout or whiteout, high-density altitude, mountainous terrain, high gross weight, desert operations, or night vision systems, we are suffering too many incidents and accidents from this enemy.

It doesn't matter if accidents occur in Southwest Asia or at home station. The net result is the same: an unnecessary loss of our national treasure—the lives and aircraft needed to sustain readiness and relevancy. The Center for Army Lessons Learned (CALL) and *Flightfax* have correctly identified the environment as a significant threat, yet accidents continue to mount.

How, then, do we defeat this environmental enemy? "Risk management," you say. How do we assess environmental risk when we do not understand its complex nature? Aircrew coordination? What good

is crew coordination if we do not understand what to say and when to say it? Both risk assessment and crew coordination are two legs of a three-legged stool. The third leg is power management. Let's get some facts on the table about power management.

First, power management is not a more complex performance planning card with superfluous data that masks relevancy. Power management is a particular training method that enables aircrews to derive maximum utility from the aircraft in any environment while mitigating risk and expanding versatility (see the June 2003 *Flightfax*). It includes power references in the standards of tasks wherever possible.

An effective power manager is a master of the aircraft, the environment, and himself. Power management is an objective standard for deducing how well you have mastered this trinity. With the additional insights and skill provided by power management techniques, aviators are prepared for the challenges posed by the lethal environments in which we routinely operate but, as yet, fail to understand.

The enemy within

"We have met the enemy and he is us." The helicopter was developed to free our Army from the tyranny of terrain. The lessons of Vietnam, where air mobility came to fruition, are again here for the learning. The challenges of mountainous terrain, high-density altitudes, brownouts, and night vision goggles are not new. Nor are the requisite responses to these challenges new. Specific, consistent, environmental-based training and incorporating high standards are the means by which this enemy will be defeated. These environmental

conditions share similar traits. We need to reflexively recognize those traits and threats; know their specific impact in terms of aircraft power, controllability, and orientation; and be able to correctly determine the result.

Power-referenced training, as conducted by the High Altitude Aviation Training Site (HAATS), demands precision execution that leads to the awareness and skill levels required to accomplish the defeat of this lethal foe. We cannot continue to train for the environmental enemy on occasion. The development of a habit formation that allows us to reflexively and correctly see, assess, and act on short notice demands that we train to power management standards continuously. Negative habit formation, stemming from training at or near sea level in light aircraft with abundant power is killing us when time and power are marginal.

For a more comprehensive overview of actual power management protocols, please review the aforementioned June 2003 *Flightfax*. HAATS, located in Eagle, CO, serves as this Nation's pre-eminent power management mountain training site. We stand ready to assist you in the development of effective environmental training programs that will defeat the environmental enemy of today and tomorrow. For more information on HAATS training programs, please contact us at DSN 877-8180 or visit our Web site at http://www.coloradoguard.com/webpages/haats_flash.htm. Our objective is to ensure Army Aviation remains high "Above the Best." ♦

—LTC Joel E. Best, HAATS Commander, COARNG,
DSN 877-8180 ext. 2928 (303-677-8180 ext. 2928),
e-mail joel.best@co.ngb.army.mil and CW5 Michael A.
Moore, HAATS Standardization Instructor Pilot,
DSN 877-8180 ext. 2922 (303-677-8180 ext. 2922),
e-mail mike.moore@co.ngb.army.mil.

ACCIDENT BRIEFS

Information based on preliminary reports of aircraft accidents

CH-47

D Model

■ **Class C:** While hovering over a slingload with a 16- to 21-knot tailwind, the ground crew was unable to hook the load to the aircraft. While the pilot attempted to reposition the aircraft, the crew controlling the load in the cargo area changed duty positions without coordination with the pilot. The flight crew did not realize the ground crew had placed the sling on the forward hook. As the aircraft began to move forward the load was dragged, causing it to tip over and toss the hookup team on the ground.

MH-47

E Model

■ **Class A:** After returning to the airfield for passenger pick-up, the crews of two MH-47E aircraft requested clearance to ground taxi to the airfield refueling point. Tower cleared Chalk 1 into Point 2 and began refueling operations. Subsequently Chalk 2, after completing passenger upload, received instructions to ground taxi into Point 3. Chalk 1, monitoring the call, requested that Chalk 2 be cleared into Point 4 so Chalk 1 could depart the refueling point without being obstructed by Chalk 2. As Chalk 2 attempted to

ground taxi past Chalk 1, the forward and aft rotor systems contacted Chalk 1's aft rotor system. The crews of both aircraft immediately shut down the engines. The collision damaged nine rotor blades and one forward and two aft rotor heads. No personnel were injured. (This mishap occurred in 2002; however, the Safety Center is just now receiving the report.)

TH-67

A Model

■ **Class B:** The aircraft rolled over onto its right side after liftoff to a hover. The main rotor system contacted the ground. Investigation is ongoing.

OH-58

D(R) Model

■ **Class A:** Aircraft crashed for unknown reasons. The two pilots suffered fatal injuries. Investigation is ongoing.

■ **Class A:** Aircraft struck wires and crashed into a body of water. The two pilots suffered fatal injuries. Investigation is ongoing.

■ **Class D:** During hover flight to parking, the pilot in command (PC) initiated a left pedal turn to position the aircraft over the parking pad. The copilot heard a thumping sound during the turn. The aircraft landed on the pad without further incident. Post-flight inspection

revealed damage to the lower portion of the vertical fin. The damage was determined to be non-repairable, so the vertical fin was replaced.

UH-60

A Model

■ **Class C:** The maintenance test pilot identified a generator failure during run-up for a post-phase maintenance operational check. The mechanic reported that the input module housing was glowing red and that he smelled burning oil. The aircraft was shut down immediately. Post-mishap inspection revealed that an internal plug was left in the oil return line from the input module and restricted oil flow back to the transmission.

■ **Class D:** The aircraft's nose door came open on short final to the runway and damaged the center windshield and OAT sensor. The pilot took the controls and landed and taxied the aircraft to parking without further incident.

L Model

■ **Class D:** While performing a single-ship, opposite-direction, right-hand turn out of a two-ship formation flight, Chalk 2 encountered unexpected bright lights from a nearby city. The lights nearly shut down the PC's night vision goggles (NVGs), and rain on the aircraft's

windscreen caused a halo effect and further blurred his vision. The PC looked away from the lights and did not notice a descent in the turn. When the PC leveled the aircraft, the crewmembers heard a thumping sound. The crew performed a precautionary landing and shut down the aircraft. Damage to one blade tip cap, an antenna, and an anti-collision light was found. A tree strike is suspected.

C-12

F Model

■ **Class D:** While passing 12,000 feet on climb-out, the pilot allowed the #1 engine N₁ speed to rise to a maximum of 101.7 percent for 19 seconds (101.5 percent being normal). The flight was terminated because of fuel weight at the time of the incident. The engine monitoring system showed no overspeed or abnormal indications during the event. However, the engine manufacturer said the engine needed to be replaced. The engine was found to be within tolerances after further testing.

Editor's note: Information published in this section is based on preliminary mishap reports submitted by units and is subject to change. For more information on selected accident briefs, call DSN 558-9552 (334-255-9552) or DSN 558-3410 (334-255-3410).

A H - 6 4 D A P A C H E L O N G B O W

THEY FIRED THE FIRST SHOTS OF OIF

NOW, THEY'RE BACK



1-3 AVN

BACK FROM IRAQ III

VIPERS STRIKE TO KILL

THE BOEING COMPANY IN ASSOCIATION WITH THE U.S. ARMY PRESENTS KLOPPER-FERGUSON-HARDING PRODUCTION "BACK FROM IRAQ III"
STARRING LTC DAN WILLIAMS / MAJ DAVID RUDE / CPT R.J. GARCIA / CPT SCOTT MYERS / CW4 SCOTT BEILER / CW4 GARY FEWINS
CW4 VINCENT STELLA / CW3 JON LARUE / CW3 MIKE MADURA / CW2 MATT ROWE / SFC DON ELDER / SFC DANNY PATNEAUDE
AND ANDY CALLOWAY AS BOEING CUSTOMER FIELD SERVICE REP

VIDEO TAPED AND PHOTOGRAPHS ON LOCATION IN IRAQ AND HUNTER ARMY AIRFIELD, GA EDITOR DOUG HARDING VIDEOGRAPHY BOB FERGUSON
IRAQ VIDEO FOOTAGE COURTESY OF 1-3 AVN STILL PHOTOGRAPHY CW3 MIKE MADURA PRODUCED BY HAL KLOPPER
COPIES AVAILABLE ON DVD THROUGH THE BOEING COMPANY, MESA, ARIZONA

