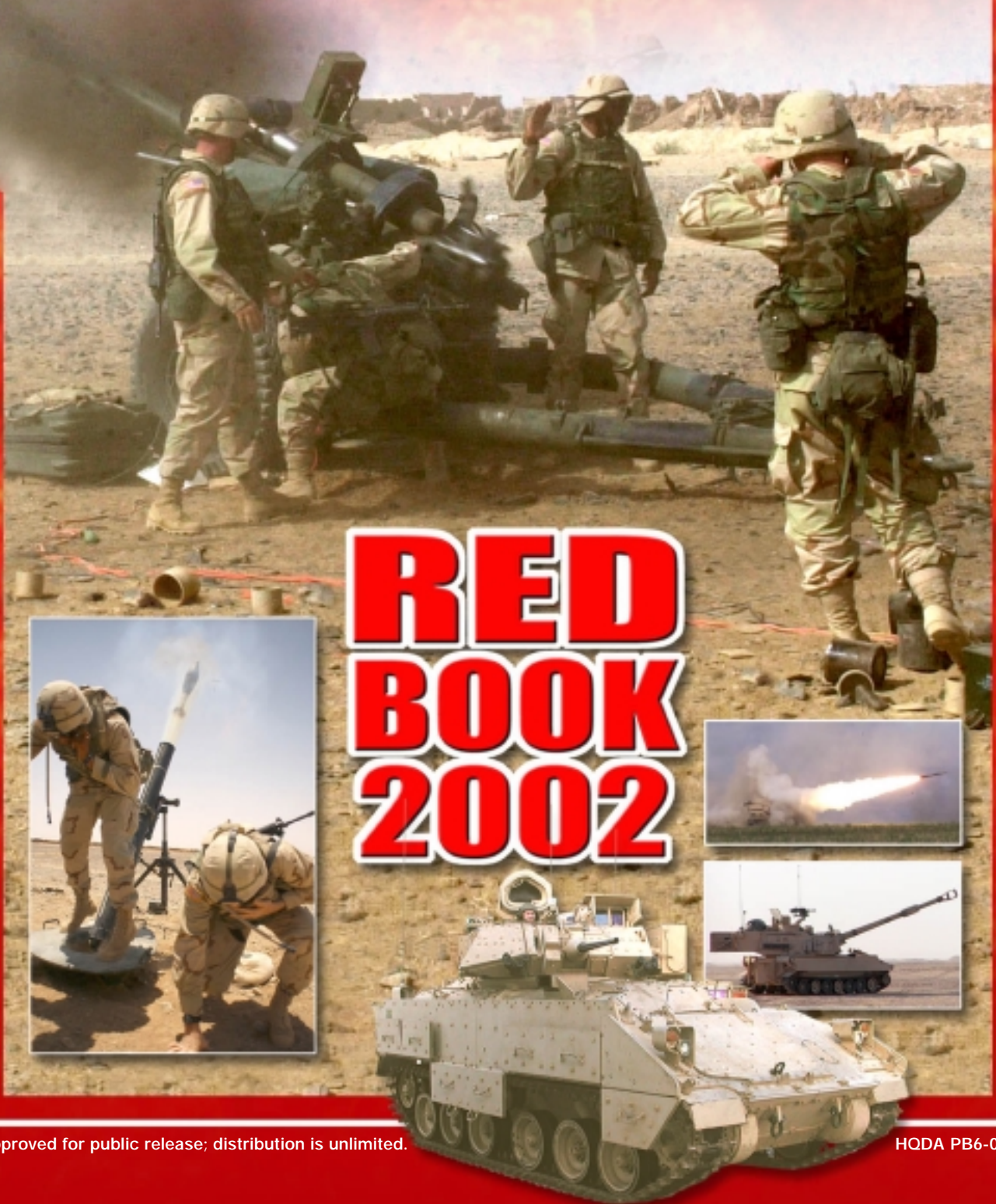


# Field Artillery

A Professional Bulletin for Redlegs

November-December 2002



## RED BOOK 2002

# Field Artillery

A Professional Bulletin for Redlegs

November-December 2002

HQDA PB6-02-5

## BRANCH UPDATES AND AWARDS

- 1 **2002 State of the Field Artillery**  
*By Major General Michael D. Maples*

---

- 12 **2003 Field Artillery Author's Guide**

---

- 13 **Best Battery Awards: Knox Award Reinstated and Hamilton Award Created in 2002**

---

- 14 **B/1-319 AFAR Wins 2002 Knox Best AC Battery Award**

---

- 15 **B/1-147 FA Wins 2002 Hamilton Best ARNG Battery Award**

---

- 16 **The Knox Trophy and Medal, 1924-1940**  
*By Lieutenant Colonel Allen W. Batschelet*

---

- 19 **Alexander Hamilton-An American Statesman and Artilleryman**

---

- 20 **US FA Units Worldwide**  
*Maps of Army and Marine Active and Reserve Component Units, Separate Battery and Above*

---

- 27 **2003 Field Artillery Digital Shooter's Guide**

---

- 28 **Silhouettes of Steel**  
*Reports by Total Army Corps and Division Artilleries and Marine Field Artillery Regiments*

---

- 44 **The First-Ever Gruber Award for the Outstanding FA Professional**

---

- 45 **GELON: The Towed Howitzer Night-Sight Mount**

## FEATURE ARTICLES

- 8 **Who Says Dumb Artillery Rounds Can't Kill Armor?**  
*By Major (Retired) George A. Durham*

---

- 24 **CSIP: AC Battalion Command From an RC Perspective**  
*By Lieutenant Colonel Kenneth J. Lull, COARNG*

**Covers:** The photos are of Redlegs from 1-319 AFAR, 82d Div Arty, firing 120-mm mortars and the M119 howitzer in Afghanistan during Operation Enduring Freedom. Since deploying to Afghanistan in July, C/1-319 FA's howitzers have moved around the operations area and fired combat missions.

**DISCLAIMER:** *Field Artillery* is published bimonthly by Headquarters, Department of the Army, under the auspices of the US Army Field Artillery School (Building 758), Fort Sill, OK. The views expressed are those of the authors, not the Department of Defense or its elements. *Field Artillery's* content doesn't necessarily reflect the US Army's position and doesn't supersede information in other official Army publications. Use of news items constitutes neither affirmation of their accuracy nor product endorsements.

**PURPOSE:** (as stated in the first *Field Artillery Journal* in 1911): *To publish a journal for disseminating professional knowledge and furnishing information as to the Field Artillery's progress, development and best use in campaign; to cultivate, with the other arms, a common understanding of the power and limitations of each; to foster a feeling of interdependence among the different arms and of hearty cooperation by all; and to promote understanding between the regular and militia forces by a closer bond; all of which objects are worthy and contribute to the good of our country.*

**OFFICIAL DISTRIBUTION:** US Army and Marine Corps Active and Reserve Component's FA units: seven copies to corps artillery, division artillery, brigade and regimental headquarters; 13 copies to battalions; and seven copies to separate batteries or detachments. In addition, other Department of Defense or government agencies that work with Field Artillery or fire support personnel, issues, material, doctrine, training, organization or equipment may request a limited number of free copies of the magazine. These include, but are not limited to, other coordination and support units, training centers and branch schools, recruiting commands, readiness groups, libraries and education centers, program/project managers, military arsenals and laboratories, state adjutant generals, liaison officers, military academies, ROTCs, major command headquarters, military attaches and public affairs offices.

**PAID SUBSCRIPTIONS:** Those ineligible for Official Distribution may subscribe through the US Field Artillery Association, P.O. Box 33027, Fort Sill, OK 73503-0027 or [usfaa@sirinet.net](mailto:usfaa@sirinet.net). Telephone numbers are (580) 355-4677 or FAX (580) 355-8745 (no DSN). Dues are \$20 per year to US and APO addresses. The international rate is \$55 for a one-year subscription.

**SUBMISSIONS:** Mail to Editor, *Field Artillery*, P.O. Box 33311, Fort Sill, OK 73503-0311. Telephone numbers are DSN 639-5121/6806 or commercial (580) 442-5121/6806 or FAX 7773 with DSN or commercial prefixes. Email is [famag@sill.army.mil](mailto:famag@sill.army.mil). Material is subject to edit by the *Field Artillery* staff.

**REPRINTS:** *Field Artillery* is pleased to grant permission to reprint articles. Please credit the author and *Field Artillery*.

**ADDRESS CHANGES:** *Field Artillery* (ISSN 0899-2525) (USPS 309-010) is published bimonthly. Periodicals postage is paid by the Department of the Army at Lawton, OK 73501 and an additional mailing post office. POSTMASTER: send address changes to *Field Artillery*, P.O. Box 33311, Fort Sill, OK 73503-0311.

### Redleg Hotline

(Organization, Material, Doctrine and Training)  
DSN 639-4020 or (580) 442-4020 (24-Hours)

### Tactical Software Hotline

DSN 639-5607 or (580) 442-5607 (24-Hours)

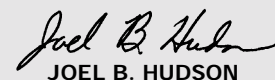
### Field Artillery Home Page

[sill-www.army.mil/famag](http://sill-www.army.mil/famag)

By Order of the Secretary of the Army:

**Eric K. Shinseki**  
General, United States Army  
Chief of Staff

Official:

  
**JOEL B. HUDSON**

*Administrative Assistant to the  
Secretary of the Army, 0221801*

**Michael D. Maples**  
Major General, United States Army  
Field Artillery School Commandant

**Editor:**  
Patricia Slayden Hollis

**Assistant Editor:**  
Wenda L. Meyers

**Art Director:**  
Bob T. Coleman



1-9 FA, 3d ID, in Kuwait. (Photo by SFC David K. Dismukes, CENTCOM)

# 2002 State of the Field Artillery

By Major General Michael D. Maples  
Chief of Field Artillery

**T**his has been a significant year for the Field Artillery. Our Army is fully engaged throughout the world: training and maintaining the readiness of the force; sustaining worldwide commitments in small-scale contingencies, such as Kosovo and Bosnia; fighting the Global War on Terrorism, ensuring our homeland is secure; and transforming the force.

Field Artillery soldiers and units continue to be critical to everything our Army does and, with the foundation that has been established, are positioned to play an indispensable role in the Objective Force. In this “State of the Branch” article, I offer an assessment of branch accomplishments this year and a view of where we are heading in the future.

This year was marked most significantly by the Army’s engagement in the Global War on Terrorism in the aftermath of the events of 11 September 2001. Many Field Artillery soldiers and units immediately began providing security for our nation on military installations, along our borders, in airports and throughout our communities.

Fire Supporters of the 10th Mountain Division (Light Infantry) out of Fort Drum, New York, and the 101st Airborne Division (Air Assault) out of Fort Campbell, Kentucky, deployed with our forces to Afghanistan in support of Operation Enduring Freedom. Subsequently, 82d Airborne Division Field Artillerymen out of Fort Bragg, North Carolina, replaced the fire supporters in Afghanistan, deploying a battery of M119 howitzers and two platoons of 120-mm mortars, the latter manned by Field Artillerymen.

Field Artillery active and Army National Guard (ARNG) units increased their emphasis on unit readiness to be prepared to answer the nation’s call should the fires of the Field Artillery be required to support our national objectives.

Operations in Afghanistan during Operation Anaconda also generated intense professional dialogue about the absence of all-weather Field Artillery in theater and the shortcomings of joint fires for troops in close contact. Joint leaders are working together to ensure

responsive, effective support is provided for our ground forces and fire supporters are better trained and equipped to access all the capabilities of the US military. All recognize the imperative of supporting our soldiers and Marines on the ground with responsive fires, 24 hours a day, seven days a week, in all weather and all types of terrain.

At the same time, the Army’s development of transformation concepts this past year also is having an effect on the Field Artillery. The transformation effort ultimately will lead to the development of FA systems that have greater strategic deployability and enhanced precision and are more lethal and sustainable—absolutely *essential* for the Army’s Objective Force.

However, there is a cost to achieving these capabilities. We already have experienced the termination of Crusader and BAT anti-armor submunition programs. This is indicative of the Army’s willingness to accept risks in the modernization of the current force to achieve transformational capabilities for the future force.

The Army's Vision statement clearly outlines three focal points: people, readiness and transformation. In 2002, the Army began to make the Army Vision a reality. The vision is becoming a reality for the Field Artillery as well and is guiding our accomplishments as a branch.

**Our People.** FA soldiers and leaders remain the most critical elements of our formations. We seek the highest quality enlisted soldiers, NCOs, warrant officers and commissioned officers we can recruit for the Field Artillery—those who have a warfighting spirit, adaptive leadership abilities and a propensity for technical expertise. They will serve and lead the Field Artillery into what promises to be a very bright future.

A year ago, the Field Artillery had deficiencies in multiple military occupational specialties (MOS) in our enlisted force. Simultaneously, we have had a continuing concern about the way in which the branch is perceived by ROTC and military academy cadets. We also found we need to revise the programs of instruction (POIs) for many of our courses at the Field Artillery School to provide the force better trained artillerymen.

*Enlisted Accessions.* One of our primary branch goals this past year was to fix the shortages of personnel in our active units. With the great assistance of the Recruiting Command and those who assign and manage our enlisted personnel, Redleg MOS are now "healthy"

and have strength percentages that range from 94 to 104 percent. In fact, the overall operating strength for Career Management Field (CMF) 13 is more than 100 percent.

Our remaining concern is the new MOS 13D FA Tactical Data Systems Specialist, the MOS in which we combined MOS 13C Tactical Automated Fire Control Systems Specialist and 13E Cannon Fire Direction Specialist. While we have achieved a significant increase in the combined strength of these MOS, we still must solve the administrative and individual training issues associated with MOS conversion.

The Field Artillery School is working a training strategy that, when combined with expected advanced FA tactical data system (AFATDS) fieldings and the efforts of our command sergeants major (CSMs) in the field, will increase the number of qualified 13D soldiers available for our units. We recognize that 13D distribution shortfalls continue to affect FA units adversely and are implementing an integrated program to correct these shortfalls and make the MOS more viable.

One key to success this past year has been the use of strategically placed incentive bonuses. In the coming year, the Army is realigning incentives across the force, and we could face challenges in sustaining our enlisted strengths. We will need the full support of everyone in the Field Artillery community to retain quality soldiers in our branch.

*Officer Accessions.* While FA commanders report that the quality of junior officers they are receiving continues to be exceptionally high, the propensity of cadets and officer candidates to select Field Artillery as their first or second choice for branching is not as high as we want it to be. We are working with both the United States Military Academy at West Point and the Cadet Command to provide cadets accurate branch information and quality FA training experiences.

In conjunction with the Cadet Command, we recently established a Field Artillery website that provides cadets information about the variety of jobs and experiences they can expect as junior leaders in the Field Artillery. In addition, the Field Artillery School has coordinated partnerships between FA commands and ROTC detachments at 20 colleges and universities. Both of these initiatives should improve the quality of information and experiences available to cadets.

We recently received a study on the perceptions of cadets about the Field Artillery. We will use the study to formulate a comprehensive program to influence more cadets to choose Field Artillery, ensuring the branch has quality leaders and warfighters for the future.

*Training Soldiers and Leaders.* Our core mission at Fort Sill is to train soldiers and leaders for the FA units of our operating forces. During the past year, more than 16,000 newly enlisted soldiers completed their initial entry training (IET) in the Field Artillery Training Center at Fort Sill. More than 1,600 outstanding FA NCOs completed various NCO Education System (NCOES) courses, and the Field Artillery School has trained more than 1,300 great commissioned and warrant officers. In addition, the school has expanded distributed learning capabilities to meet the professional education needs of Field Artillerymen in the ARNG.

Also in the Field Artillery School, we have undertaken a number of initiatives to improve the quality of instruction and to provide training support to the force. Fires Training XXI is our strategy for training the Field Artillery and is the vehicle for documenting training requirements, such as training devices, simulations and simulators, an area in which the Field Artillery lags behind the rest of the force. (See the article "Fires Training XXI: A Training Strategy for the 21st Century" by Colonel (Retired) John K. Anderson, January-



Photo by Fred Baker, Fort Sill, Cammerer

We seek the highest quality enlisted soldiers, NCOs, warrant officers and commissioned officers we can recruit for the Field Artillery.

February.) The input from and cooperation of our FA commanders and CSMs have been invaluable in developing this strategy and determining institutional and organizational training requirements.

The FA School recently reorganized to more effectively employ instructors and fix the responsibility for executing training with the commander of the 30th Field Artillery Regiment. At the same time, we created a Directorate of Training and Doctrine (DOTD) whose director focuses on programs of instruction (POIs) and training support packages (TSPs) for the field.

We have recently completed a much overdue task analysis of the Officer Basic Course and are engaged in a systematic review of all courses in our Officer Education System (OES), Warrant Officer Education System (WOES) and NCOES. Already, we have implemented additional fire support training, such as expanding the light fire support officer (FSO) lane training and distributed learning applications. Our revised programs will implement assignment-oriented training to better prepare soldiers and leaders for their first/next assignments and will accomplish that training in less time.

We also are pursuing the Universal Observer concept with the joint community to enable observers to control all forms of fires, joint- and land-based. In addition, we are looking for ways to better prepare leaders for positions in our Stryker brigades.

By improving the quality of instruction and reducing the time soldiers remain in the training base, we can contribute significantly to the readiness of our Field Artillery units.

**FA Readiness.** Field Artillery units, active and ARNG, are executing a wide variety of missions worldwide and stand ready to provide fires if called upon. They consistently demonstrate excellence in all that they do: on mission, in training and in meeting the needs of the nation. In 2002, we recognized FA unit excellence in readiness with formal awards.

The Henry A. Knox Award, presented annually from 1924 until 1940, was reestablished this year to formally recognize the active component (AC) FA battery that best represents excellence in mission accomplishment. B Battery, 1st Battalion, 319th Airborne Field Artillery Regiment, 82d Airborne Division, Fort Bragg, North Carolina, won the 2002 Knox Award. (See the articles “The Henry Knox Trophy and Medal,

### Active: Henry A. Knox Award

B/1-6 FA, 1st Infantry Division (Mechanized), Bamberg, Germany  
 HHS/3-6 FA, 10th Mountain Division (Light Infantry), Fort Drum, New York  
 C/1-7 FA, 1st Infantry Division (Mechanized), Camp Bondsteel, Kosovo  
 A/3-7 FA, 25th Infantry Division (Light), Schofield Barracks, Hawaii  
 C/4-11 FA, 172d Infantry Brigade (Separate), Fort Richardson, Alaska  
 B/1-15 FA, 2d Infantry Division, Camp Casey, Republic of Korea  
 C/3-16 FA, 4th Infantry Division (Mechanized), Fort Hood, Texas  
 C/1-27 FA, 41st FA Brigade, Babenhausen, Germany  
 C/3-27 FA, 18th FA Brigade (Airborne), Fort Bragg, North Carolina  
 D/1-40 FA, FA Training Center, Fort Sill, Oklahoma  
 B/1-77 FA, 75th FA Brigade, III Corps, Fort Sill, Oklahoma  
 B/3-82 FA, 1st Cavalry Division, Fort Hood, Texas  
 C/1-94 FA, 1st Armored Division, Idar Oberstein, Germany  
 HHB, 17th FA Brigade, Fort Sill, Oklahoma  
 HHB, 214th FA Brigade, III Corps, Fort Sill, Oklahoma

### National Guard: Alexander Hamilton Award

C/2-116 FA, 53d Infantry Brigade (Separate), Winterhaven, Florida  
 C/2-122 FA, 35th Infantry Division (Mechanized), Sycamore, Illinois  
 B/1-129 FA, 135th FA Brigade, Chillicothe, Missouri  
 B/1-142 FA, 142d FA Brigade, Springdale, Arkansas  
 B/1-163 FA, 76th Infantry Brigade (Separate), Evansville, Indiana  
 HHSB/1-181 FA, 196th FA Brigade, Chattanooga, Tennessee  
 HHB, 45th FA Brigade, Enid, Oklahoma

**2002 Best Battery Award Honorees.** In addition to the winners, these 22 batteries were nominated by their higher headquarters for the best battery awards.

1924-1940” by Lieutenant Colonel Allen W. Batschelet and “B/1-319 AFAR Wins 2002 Best AC Battery Award,” both in this edition.)

To recognize the tremendous accomplishments of Field Artillery soldiers in the ARNG, we created the Alexander Hamilton Award for excellence in mission accomplishment. B/1-147 FA, South Dakota ARNG, part of the 147th Field Artillery Brigade, won the first Hamilton Award in 2002. (See the articles “Alexander Hamilton—An American Statesman and Artilleryman” and “B/1-147 FA Wins 2002 Hamilton Best ARNG Battery Award,” both in this edition.)

The Knox and Hamilton Awards will be presented annually. The nominees for these awards reflect both the readiness and the excellence of Field Artillery units throughout our Army. Many outstanding batteries were nominated by their brigades and division artilleries (see the figure).

The range of accomplishments of nominees for the 2002 best battery

awards was impressive. These batteries deployed soldiers to Afghanistan and other places in support of Operation Enduring Freedom; trained for civil disturbances; provided airport and installation security; conducted combined operations with the Russians, Swedes and British; trained with the Canadians, Australians, Kuwaitis, Czechs and Koreans; formed the first US-Polish combined battery; integrated joint training with the Air Force; supported joint exercise Millennium Challenge; achieved 100 percent retention (an ARNG battery); had zero safety incidents; volunteered more than 500 hours of community service; developed collaborative fire control/distributed counterfire tactics, techniques and procedures (TTP); conducted operations effectively in extreme cold and heat; had the best fire direction center (FDC) and best fire support team (FIST) and was the brigade-level Top Gun; conducted Apache Longbow-to-Paladin digital fire missions; won the Army Award for Maintenance Excellence; and more—reflect-



HIMARS concluded its extended system integration test (ESIT). The launcher performed very favorably during the ESIT and is well-positioned for its low-rate initial production decision in March 2003.

ing the remarkable capabilities of great Field Artillery soldiers in an extremely busy force.

Finally, to recognize the accomplishments and contributions of an individual to the Field Artillery, we established the Edmund Gruber Award. Master Sergeant Dennis J. Woods, recently of A/3-319 FA, 82d Airborne Division, won the first Gruber Award for his creation of the gun electronic laying optical night-sight (GELON), a mount for towed howitzers. (See the articles "The First-Ever Gruber Award for the Outstanding FA Professional" and "GELON: The Towed Howitzer Night-Sight Mount," both in this edition.)

The Gruber Award winner, great soldiers in the Knox and Hamilton batteries and other Redlegs like them serving in the force today deserve the best equipment we can provide them. In the near term, we are supporting the accelerated fielding of our most modern capabilities in accordance with Department of the Army priorities. For the future, we are looking to achieve truly transformational capabilities for the Field Artillery.

**Combat Developments.** Our combat development effort has been and will continue to be affected by the inherent tension between the transformation process and the desire to modernize our current forces. The vast majority of funding for FA systems is earmarked for developing Objective Force capabilities; many of those capabilities will be backward-compatible to the Stryker and current force.

This approach reflects a conscious decision by the Army to ensure we prioritize resources to achieve transfor-

mational warfighting capabilities. To do so, we must accept risk in the modernization and recapitalization of the current force. Given the aggregate over-matching lethality of US forces as compared to potential adversaries, now is the time to invest in the future.

In the near term, however, the Field Artillery will benefit from the Department of Defense's (DoD's) desire to accelerate precision capabilities. The programs for the development and fielding of the high-mobility artillery rocket system (HIMARS), guided multiple-launch rocket system rocket (GMLRS), Excalibur family of 155-mm precision munitions, future combat system non-line-of-sight (NLOS) cannon (FCS cannon), NLOS launch system (NLOS-LS) and networked fires all are being accelerated to provide Objective Force qualities and capabilities.

While the Army is investing in the future, many active and ARNG FA programs for modernizing the current force will be affected adversely. Paladin upgrades will be limited, and Paladin cascades into the ARNG will not occur as planned. Fewer M270A1 MLRS launchers will be fielded, and our long-range missile programs have been impacted negatively—the Army tactical missile system (ATACMS) unitary precision missile was not funded and the ATACMS Block II (BAT) precision missile lost funding; fewer than 100 Block II missiles are being produced. The acquisition and fielding of fire support platforms have been reduced, such as all the variants of Bradley FIST vehicles (BFISTs) and the M707 Knight, formerly known as "Striker." Further,

the development and distribution of the advanced FA tactical data system (AFATDS) has been reduced.

Finally, our ability to acquire new systems outside the Objective Force requirements will be limited, at best. Nevertheless, we are continuing to develop many systems our FA formations need not only today, but also in the future.

**Target Acquisition.** Improving our ability to locate and digitally transmit target data is perhaps the best way we can improve the precision of our fires. We have to resolve the differences between the target location errors (TLEs) of our sensors and the circular errors probable (CEPs) of our delivery systems.

Enhancing our fire support and target acquisition systems is a clear priority. We fielded 15 test versions of the lightweight laser designator rangefinder (LLDR) to the 82d Airborne Division in Afghanistan. Currently we are trying to reduce the LLDR's weight further. Its fielding is projected for FY04.

We also are developing an operational requirements document (ORD) for the lightweight dismounted optics our fire support personnel need now. We will continue fielding the M707 Knight to the active force and plan to equip it with enhanced optics.

The Q-47 radar continues its development and has been incorporated into the future Phoenix program that, ultimately, will give the Objective Force a multi-mission radar. We also are developing a lightweight counterfire radar.

**Command and Control.** We are continuing to field the latest version of AFATDS in accordance with the established priorities and recognize the importance of the entire force operating with a common command and control system—AC and ARNG. We are aggressively pursuing hand-held capabilities, including the Palm forward entry device (PFED), lightweight tactical fire direction system (LWTFDS), lightweight FED (LFED) and a replacement for the gun display unit (GDU-R).

Additionally, the issues of interoperability between the automated deep operations coordination system (ADOCS) software and AFATDS and AFATDS' complexity and lack of user friendliness are being addressed.

**Cannon Systems.** Paladin will remain the primary cannon for our heavy forces. We are investing in near-term improvements to its fire control system.

In full partnership with the Marine Corps, the lightweight 155-mm howitzer

zer (XM777) with towed artillery digitization (TAD) is in developmental testing. The USMC XM777 was authorized low-rate initial production on 8 November with fielding projected for 2005, and the program is on track for Army fielding in FY06. Recent tests have demonstrated the accuracy of the system.

We recognize the need to replace the M119 in our special-purpose divisions and are exploring a variety of options to meet the fire support needs of air assault and airborne forces.

The Excalibur 155-mm munitions program is being accelerated. The M982 Excalibur extended-range precision unitary munition that is global positioning system (GPS)-guided and inertial measurement system (IMU)-aided could be fielded as early as FY06. This versatile precision munition will be effective in all weather conditions in urban environments and restrictive terrain while minimizing collateral damage.

We are exploring a wide variety of special-purpose, cannon-delivered non-lethal munitions. We also plan to test available sensor-fuzed munitions and are closely following the development of a course-correcting fuze (CCF) that would give current 105-mm and 155-mm ammunition precision qualities by adding GPS and canards to the rounds.

*Rocket and Missile Systems.* We are in the process of fielding the MLRS M270A1 launcher that will strengthen our warfighting capability by enabling M270A1 units to fire all current and planned MLRS family of munitions (MFOM). The first M270A1-equipped battalion set of launchers on the Korean peninsula was fielded to 1-38 FA in August, and fielding to 6-37 FA, also in the 2d Infantry Division in Korea, is

underway, to be completed in April. 2-4 FA, 214th FA Brigade, III Corps Artillery, at Fort Sill will complete fielding in December.

In August, HIMARS concluded its extended system integration test (ESIT). The launcher performed very favorably during the ESIT and is well-positioned for its low-rate initial production decision in March 2003. In fact, the procurement objective for HIMARS has been increased since the decision to reduce the number of M270A1 launchers to be fielded. This is further indication of the Army's commitment to the Objective Force.

A combat-loaded HIMARS weighs less than 35,000 pounds, is C-130-transportable and can fire the entire suite of current and planned rockets and missiles. First unit equipped is scheduled for the Second Quarter of FY05.

GMLRS, a precision rocket guided by IMU and aided by GPS with a range of 60 kilometers and beyond, completed its engineering and production qualification tests. It achieved ranges of more than 70 kilometers and was extremely accurate in the tests. The GMLRS program is on target for its low-rate initial production decision in April with an initial operational capability (IOC) projected for early 2006.

Concurrently, a guided rocket variant with a 200-pound class high-explosive warhead will enter its formal development phase in 2003. This unitary rocket will build on GMLRS technology. It will have great utility where we must limit collateral damage.

We are working the ORD for the ATACMS-penetrator missile. It is a precision missile that will penetrate hard and deeply buried targets, including weapons of mass destruction, command

and control centers and storage facilities. It will range out to 300 kilometers.

*Fire Support in Operation Anaconda.* In terms of current readiness, we should discuss fire support for operations in Afghanistan. These operations demonstrated that we must address how we train our fire support personnel, achieve air-ground integration and operate with special operations forces (SOF) now and in the future. The absence of FA units during combat in Operation Anaconda reinforced the importance of both responsive, effective fires for ground forces in close contact with the enemy and cannon artillery.

It is unquestionably the consensus of the Army's senior leadership and the leaders of our combat formations that adequate fire support—including cannon artillery—must be available to our troops in combat.

About fire support in Operation Anaconda, Chief of Staff of the Army General Eric K. Shinseki stated it very clearly at the Eisenhower Luncheon during the 2002 Association of the United States Army Convention in Washington, DC, when he said, "Now, as proud as we are of those youngsters, ours is the responsibility of giving soldiers the best tools—those critical capabilities for handling these tough missions we send them on.

"Now look, we all saw the pictures of our special operations soldiers riding 14 hours—on a wooden saddle, by the way—into battle with the Northern Alliance. We saw pictures of soldiers fighting in the close fight, attacking uphill—by the way, that's normal; I've never had a mission that sent us against an objective down hill. But fighting uphill from 8,500 feet to 11,000 feet carrying 70 to 80 pounds of ruck on their back, *dismounted soldiers without cannon artillery*, outnumbered by a determined enemy with small arms and mortars occupying superior ground [emphasis added].

"We have to ask, 'Is this the way we want to fight the next time? Is this the kind of risk we want our soldiers to carry into battle?' And at least from the Chief, the answer is, 'Hell no.' We owe them better.

"We know that they will always compensate for what we have not provided. But our job is to ensure that there is as little slack as possible to have to compensate for. And we are going to meet that responsibility no matter what all the smart folks have to say about the obsolescence of organic, *indirect fire cannons* [emphasis added]."



Photo Courtesy of BAE Systems

The USMC XM777 was authorized low-rate initial production on 8 November with fielding projected for 2005, and the program is on track for Army fielding in FY06.



This is an artist's rendition of a wheeled version of the future combat system cannon (FCS cannon). The Department of Defense accelerated the development of the FCS cannon.

By its absence, the criticality of the Field Artillery to the combined arms team has been reinforced.

**FA Transformation.** The Field Artillery is transforming with the Army. Transformation is nothing new for our branch. We have transformed whenever the times, the threat or the emergence of technological capabilities have dictated it. Think of the many modes of transporting artillery we have employed: oxen and sled, horse and mule, motorized, towed and self-propelled. Recall the many models of artillery of various calibers we have employed. Think of the various rocket and missile systems we have fielded and then retired after they served their purpose. Recall the time that the Field Artillery was heavily engaged in the delivery of nuclear weapons. We have always evolved to support the requirements of the Army.

In 2002, the Army developed Objective Force operational concepts and FCS requirements that will shape the future of our branch.

We completed the initial work on the base document for the future combined arms brigade organization, the Unit of Action (UA) Organizational and Operational (O&O) Concept. This document describes the critical role fires will

play in the future and details the structure of an NLOS battalion that will be organized with the FCS cannon, the NLOS-LS and robust organic target acquisition capabilities, including both unmanned aerial vehicles (UAVs) and multi-mission radars.

The FCS ORD has been published and will guide the development of the family of systems that will become the equipment of the Objective Force. Our requirements for the FCS cannon, NLOS-LS and related systems are detailed in that document. As the Objective Force proponent for fires, we are now writing the Fires and Effects O&O, which we expect to publish in the coming months.

We also are helping to develop the concepts and requirements for the Unit of Employment (UE), those division- and corps-level organizations whose fires will shape the battlefield, shield the force and isolate the close fight.

Fundamental to the Objective Force is the Army's validated need for an FCS cannon that will provide close supporting fires for the UA. This program is currently in a concept technology demonstration to leverage the best technologies available, including those developed for Crusader, to produce a can-

non with both the deployability and lethality we require by FY08. The FCS cannon will be C-130-deployable with a range of 30 to 40 kilometers and have a rate-of-fire of six to 10 rounds per minute; increased responsiveness over Crusader and Paladin; automatic ammunition handling and interoperability with all UA/UE and joint target acquisition and command and control systems. The cannon will be resupplied using magazines loaded with fuzed munitions and propellant.

At the Eisenhower Luncheon, the Chief of Staff of the Army was clear about the requirement for the FCS cannon when he said, "We're also moving out to fill the validated requirement for responsive, indirect, all-weather, organic fires...."

"Warfighting is about fires and maneuver—fires enable maneuver; maneuver enables fires. You can't have a discussion on one of those principles. Close, supporting indirect fires destroy the enemy, suppress the enemy's capabilities and then protect our forces.

"The FCS non-line-of-sight cannon will meet these requirements and leverage the system of systems through its integrated command and control—networked fires. We are capitalizing on technologies we've already developed, and you'll see them in the FCS non-line-of-sight cannon to be fielded in FY08."

This is an exciting time to be a Field Artilleryman. We are in a period of great change—change in the world situation and operating environment, change in our national strategy and change caused by the tremendous leaps forward in technology and firepower. It is exciting because we are transforming our Army and its integral Field Artillery for the future.

This is also an important time for the Field Artillery, active and ARNG, because of the potential significance of our fires in accomplishing Global War on Terrorism national objectives. The operating force realizes the importance of all of the elements of the combined arms team, including the critical role the FA will play in any possible conflict.

We have accomplished a great deal in 2002, but we have many challenges ahead of us. We, at Fort Sill, support the readiness of Field Artillery units in our operating force—it is our reason for being and will have our priority of fires. Training soldiers and leaders, improv-



ing capabilities and solving force organizational and institutional issues will remain important.

Soon, we will formally review and evaluate the structure and capabilities of the Stryker Brigades—the closest step forward in the transformation process.

In 2003 we expect to establish the Fires Enhanced Battle Lab at Fort Sill, one of only six battle labs in the Training and Doctrine Command (TRADOC) that will conduct analyses and experimentation to support the development of the Army's Objective Force. We will join in partnership with the Institute for Creative Technologies at the University of Southern California to develop virtual and artificial intelligence capabilities applicable to the Field Artillery. We look to establish a greater partnership with the joint fires community that will enable the full integration of joint fires and effects.

We, as the Field Artillery community, must stay connected as we move forward. We must sustain the momentum achieved in our Senior Field Artillery Leaders and Fire Support Conferences this past year and ensure the issues raised in those forums are addressed. We must maintain our connectivity to resolve the challenges of today and the uncertainty of the future.

Be proud—you are the finest Field Artillerymen in the history of the world. Thank you for your commitment to strengthening our branch, the American military and our nation. All the best in 2003.



Major General Michael D. Maples became the Chief of Field Artillery and Commanding General of Fort Sill, Oklahoma, in August 2001. In his previous assignment, he was

the Director of Operations, Readiness and Mobilization in the Office of the Deputy Chief of Staff for Operations and Plans (G3) at the Pentagon. In Germany, he was the Assistant Division Commander (Support) in the 1st Armored Division and Senior Tactical Commander of the Baumholder Military Community. He also served in Germany as the Deputy Chief of Staff for Operations in the Allied Command Europe Rapid Reaction Corps and for the Kosovo Force (KFOR), planning and executing the entry of NATO forces into Kosovo; G3 of V Corps; and Deputy Chief of Staff for Operations in US Army Europe (Forward) in Taszar, Hungary, supporting US forces in the Balkans during Operation Joint Endeavor. He commanded the 41st Field Artillery Brigade, V Corps, Germany, and the 6th Battalion, 27th Field Artillery, 75th Field Artillery Brigade, III Corps at Fort Sill and in the Persian Gulf during Operations Desert Shield and Desert Storm. He also commanded B Battery, 6th Battalion, 37th Field Artillery in the 2d Infantry Division in Korea.

# Online Go-to-War Primer:

## FA Bulletin Articles 1990-2002

**O**nline at the *Field Artillery's* homepage ([sill-www.army.mil/famag](http://sill-www.army.mil/famag)) are more than 100 articles published since 1990 that outline tactics, techniques and procedures (TTPs) for operating in remote areas of the world and for meeting challenges Army and Marine Field Artillerymen/fire supporters face in combat.

The Primer lists each article/interview and includes the author(s), the author's unit or organization, the edition in which it was published with the page numbers, and a brief description of its contents. The articles are grouped in seven categories, as shown in this article with an eighth grouping listing the acronyms used in the descriptions of the articles.

Users can open each article by double-clicking on the underlined edition/page listing, which is linked to the article. The articles are in PDF format. On the first page of the instructions, users have the option of downloading the free Adobe Acrobat PDF Reader software by double-clicking on the link, as necessary.

**1. Desert and Related Articles**—Covers Gulf War, Afghanistan and Kuwait plus has articles such as "Survey for Remote Areas," "Firefinder Initialization with Limited Map or Survey Data," "Paladin Defensive Positioning in Open Terrain," "Low-Angle Fires for MOUT," "The Scud Battery," etc.

**2. Faster and More Accurate Fires**—Includes recent articles with TTPs specifically designed to reverse fire support negative trends at the Combat Training Centers (CTCs).

**3. Digital Assistance**—Covers initial fire support automation system (IFSAS)-advanced FA tactical data system (AFATDS) interface challenges, the advancing capabilities of AFATDS, TTP for a digital interface between AFATDS and Kiowa Warrior, etc.

**4. FA Battalion Operations**—Covers the platoon, battery, battalion and task force levels.

**5. Forward Observer (FO)/Fire Support Team (FIST) and Fire Support Officer (FSO)**—Covers the FO/FIST and company, battalion and brigade FSO levels.

**6. Division, Corps and Above**—Covers division task force operations in Kosovo, Bosnia and Panama; information operations (IO) and nonlethal targeting; joint air operations; Marine expeditionary force (MEF) and Marine air ground task force operations; and Q-37 operations.

**7. Foreign Artilleries**—Covers Egyptian, Israeli, Ukrainian, Bosnian, German, Russian, Republic of Korea and North Korean artilleries.

If users have questions or problems accessing the articles, email the magazine staff at [famag@sill.army.mil](mailto:famag@sill.army.mil).

Ed.



C/1-319 FA, 82d Div Arty, Afghanistan

**E**arly in the afternoon of 23 May 1944, the 1st Canadian Division attacked Germans in defensive positions during the battle of Hitler's Line in Italy. Soon after the battle started, it was apparent the attack had failed. The Canadians had suffered high numbers of casualties; the Germans then counterattacked with tanks. The Canadian Army Group Royal Artillery (equivalent to a US Field Artillery brigade) proceeded to defeat the counterattack.

This was one of many battles in World War II where artillery defeated armor. Has anything changed since these battles to make artillery less effective against armored targets? Not really.

Determining the effects of artillery is critical to military planning. The number of weapons and the amount of ammunition required to defeat different types of targets are factors to be considered when determining the composition of ground forces.

As US forces and their allies face contemporary operational environment (COE) threats—such as the al Qaeda during Operation Anaconda in the Shah-e-kot Valley in Afghanistan—there is no question that our Army needs an all-weather organic precision fires capability. Air-delivered precision munitions are limited in their ability to provide close support to a ground force in contact—are most effective against fixed targets vice the fleeting targets in fast-paced ground combat. (See the interview “Afghanistan: Fire Support for Operation

Anaconda” of Major General Franklin L. Hagenbeck, commander of the ground forces during Operation Anaconda, in the September-October edition.) The ground force's artillery must be capable of responsive, surgical lethality that minimizes collateral damage.

But at the same time, as Lieutenant Colonel Christopher F. Bentley, fire support coordinator (FSCOORD) for the ground forces during Operation Anaconda in Afghanistan, said, “PGMs [precision-guided munitions] are not ‘silver bullets’ for every target array.” (See Page 5 of his article “Afghanistan: Joint and Coalition Fire Support in Operation Anaconda” in the September-October edition.) In addition, precision munitions are expensive.

As Major General Hagenbeck said in the interview, the mix of munitions on future battlefields is mission, enemy, terrain, troops and time available (METT-T)-dependent. Ideally, the options would include precision, but “all that matters is whether or not the munitions are time-on-target and provide the right effects” (Page 8).

Artillery area fire (dumb) munitions can have some pretty amazing effects, some of which they have not been given credit for in recent years.

This article reminds the Army of the lethality of area fire Field Artillery by examining the background of modeling and simulations data used to portray artillery effects in a study

# Who Says Dumb Artillery Rounds Can't Kill Armor?

By Major (Retired) George A. Durham



Operation Desert Storm

beginning in 1988 and reviewing the results of this four-year test of the effects of the basic Soviet 152-mm and US 155-mm rounds.

**Background.** In the early 1970s, the Army began developing force-on-force models to work effects issues. An outgrowth of this work has been the development of battle simulations used for training. The realism of these models and simulations depends on the accuracy of the database used to represent the effects of combat on the battlefield.

As force-on-force models were being developed, military analysts noted an interesting dichotomy when comparing US and Soviet estimates of the effectiveness of high-explosive (HE) fragmentation rounds. HE is the basic artillery round used by NATO forces and the former Warsaw Pact.

Both the US and Soviet estimates on effects against “soft” targets, such as personnel, trucks and radar, were about the same. But there was a significant difference between the amount of HE the Soviets and US estimated it took to defeat or kill armored targets.

For example, to achieve 30 percent effects against an armored personnel carrier, the Soviets estimated it would take 2.8 fewer rounds than US estimates. “Thirty percent effects” was defined as damage that would keep the vehicle from continuing the battle, but it wasn’t enough damage to “destroy” it. The number of HE rounds in the Soviet estimates for 30 percent effects against tanks was only slightly higher than the number required for armored personnel carriers.

The US database was a result of the modeling data developed in 1972 that required direct hits against tanks to achieve any effects. To ensure a direct hit with area fire munitions, the models required a large number of rounds to be fired. Over a period of time, the large number of rounds fired and the resulting minimum effects caused artillery fires to be downplayed in force-on-force modeling. Military analysts knew the criteria for HE to achieve effects was inaccurate, but they did not have data upon which to base their corrections of the modeling database.

**Artillery Effect Tests.** In 1988 the Army Assistant Chief of Staff for Operations (Force Development) directed the Soviet Artillery Effects (SAE) Study be conducted to validate the effectiveness data used in models. A literature search conducted before the test found a Soviet report titled “Firing for Effects Against Strongpoints.” This report became the “base case” for comparing US and Soviet effectiveness estimates.

The Soviets claimed that 122-mm and 120-mm mortars and 152-mm artillery rounds achieved very high levels of damage against tanks and armored personnel carriers. The explanation of the disparity ranged from the Soviets simply overestimating their effectiveness to the difference in the way damage criteria were established. Other possibilities offered were that the database for US models was incorrect or not used properly. Further research revealed the Soviets had a large database developed by an extensive live-fire test program.

A basic difference existed in the way damage criteria were used. The Soviets had two criteria: “damaged,” which means unable to continue to fight, and “destroyed.” The US used “estimated time of repair” as the yardstick for damage in models. If damage could be repaired in less than 30 minutes, it was not counted; 30 minutes to one hour was assigned a value; one hour or more had a value; and so on.

While it seemed the US criteria were less realistic than the Soviets’, the analysts conducting the study decided to continue to use the existing US damage criteria in the SAE test.



Figure 1: In near hits, fragmentation from high-explosive (HE) rounds with a point-detonating (PD) fuzes penetrated this armored vehicle, destroying critical components and injuring the “crew.”

One significant problem was that the US had limited data on the effects of fragmentation on armored vehicles. The last live-fire test of artillery munitions conducted in 1972 used World War II- and Korea-vintage armored targets. The artillery rounds had not changed significantly since that test, but there had been major changes to armored vehicles.

To correct this lack of data, the SAE was designed around four tests. Tests one and three were operational tests comparing model predictions with live-fire results. Tests two and four were technical tests designed to gather data to upgrade or correct the database.

**Test Results.** The first test was conducted in 1988. Researchers confirmed that the US 155-mm HE round was a reasonable surrogate for the Soviet 152-mm HE round. An M109 155-mm howitzer battery using Soviet fire direction and gun procedures fired the test. The targets were manikins placed in fighting positions, US trucks, M113 and M557 armored vehicles, and M-48 tanks. Several different computer models were used to predict results. The test was fired three times using 56 HE rounds with point-detonating (PD) and variable-time (VT) fuzes.

The resulting effects on the trucks and personnel were close to model predictions. However, the effects on the armored vehicles and tanks were significantly higher than model predictions.

The model predicted 30 percent damage to armored vehicles and tanks; however, 67 percent damage was achieved. Fragmentation from the HE rounds penetrated the armored vehicles, destroying critical components and injuring the manikin crews. (See an example of such damage in Figure 1.) In addition, the HE fragmentation damaged tracks, road wheels, and tank main gun sights and set one vehicle on fire.

Interestingly enough, none of the damage to the armored vehicles or tanks was the result of direct hits—all the damage was caused by near hits.

This test confirmed that US Army models did not accurately portray artillery effectiveness. Direct hits were not required to damage tanks and other armored targets.

The second test was conducted over a period of seven months. It was designed to provide updated fragmentation damage data for modern armored fighting vehicles and tanks. An M109 howitzer fired 155-mm HE ammunition with PD and VT fuzes. One round was fired at a time, and a detailed analysis was completed on the effects of a direct or near hit of each round.

A direct hit with an HE round with a PD fuze consistently destroyed the various target vehicles. Near hits damaged or destroyed road wheels, tracks, main gun sights and vision blocks. Aerial bursts of HE rounds with VT fuzes damaged or destroyed gun barrels, vision blocks, antennas, sights and engines and destroyed anything stored on the outside of the vehicle. (See Figure 2.)

The third test was against a simulated US mechanized infantry team in defensive positions. The target area consisted of a forward defense area with a tank ditch 250 meters long, minefields and wire obstacles. The infantry was dismounted and had prepared positions with overhead cover. The fighting vehicles and tanks were in supporting positions, dug in with both “hull down” and “turret down” positions.

For this test, a 24-gun 155-mm battalion was used to achieve the Soviet criteria of 50 percent destruction. To accomplish these effects, the fire plan for each of the three iterations of the test required 2,600 HE rounds with a mix of PD and VT fuzes.

In each iteration, 50 percent of the infantry fighting positions were destroyed and about 50 percent of the personnel were wounded or killed.

The physiological and psychological effects on personnel could not be measured as Army regulations prohibit using humans or animals in this type of testing. However, research conducted in the first phase of the test documented battles of World War I and II where unmotivated or poorly trained soldiers did not stand up to large concentrations of artillery fire. This finding was confirmed during Operation Desert



Figure 2: An air burst of HE with a variable time (VT) fuze destroyed the main gun and other components of this vehicle.



Figures 3: In a near hit, HE rounds with PD fuzes destroyed the track of this tank. The damage was similar to that of a tank in a hull-down position.

Storm in the Gulf in 1990 with the mass surrenders of enemy soldiers. The soldiers' will to fight was worn down by fire support from multiple-launch rocket systems (MLRS), cannons and air strikes.

In addition, during the third test, 50 percent of the infantry fighting vehicles (IFVs) and tanks suffered damage that would have prevented them from moving or firing, thus taking them out of the battle (Figure 3). Smoke and dust caused by the HE rounds would have reduced the IFV and tank crews' ability to engage targets at maximum range.

This test demonstrated that an artillery attack using standard HE fragmentation projectiles is much more lethal against tanks and armored vehicles than US effectiveness data estimates had predicted. Based on the data provided in the second test, the modeling predictions were closer to the actual results but remained on the low side of the actual damage and destruction.

Artillerymen need to understand that databases used to drive force-on-force models are not always accurate. Many of the models have not been updated, and their databases do not reflect all aspects of lethality.

The SAE tests clearly demonstrated that force-on-force models have not been portraying the effects of artillery fires properly. Near and direct hits cause significant damage to armored vehicles and tanks. The test results confirmed the validity of the published Soviet's report on the lethality of artillery (Figure 4).



Figure 4: HE with PD in a near hit—the SAE tests confirmed the validity of the Soviet report showing artillery more lethal against armored targets than US effects estimates.



Figure 5: A 155-mm round impacted within 30 meters of this tank, causing considerable damage.

Even with an updated database, force-on-force models tend to be conservative. The models are not capable of measuring the complete effects of artillery fire, such as smoke, dust, weapons sights effects and the physiological and psychological effects on humans. The SAE live-fire tests proved that HE fragmentation rounds are very effective against the most modern US and Soviet stationary armored systems.



Figure 6: During testing, DPICM destroyed this multiple-rocket launcher (MRL). The MRL had no ammunition on board when it was destroyed; the destruction was due entirely to DPICM. The holes highlighted went through the entire vehicle.



Figure 7: One round of HE with a PD fuze significantly damaged this tank in a near hit.

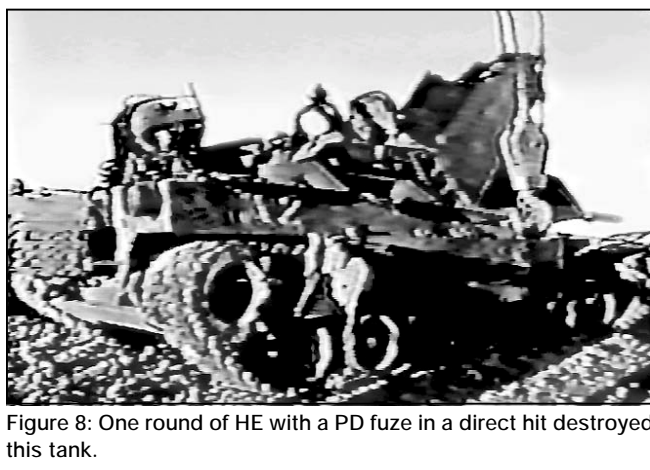


Figure 8: One round of HE with a PD fuze in a direct hit destroyed this tank.

**Artillery Lethality Myths.** Because the databases in force-on-force simulations/models have not accurately portrayed the effects of artillery fires for a number of years, several myths have arisen. The SAE results dispell the following five myths.

*Myth #1—It requires a direct hit with an artillery round to damage or destroy an armored vehicle.* Not true; 155-mm rounds that impact within 30 meters cause considerable damage (Figure 5). Air bursts using VT or dual-purpose improved conventional munitions (DPICM) can strip away communications, sights, vision blocks and anything stored on the outside of the vehicle. These air bursts are especially effective against soft targets such as multiple-rocket launchers (MRLs). (See Figure 6.)

*Myth #2—It takes 50 artillery rounds to destroy or damage a tank.* Not true. It takes one round (Figure 7). If an artillery battalion engages an armored formation (54 rounds), more than one tank will be destroyed or damaged.

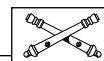
*Myth #3—Artillery cannot engage moving targets.* It is difficult, but it can be done. The issue is not lethality, but the tactics, techniques and procedures to hit the moving target. Units must train to shift fires.

*Myth #4—Modern armor cannot be defeated by artillery.* Tanks are designed to kill tanks, and most of the armor is designed to protect against direct fire. HE rounds with VT or delayed fuze and DPICM are very capable of defeating “modern” armor (Figure 8).

*Myth #5—Armored vehicles can button up and drive through artillery fire.* Yes, they can. But as soon as they button up, their ability to see is reduced by approximately 40 percent. And as they drive through the artillery fire, there is a high probability they will have mobility and firepower damage or that the formation will change its direction of attack. The results are delay and suppression of armor.

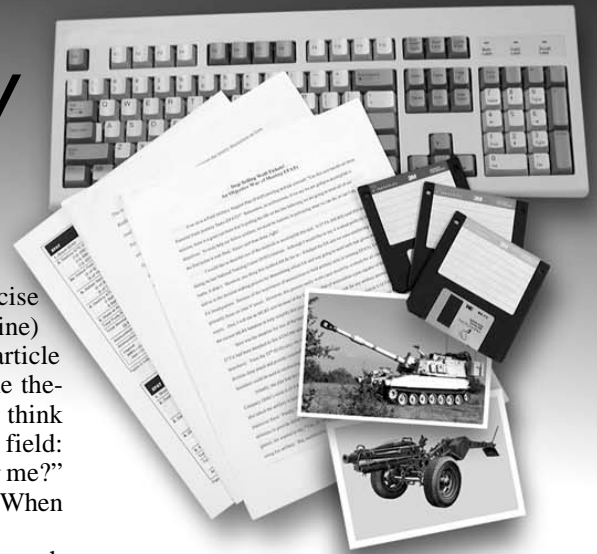
**Conclusion.** The Field Artillery earned its reputation as “The Greatest Killer on the Battlefield” during World War II. That reputation was built on the artillery’s ability to mass fires and respond with rapid, accurate fires for maneuver plus the belief that the artillery could destroy any target on the battlefield. The same capability exists today.

It is the responsibility of every Field Artilleryman to know the branch capabilities—to reject the myths about artillery effectiveness against armor—and ensure the force commander makes the most of his firepower assets in combat.



Major (Retired) George A. Durham has been Deputy Director of the Depth and Simultaneous Attack (D&SA) Battle Lab at Fort Sill, Oklahoma, since May 1992. His previous assignment was as Director of the Soviet Artillery Effects Study in the Directorate of Combat Developments in the Field Artillery School, also at Fort Sill. George Durham was the Executive Officer for a Department of the Army Special Action Team for Corps Support Weapons Systems, developing the Army Tactical Missile System (ATACMS). Before retiring from the Army, he served as the Executive Officer of the 4th Battalion, 4th Field Artillery, III Corps Artillery at Fort Sill and commanded two batteries. He’s a graduate of the Command and General Staff College, Fort Leavenworth, Kansas.

# 2003 *Field Artillery* Author's Guide



**Readership.** A bimonthly magazine, *Field Artillery* is the professional journal for US Army and Marine Corps Redlegs worldwide. Approximately 40 percent of our readership is company-grade, both officer and enlisted, with the remaining 60 percent more senior Army and Marine personnel, Department of Defense (DoD) civilians, retirees, members of other branches and services, allies, corporate executives and our political leaders.

**Magazine Features.** In addition to articles, we routinely print the Chief of Field Artillery's column (Update Point); letters-to-the editor (Incoming); interviews with Army, joint and combined leaders; news items from the Field Artillery School (View from the Blockhouse); columns by senior NCOs for NCOs (From the Gun Line); and book reviews (Redleg Review). We primarily review books focused on Field Artillery or fire support; the publisher must send the book, and we provide the reviewer.

**Subjects.** The majority of the articles accepted cover subjects at the tactical level of war with some at the operational and strategic levels as long as their contents relate to Field Artillery or fire support or are of special interest to our readers.

If an author is writing about the past, he should analyze the events and show how they apply to Field Artillerymen today—not just record history. If he's identifying current problems, he must propose solutions. (An author may identify problems without proposing solutions only in a letter-to-the-editor.) In addressing the future, he should clearly explain his points and their implications.

Since its founding in 1911, one of *Field Artillery's* objectives has been to serve as a forum for professional discussions among the FA community. Therefore, an author's viewpoint, recommendations or procedures don't have to agree with those of the Branch, Army or DoD. But his article's contents must be logical and accurate, address disadvantages as well as advantages (as applicable), promote only safe techniques and procedures, and include no classified information.

Articles must be clear and concise with the thesis statement (bottom line) up front and the body of the article systematically contributing to the thesis. When writing, authors must think like the Field Artilleryman in the field: "What is it?" "What will it do for me?" and "How do I implement it?" (or "When will I get it?").

*Field Artillery* has a theme for each edition, but we're not theme-bound. In most editions, we include articles not related to the theme.

**Submissions.** Include—

- A clean, double-spaced, typed, unpublished manuscript of no more than 4,000 words with footnotes and bibliography, as appropriate. Except in the case of Army-wide "news" items, *authors should not submit a manuscript to Field Artillery while it's being considered elsewhere.*

Email the PC-formatted text or mail us a disk along with the hard copy of the manuscript. (We use MS Word.) Please do not lay out your article with columns and graphics inserted or use the automatic footnote feature of some software programs; it causes us extra work to strip out the design before editing and laying it out.

- A comprehensive biography, highlighting experience, education and training relevant to the article's subject. Include your current job, email and home addresses, and telephone and Fax numbers; please keep this information current with *Field Artillery* for as long as we're considering your manuscript.

- Graphics with captions to illustrate and clarify the article. These can include photographs of any size (but preferably color 5x7-inch), drawings, slides, maps, charts, unit crests, etc. We accept high-resolution digital photos—those are photos shot at the highest resolution and largest frame size the camera will allow. They are about one MB each. (See the "Digital Shooter's Guide" in this edition.)

The *Field Artillery* staff will edit all manuscripts and put them in the magazine's style and format. Authors will receive a "check copy" of the edited version before publication.

- Call us at DSN 639-5121 or 6806 or Commercial (580) 442-5121 or 6806. To Fax, call DSN or Commercial 7773. Our email is famag@sill.army.mil.

- Mail your submission to *Field Artillery*, P.O. Box 33311, Fort Sill, Oklahoma 73503-0311.

- Over-night your submission to Building 758, Room 7, McNair Road, Fort Sill, Oklahoma 73503-5600.

- View our homepage at <http://sill-www.army.mil/famag>. We have magazines on line back through 1959.

## 2003 *Field Artillery* Themes

<i>Edition</i>	<i>Theme</i>	<i>Deadline</i>
<i>Jan-Feb</i>	<i>Fires TTP for the COE</i>	<i>1 Oct 2002</i>
<i>Mar-Apr</i>	<i>Lethal &amp; Nonlethal Fires and Effects</i>	<i>1 Dec</i>
<i>May-Jun</i>	<i>Joint Fires</i>	<i>1 Feb 2003</i>
<i>Jul-Aug</i>	<i>History</i>	<i>1 Feb: History Contest 1 Apr: Other</i>
<i>Sep-Oct</i>	<i>Fighting the FA Battalion</i>	<i>1 Jun</i>
<i>Nov-Dec</i>	<i>Fires for the Objective Force</i>	<i>1 Aug</i>

# Best Battery Awards Knox Award Reinstated and Hamilton Award Created in 2002

**A**fter a 62-year hiatus, the Henry A. Knox Award for the Army's Best Active Component (AC) Battery has been reinstated and the first annual Alexander Hamilton Award for the Army's Best Army National Guard (ARNG) Battery has been created with the 2002 winners honored at the Senior Fire Support Conference on 3 October. During a banquet at the Officers' Club, Fort Sill, Oklahoma, the Chief of Field Artillery Major General Michael D. Maples presented the Knox Award to First Sergeant (1SG) Franklin M. Jacobs, who accepted on behalf of B Battery, 1st Battalion, 319th Airborne Field Artillery Regiment (AFAR), 82d Airborne Division Artillery, Fort Bragg, North Carolina, and the Hamilton Award to Captain Kory L. Knight, who accepted on behalf of his former command, B Battery, 1st Battalion, 147th Field Artillery Brigade, ARNG, from Salem, South Dakota. (See the related articles in this edition: "The Knox Trophy and Medal: 1924-1940" by Lieutenant Colonel Allen W. Batschelet, "Alexander Hamilton—An American Statesman and Artilleryman," "B/1-319 AFAR Wins 2002 Knox Best AC Battery Award," and "B/1-147 FA Wins 2002 Hamilton Best ARNG Battery Award.")

**Awards' Purpose, Criteria and Eligibility.** The purpose of and criteria and eligibility for the annual Knox and Hamilton Awards are basically the same. The awards are designed to promote, sustain and recognize excellence in US Army Field Artillery batteries. A battery is recognized for fulfilling its mission based on its mission-essential task list (METL) in an outstanding manner or, in the case of a deployed battery, fulfilling its nonstandard mission in support of peacekeeping, peace enforcement, homeland security, etc., in an outstanding manner. Field Artillery firing batteries and headquarters, target acquisition, administrative and training batteries are eligible for the awards.

Each FA brigade and division artillery commander can select one battery to compete in this Army-wide competition. In the case of an FA battalion or separate battery that does not fall under an FA brigade or division artillery, the brigade-level (or higher commander) for whom the battalion or separate battery works writes the endorsement, regardless of branch. An FA battalion in this category can submit only one battery for consideration.

The 2003 Knox and Hamilton Best Battery nominees must have their packets into the Office of the Deputy Commanding General (DCG), Fort Sill, Oklahoma, 60 days prior to the award date. The winning batteries will be featured in a subsequent edition of *Field Artillery*.

**Submissions.** Each packet includes a cover sheet, table of contents, the FA brigade/division artillery/other commander's recommendation (one page memorandum) with up to three endorsements, an objective data sheet and the battery commander's summary (a two-page, double-spaced typed, stand-alone narrative outlining the battery's accomplishments). The objective data sheet covers statistics related to physical readiness,

command inspections, Army drug and alcohol prevention and control, safety, soldier care, reenlistment, promotions, weapons qualifications, common task training, etc. The battery commander's stand-alone narrative can include, but is not limited to, training exercises, deployments, digital sustainment training, higher level command inspections, physical training and readiness, reenlistment, promotions, maintenance, supply economy and awards during the 12 months prior to the award date.

The winning AC and ARNG batteries will have representatives at appropriate ceremonies or conferences for presentation of the Knox and Hamilton Awards' plaques and battery streamers.



Major General Maples presents the Knox Award to First Sergeant Jacobs, B/1-319 AFAR.



Major General Maples presents the Hamilton Award to Captain Knight, B/1-147 FA.

Photos by Linda A. Young, Fort Sill TSC

On 3 October, the Chief of Field Artillery Major General Michael D. Maples presented the 2002 Henry A. Knox Award for Best Active Component (AC) Battery to First Sergeant Franklin M. Jacobs on behalf of his command, B Battery, 1st Battalion, 319th Airborne Field Artillery Regiment (AFAR), *The Bulls*, part of the 82d Airborne Division, Fort Bragg, North Carolina. The award was presented during the Senior Fire Support Conference Banquet at the Officers' Club, Fort Sill, Oklahoma. The Knox Best Battery Award, a resurrection of a similar award presented from 1924 through 1940, is designed to promote, sustain and recognize excellence in US Army Field Artillery batteries. (See the related articles "Best Battery Awards: Knox Award Reinstated and Hamilton Award Created in 2002" and "The Knox Trophy and Medal: 1924-1940," the latter by Lieutenant Colonel Allen W. Batschelet, both in this edition.)

The award's submission packet included a statistical data sheet and the battery commander's narrative. The following was taken from Captain Yusef E. Good's narrative.

"*The Bulls* are a well-disciplined, highly motivated battery that has excelled while setting an intensive training pace in the past year. The battery's officers, NCOs and soldiers have proven continually they are among the best artillerymen in the Army.

"Currently, the battery is engaged in combat in Afghanistan as part of Operation Enduring Freedom, providing indirect fires with 120-mm mortars. This combat deployment concludes a rigorous and highly successful year for the *Bravo Bulls*.

"B/1-319 AFAR began FY02 with a challenging rotation to the National Training Center (NTC) at Fort Irwin, California, in support of the 3d Brigade. During the rotation, the battery exhibited outstanding discipline and motivation when at-

tacked by the air assault opposing force's (OPFOR's) Task Force Angel. The ensuing battle resulted in 82 OPFOR dead and minimal casualties for the battery.

"At the conclusion of the rotation, the battery redeployed and immediately prepared for and passed a division inspection and assumed the mission as the division ready force battery responsible for assembling within two hours and deploying by parachute assault within 18 hours of notification.

"The intense training executed by Bravo Battery during the year included two battery field training exercises (FTXs) and one brigade FTX. During these FTXs, the battery improved its level in each of its mission-essential task list (METL) tasks. Additionally, Bravo Battery conducted two fire planning exercises and two iterations of fire support lanes in support of 1st Battalion, 505th Parachute Infantry Regiment (1-505 PIR).

"The battery has conducted five live-fire drop zone missions and participated in a total of 11 airborne operations. A drop zone mission requires the utmost discipline, teamwork, motivation and initiative of all paratroopers as the battery parachutes, assembles on an air-dropped howitzer, derigs the platform and puts the howitzer in position, ready to fire within 25 minutes. The battery also executed two live-fire battery air assault raids and danger-close fires in support of the brigade combined arms live-fire exercise (CALFEX).

"In total, the *Bravo Bulls* fired more than 3,000 artillery rounds in FY02.

"The battery has represented the long history of the 319th Airborne Field Artillery Regiment honorably. During the year, the battery has had four troopers win Battalion Paratrooper of the Month and two NCOs selected as Division Artillery NCO of the Quarter. The battery also produced two Audie Murphy winners and two inductees into the Honorable Order of Saint Barbara. The battery fired two ceremonial salutes, one in support of the 82d Airborne Assistant Division Commander's (Operations) promotion and the other for the Forces Command (FORSCOM) Commander. Additionally, the battery showed its excellence as artillerymen by winning both the Battalion Best Howitzer and Battalion Best Fire Direction Center competitions.

"B/1-319 AFAR deployed to Afghanistan in July 2002. Initially, operational requirements called for towed 120-mm mortars as the heavy indirect fire asset. Bravo Battery cross-trained on the 120-mm mortar with a mobile training team (MTT) from Fort Benning, Georgia. The soldiers quickly mastered the new skills, and all sections certified on the new system in one day. B Battery is engaged in supporting the ground combat operations of 1-505 PIR and has fired hundreds of mortar rounds in close support of the task force.

"B Battery is taking advantage of the opportunity to forge new tactics, techniques and procedures (TTPs) for employing the towed 120-mm mortar via air assault, heavy drop and ground infiltration, adapting to the harsh environmental challenges of the Afghanistan.

"*The Bulls* are prepared, trained and ready to deliver fires with any fire support system—be it cannons or mortars."

# B/1-319 AFAR Wins 2002 Knox Best AC Battery Award



1-319 AFAR deployed to Afghanistan for Operation Enduring Freedom in July 2002. B Battery Redlegs man this 120-mm mortar in Afghanistan.



**O**n 3 October, the Chief of Field Artillery Major General Michael D. Maples presented the first-ever Alexander Hamilton Best ARNG Battery for 2002 to Captain Kory L. Knight, who accepted on behalf of his former command, B Battery, 1st Battalion, 147th Field Artillery (Multiple-Launch Rocket System), Army National Guard (ARNG), in Salem, South Dakota. Captain Knight until recently commanded B Battery and shared the 2002 leadership with First

Sergeants Wayne L. Brunke and Darold D. Diede. The battery is part of the 147th Field Artillery Brigade, headquartered in Sioux Falls, South Dakota. The award was presented during the Senior Fire Support Conference Banquet at the Officers' Club, Fort Sill, Oklahoma.

The award is named after artilleryman, patriot and American statesman Alexander Hamilton, who commanded the Hamilton Battery, the first to fire in the Revolutionary War. The purpose of the award is to promote, sustain and recognize excellence in US Army Field Artillery batteries. (See the related articles "Best Battery Awards: Knox Award Reinstated and Hamilton Award Created" and "Alexander Hamilton—An American Statesman and Artilleryman" in this edition.)

The award's submission packet included a statistical data sheet and the battery commander's narrative. The following was taken from Captain Knight's narrative.

"B Battery just completed an absolutely remarkable year as illustrated by excellence in four areas: Readiness, Training, Force Modernization and Contingency Operations.

**"Readiness.** B/1-147 FA's most noteworthy achievement is its outstanding readiness posture, the number one priority. This unit was recognized as a distinguished member of the coveted SDARNG 100 Percent Club, which is awarded to units maintaining assigned strength at or above 100 percent of requirements. In fact, B/1-147 FA consistently maintained an average of 108 percent strength throughout the year. This was a direct result of highly proactive leadership and unit participation in the areas of recruiting, retention and sponsorship in predominantly rural areas.

"Unit status report (USR) available strength and military occupational specialty qualification (MOSQ)/senior leader qualification numbers remained well above the National Guard Bureau (NGB) goal throughout the year.

"The battery's strict emphasis on preventive maintenance checks and services (PMCS) and the unit maintenance program resulted in an outstanding performance during the last command maintenance evaluation team (COMET) inspection with a superior score of 97.6 percent.

**"Training.** B Battery just completed one of the most rigorous training years in unit history. In addition to conducting three tactical operations center/battalion operations center (TOC/BOC) command post exercises (CPXs), B Battery excelled in high/low density training. After completing a successful battery/battalion training assessment mode (TAM) in July 2001, the battery sustained its skills by conducting section certifications, Table VII, in March and platoon certifications/qualifications, Table XII, in July. The FA tables training and evaluations were facilitated by the 2d Training Support Battalion, 289th Regiment, Fort Riley, Kansas.

# B/1-147 FA Wins 2002 Hamilton Best ARNG Battery Award

"Also noteworthy during annual training (AT) in July was the fact that B/1-147 FA was the first MLRS unit to conduct live-fire training at Camp Ripley, Minnesota, using operations area (OPAREA) safety. OPAREA safety is much more conducive to realistic MLRS training vice shooting from fixed firing points as done by all previous units. Additionally, B Battery was the first unit to conduct a live-fire exercise (LFX) at Camp Ripley firing all six launchers simultaneously from various firing positions.

"B/1-147 FA recently was awarded the 2002 Pershing Plaque at the NGAUS National Conference in Long Beach, California. This prestigious annual award is given to the battery/company in the Fifth Army Region that achieves the highest overall marksmanship average.

**"Force Modernization.** In addition to superb individual/collective training, B Battery also conducted new equipment training (NET) on three systems this year, including the M1068 command post carrier in December 2001, the single-channel ground and airborne radio system (SINCGARS) Version E radio in June 2002 and the advanced FA tactical data system (AFATDS) in July. AFATDS training was a challenge as it was concurrent with Table XII training.

"Recently, the battery was notified it will be one of the first ARNG units to field the M270A1 launcher in FY05.

**"Contingency Operations.** Soldiers of B Battery participated in a homeland security mission on 4 July at the Mount Rushmore National Monument. Mount Rushmore was designated as one of four high-priority monuments requiring security during the national holiday. Soldiers from B Battery also helped fire fighters in the Black Hills fight fires in August.

"B/1-147 FA is ready to react to any state or Federal mission. '*Prêt Et Volontiers*' is embedded on B Battery's crest and represents the battery—'*Ready and Willing!*'"



B/1-147 FA's most noteworthy achievement is its outstanding readiness posture, the number one priority.

# The Knox Trophy and Medal

1924-1940

By Lieutenant Colonel Allen W. Batschelet

The Knox Trophy and Medal, named after the first Chief of Artillery Major General Henry Knox of the Revolutionary War, was presented to the best battery and best enlisted Redleg by the Chief of Field Artillery annually from 1924 to 1940. Here is the history of the award.

Ed.

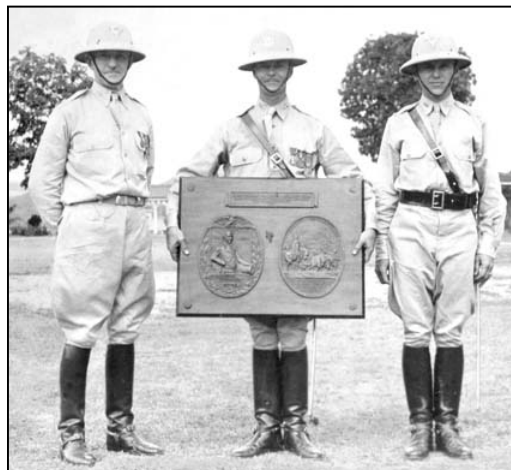
In 1924, the Chief of Field Artillery established an annual contest to competitively test the leadership and proficiency of artillery batteries Army-wide. Battery D of the 7th Field Artillery in Madison Barracks, New York, won this first award for performance excellence. Each year from then on until 1940 (with the exception of 1933), the Chief of Field Artillery recognized the best FA battery in the Army by awarding it the “Knox Trophy.” (See Figure 1.)

Beginning in 1924, the Knox Trophy was donated by the Society of the Sons of the Revolution in the Commonwealth of Massachusetts. This patriotic and educational organization, founded in 1883 on the national level, dedicated itself to perpetuating the memory of the men who, in military, naval and civil service of the colonies and of the Continental Congress, by their acts or counsel, achieved the independence of the United States.

Why a state-level association of this national organization began awarding the Knox Trophy to the best FA battery in the Army is unclear. Perhaps it was because Major General Henry Knox, the first Chief

of Artillery for the US Army (Continental Army) after whom the awards were named, was a distinguished Revolutionary War hero and native son of Boston.

Interestingly, 1924 also is the year an annual competition to determine the best small cavalry unit in the Army was established. Named the Draper Combat Leadership Award, this cavalry competition was first held at Fort Riley, Kansas—then the home of the Cavalry School.



CPT Walter D. Webb, Jr., Commander of A/2d FA, Fort Clayton, Panama, holds the unit plaque awarded the battery that won the Knox Trophy in 1939.

Prior to 1924, evidence suggests that the Chief of Field Artillery recognized and made an annual award to the FA battery of the Regular Army that achieved the highest score in firing efficiency. Furthermore, as early as 1922, FA units held their own local and internal contests to recognize their best batteries. 1924 saw the expansion, formalization and institutionalization of the competition, enabled in large part by the generous participation of the Society of the Sons of the Revolution of the Commonwealth of Massachusetts.

Competition in 1924 expanded from testing only firing efficiency to include evaluations in three additional areas: mobility, communications and interior economy. (Interior economy translated to battery administrative requirements.) The Chief of Field Artillery viewed this Army-wide competition as a means for communicating his training priorities to the field.

This expanded version of the test with the formal award of the Knox Trophy also was a means to “level the playing field.” Common wisdom held that testing only firing efficiency gave units equipped with the 75-mm howitzers a distinct advantage.

The design of the test reflected the skills and tasks whose mastery led to a trained and ready FA battery. Clearly, the test attempted to be fair and impartial—no small feat given that the batteries tested were variously equipped with horses, pack mules and light, medium and heavy howitzers and guns.

Units received yearly instructions on the test parameters and conduct early in the calendar year. On their own initiative, local commanders administered the test anytime throughout the year to fit local training schedules and requirements. However, the Chief of Field Artillery required all results be at Fort Sill no later than 20 November.

Chairing and in consultation with the Knox Council, the Chief of Field Artillery determined the winners in January and announced the award of the Trophy in the January-February edition of the *Field Artillery Journal*. On behalf of the unit and his men, the battery commander of the winning unit attended an awards banquet in Boston, Massachusetts, held by the Society of the Sons of the Revolution in the Commonwealth of Massachusetts.

1926 saw the creation and first presentation of the Knox Medal, an adjunct to the Knox Trophy. The intent of this medal was to annually recognize the top enlisted man for excellence as a student at the Field Artillery School. (See Figure 2.)

Although not official Army awards, today the US Field Artillery Association, a private nonprofit association, honors enlisted students at Fort Sill. The FA Association gives plaques to the top graduates of the Basic and Advanced NCO Courses, Fort Sill Soldier and NCO of the Quarter and Year and Drill Sergeant and Instructor of the Year. In addition, the Association presents framed prints to the top graduates of each officer and warrant officer basic and advanced courses.

The original Knox Trophy resided at Fort Sill in the office of the Chief of Field Artillery. This trophy had a plaque that was engraved annually to add the new winner. Each winning unit received a replica. In 1927, reflecting the growing popularity of the annual contest, the competitions expanded to include separate awards for units of the Coast Artillery Corps, Massachusetts National Guard Coast Artillery and, interestingly, battleships of the Navy.

Winning the Knox Trophy was not easy. The battery had to meet the highest of standards in multiple tests. A 3

May 2002 email from now Lieutenant Colonel (Retired) Otto A. Ewaldsen of Port Ludlow, Washington, tells just how rigorous it was for his A Battery, 2d Field Artillery of Fort Clayton, Panama, to win the trophy in 1939.

“As a trooper in A Battery at the time we earned that award, the memories come roaring back about the effort we put in to receive it. We were told at the time that we were the first and only pack [mule] artillery battery to be given the

Year	Unit	Commander	Duty Station
1924	D/7th FA	Unknown	Madison Barracks, NY
1925	A/8th FA	1LT Ernest A. Bixby	Schofield Barracks, HI
1926	C/4th FA	CPT John D. Key	Fort Davis, Canal Zone (Panama)
1927	B/82d FA	CPT John M. Reynolds	Fort Bliss, TX
1928	F/16th FA	CPT H.E. Tisdale	Fort Bragg, NC
1929	A/83d FA	CPT Solomon F. Clark	Fort Benning, GA
1930	A/13th FA	CPT LeCount H. Slocum	Schofield Barracks, HI
1931	D/3d FA	CPT Ernest T. Hayes	Fort Sheridan, IL
1932	B/11th FA	CPT William R. Philp	Schofield Barracks, HI
1933	Not Conducted *		
1934	B/13th FA	CPT John W. Faulconer	Schofield Barracks, HI
1935	B/14th FA	CPT Maylon E. Scott	Fort Riley, KS
1936	D/14th FA	CPT John M. Works	Fort Sam Houston, TX
1937	B/76th FA	CPT John C. Cook	Fort Francis E. Warren, WY
1938	B/83d FA	CPT E.T. Williams	Fort Benning, GA
1939	A/2d FA	CPT Walter D. Webb, Jr.	Fort Clayton, Panama
1940	C/11th FA	CPT C. Wesner	Schofield Barracks, HI

\* The 1933 Knox Trophy competition was not conducted due to lack of ammunition and the demands of Civilian Conservation Corps duty.

Figure 1: Knox Trophy Winners, 1924-1940

Year	Unit	Winner	Duty Station
1926	1-18 FA	CPL L.J. Arnold	Fort Sill, OK
1927	HHB & CBT Trains, 1-10 FA	CPL John P. Olszewski	Fort Lewis, WA
1928	D/1st FA	SGT Ray B. Maynard	Fort Sill, OK
1929	HHB & CBT Trains, 2-18 FA	CPL Ergo Losbaker	Fort Des Moines, IO
1930	HHB, 1st FA	CPL Harvey R. Griffith	Fort Sill, OK
1931	HHB, 2-3 FA	SGT Clifton J. Pierce	Fort Sheridan, IL
1932	HHB, 1st FA	SGT Clarence Scott	Fort Sill, OK
1933	HHB & CBT Trains, 1-18 FA	CPL Woodrow W. Anderson	Fort Sill, OK
1934	HHB, 2-15 FA	CPL Roy L. Albright	Fort Sam Houston, TX
1935	HHB, 1st FA	SGT George P. Sampson	Fort Sill, OK
1936	HHB, 77th FA	SSG Hugh R. Bedford	Fort D.A. Russell, Marfa, TX
1937	HHB, 6th FA Brigade	SGT Glen L. Foote	Fort Sheridan, IL
1938	HHB, 10th FA	SSG Wayne H. Lewis	Fort Lewis, WA
1939	HHB, 2-83 FA	SGT Vernon O. Moore	Fort Bragg, NC

Figure 2 : Knox Medal Recipients, 1926-1939

plaque. The inspectors went over everything with a 'fine tooth comb'—or curry, that is. When we came from the road march portion of the tests, the animals were really gone over in inspections—[the judges] did not miss a thing.

"I was an instrument operator in the detail section at the time and had two animals: a horse named Tony for me

and a pack mule named Andy for the instrument loads. Before we left the picket line, those animals were groomed 'dry,' and that's pretty tough in the humidity of the canal zone after a rigorous road march on a jungle trail. [The competition was] Quite an experience."

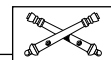
Sadly, time and the effects of history took their toll on the Knox competi-

tions. Two factors conspired to cause the suspension of the 1933 competition: lack of ammunition to test firing efficiency and the Army's participation and support of the Civilian Conservation Corps. Both factors were the results of the Great Depression. As the interwar years progressed and the Field Artillery, along with the rest of the Army, transformed in anticipation of World War I, support for the Knox competitions eroded.

Finally, in 1940, as announced in the March 1941 *Field Artillery Journal*, Battery C of the 11th Field Artillery, commanded by Captain C. Wesner, Schofield Barracks, Hawaii, received the last recorded award of the original Knox Trophy.

The Knox Awards—both Trophy and Medal—recognized hard work, talent and determination that resulted in performance up to the highest of standards.

The soldiers who earned these awards, either collectively in a battery or singly in a course in the Field Artillery School, are the unsung heroes of our branch. Their consistent, excellent performance set the standard held steadfastly through two world wars and set the pace for those who would follow in Korea, Vietnam, Desert Storm and countless deployments to defend US interests abroad. We honor them by reestablishing the Knox Award this year and recognizing today's unsung heroes.



Lieutenant Colonel Allen W. Batschelet is an Action Officer in J3, Deputy Director of Information Operations, Office of the Chairman of the Joint Chiefs of Staff at the Pentagon. Prior to that he was the Commander of 3d Battalion, 82d Field Artillery, 1st Cavalry Division, Fort Hood, Texas. He commanded A Battery, 3d Battalion, 82d Field Artillery and A Battery, 21st Field Artillery, 1st Cavalry Division, during Operations Desert Shield and Storm in the Persian Gulf; and in 1996, he deployed as the S3 and then Executive Officer of the 1st Battalion, 7th Field Artillery, 1st Infantry Division (Mechanized) out of Germany in support of Operations Joint Endeavor and Joint Guard in Bosnia-Herzegovina. He holds a Master of Military Arts and Science (MMAS) from the Command and General Staff College and an MMAS from the School of Advanced Military Studies, both at Fort Leavenworth, Kansas, and a Master of Strategic Arts from the War College at Carlisle Barracks, Pennsylvania.

**M**ajor General Henry Knox was born 25 July 1750 in Boston, Massachusetts, as the seventh of 10 children to Scotch-Irish immigrants. His father, a shipmaster, died when Henry was 12, forcing him to leave public school and sign on as an apprentice bookseller.

In 1771, he opened his own bookstore in Boston. It became a meeting place for British officers who were unaware of Knox's role as an intelligence agent for patriot leaders.

Knox studied artillery and military engineering by reading from the large stock of military books in his store. This gave him the expertise to be second-in-command of the artillery company when he first joined the militia.

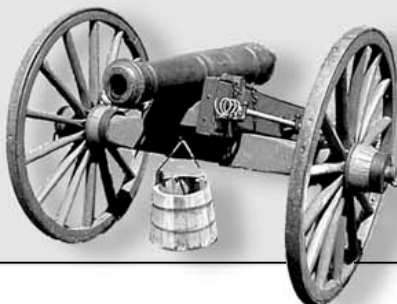
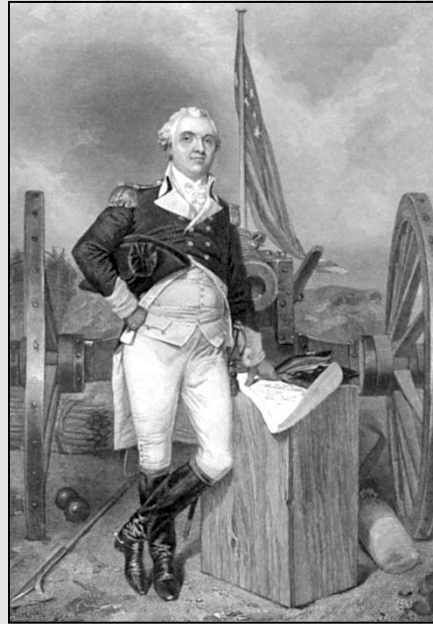
In 1775, Knox became a colonel in charge of the Continental Artillery and began his brilliant expedition to capture 59 cannons and mortars from Fort Ticonderoga and bring them 300 miles in the snow to General George Washington's headquarters at Cambridge. These indirect fire weapons were instrumental in forcing the British to evacuate Boston and made the difference between victory and defeat in the Battle of Trenton in 1776. Knox was General Washington's trusted advisor and participated with him in all of Washington's campaigns.

In 1785, Knox was appointed Secretary of War by the Confederation Congress, and when the Constitution went into effect, he was the only Confederation official carried over on a permanent basis, becoming the first American Secretary of War.

Henry Knox was an incisive observer of the Revolution and Federal period, writing many letters and reports that proved politically influential; was a brilliant artilleryman as judged by his French counterparts; was an able administrator of the War Department; was well-liked by his colleagues; and had less disaffection in his artillery regiments than other units in the service.

He and Alexander Hamilton are known for influencing President Thomas Jefferson to establish the US Military Academy at West Point, New York, on 16 March 1802. The USMA originally was established to train Artillerists and Engineers.

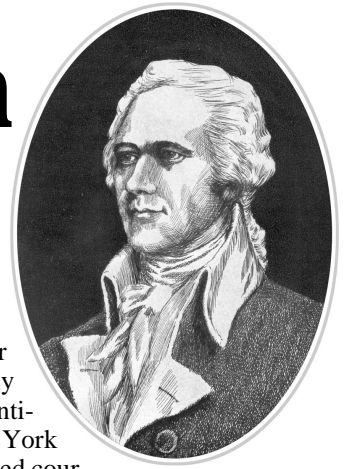
In 1806 at the age of 56, Henry Knox died of an infection from a chicken bone lodged in his intestines (or appendicitis) at Thomaston, Maine.



*Most of the information in this sidebar was taken from the "Henry Knox" biography by Harry M. Ward, Dictionary of American Military Biography, Volume II, Roger J. Spiller, Editor (Westport, CT: Greenwood Press, 1984), 569-572.*

# Alexander Hamilton

## An American Statesman and Artilleryman



**T**he new Hamilton Award for the Best Army National Guard (ARNG) Battery, created in 2002, is named after American Statesman and Continental Army Artilleryman Alexander Hamilton. (See the related stories “Best Battery Awards: Knox Award Reinstated and Hamilton Award Created in 2002” and “B/1-147 FA Wins 2002 Hamilton Award for Best ARNG Battery” in this edition.)

Alexander Hamilton was an outstanding artillery battery commander and a skilled cohort of General George Washington during the Revolutionary War, helped frame the US Constitution and served as the nation’s first Secretary of the Treasury.

Alexander Hamilton was born in 1757 to an impoverished Scottish family in the West Indies. At the age of 15, he came to New York to be educated, and although many of his instructors and friends at King’s College (now Columbia University) were Loyalist, he promptly espoused the Colonists’ cause. Foreseeing the conflict ahead, he studied artillery tactics and military maneuvers and joined a volunteer corps called “Hearts of Oak” that may be one of the earliest officer training camps.

In 1776, the New York Provincial Congress raised an artillery company to defend the colony. Because he was only 19, the congress gave Hamilton an examination to determine if he could command the company, which he passed, taking command of the Provincial Company of the Artillery of New York that same year. A nephew of General George Washington saw Hamilton’s attention to drilling his men in the field and commended him to Washington.

Hamilton’s Battery became the first to fire at the British during the Revolutionary War on 12 July 1776 at Fort Mifflin on Manhattan Island. After a series of serious engagements in which Hamilton repeatedly demonstrated his leadership and artillery skills, he distinguished himself by protecting Washington’s Army in a desperate retreat. On 1 December, he

placed his guns to guard the rear of Washington’s sick and poorly armed 3,000 soldiers as the Continental Army retreated from New York into New Jersey. Hamilton showed courage and skill at directing his fire to stop the enemy’s advance.

Washington, after receiving reinforcements, crossed the Delaware River on Christmas night and attacked General William Howe’s Hessian troops at Trenton, New Jersey. In spite of the 10-hour river crossing followed by a nine-hour march in a snowstorm, General Washington took the Hessians by surprise and, with the help of the deadly effects of Hamilton’s Battery, defeated them, attaining his first victory in the Revolutionary War.

Noted for his bravery at the Battle of Trenton, Captain Alexander Hamilton again came to the attention of General George Washington. General Washington ended Hamilton’s artillery career in March 1777, making Hamilton his aide-de-camp, beginning the long association of the two American patriots and leaders. Alexander Hamilton was 20 years old.

Hamilton was not happy as a staff officer and was determined to return to command of troops. During the last campaign of the war, General Washington acquiesced and gave Hamilton command of a corps of light infantry, which he ably led in the last assault at the Siege of Yorktown.

After the Battle of Yorktown, Alexander Hamilton resigned from the Army to turn his skills to serving the new nation. He went on to be appointed a member of Congress and help frame and ratify the US Constitution. In 1789, he was appointed the first Secretary of the Treasury, establishing national fiscal policies and instituting the Bank of the US.

Some 20 years after the Battle of Yorktown, he appears on the rolls of the Army as a major general during the war with France and briefly served as the Commander-in-Chief after Washington’s death in December 1799. Hamilton resigned the position in June of 1800.

Alexander Hamilton and Henry A. Knox influenced President Thomas Jefferson to establish the US Military Academy at West Point, New York, in 1802. The USMA originally was created to train Artillerists and Engineers.

After Hamilton had supported Thomas Jefferson for president instead of Aaron Burr, opposed Burr’s candidacy for governor of New York and allegedly made disparaging remarks about Burr’s character, Aaron Burr challenged Hamilton to a duel. In 1804, Burr mortally wounded Alexander Hamilton.

The “Hamilton Battery,” D Battery, 5th Artillery Battalion (D/5th Artillery) is still in the US Army Field Artillery today as part of the 1st Battalion, 5th Field Artillery, 1st Infantry Division (Mechanized) at Fort Riley, Kansas. It follows a proud tradition.

*(Information in this article came from the article “Alexander Hamilton, Artilleryman” by Lieutenant Colonel Walter H. Smith, FA, in the 1929 Field Artillery Journal, Pages 610-623.)*

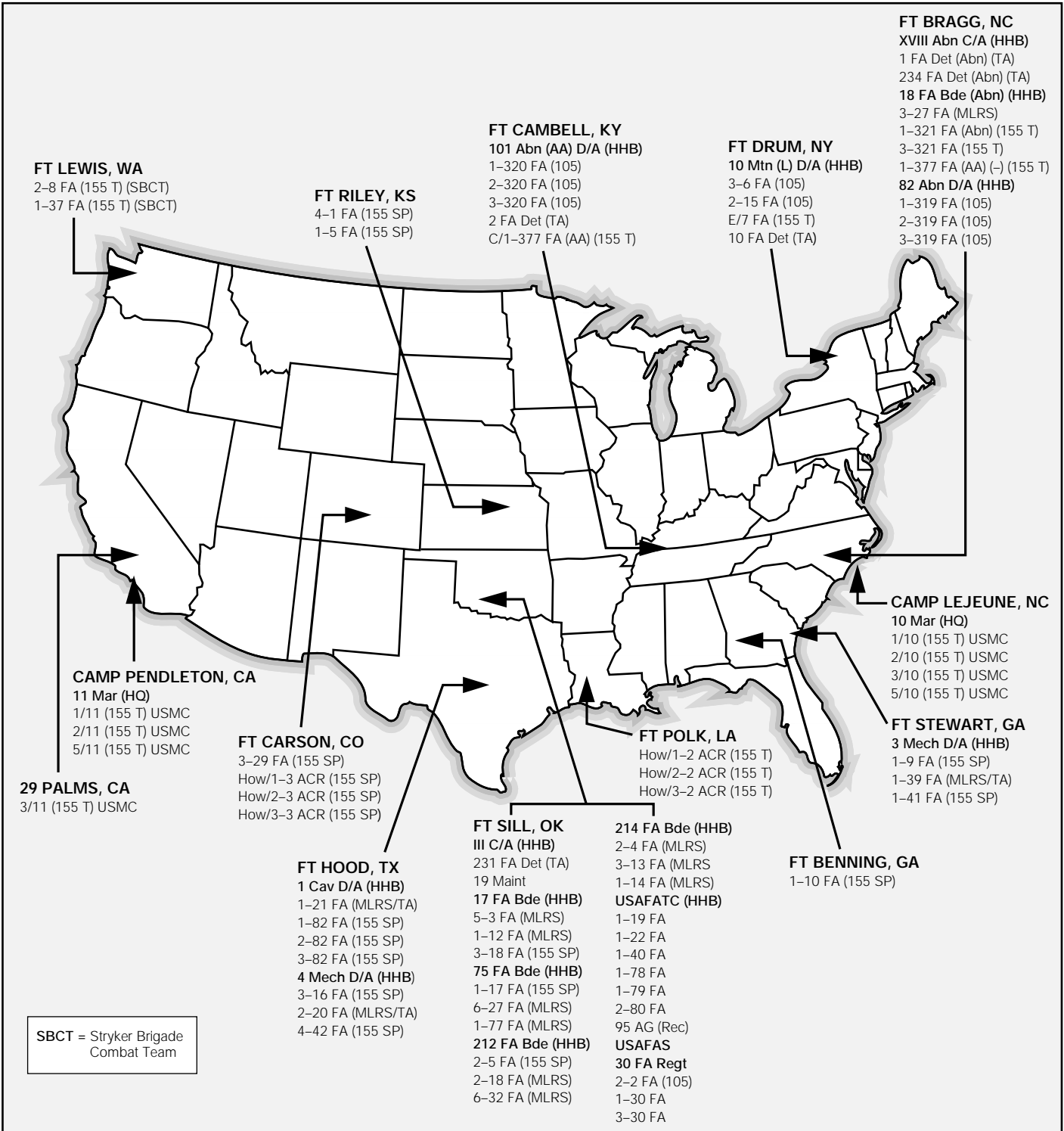


General Washington crossed the Delaware River and took the Hessians by surprise and, with the help of the deadly effects of Hamilton’s Battery, defeated them, attaining his first victory in the Revolutionary War. *Courtesy of the US Army Center of Military History*



# Active Army and Marine Units in CONUS

As of 1 November 2002





# Active Army and Marine Units in OCONUS

As of 1 November 2002

### Republic of Germany

- IDAR OBERSTEIN**  
1-94 FA (MLRS/TA)
- BAUMHOLDER**  
1st AR D/A (HHB)  
4-27 FA (155 SP)
- GIessen**  
2-3 FA (155 SP)
- SCHWEINFURT**  
1-7 FA (155 SP)
- BAMBERG**  
1 Mech D/A (HHB)  
1-6 FA (155 SP)  
1-33 FA (MLRS/TA)
- SCHWETZINGEN**  
V C/A (HHB)
- BABENHAUSEN**  
41 FA Bde (HHB)  
1-27 FA (MLRS)

### Italy

- VICENZA**  
D/319 FA (105)

### Okinawa

- CAMP HANSEN**  
12 Mar (HQ)  
3/12 (155 T) USMC

### Hawaii

- KANEHOE BAY**  
1/12 (155 T) USMC
- SCHOFIELD BARRACKS**  
25 IN (L) D/A (HHB)  
3-7 FA (105)  
2-11 FA (105)  
F/7 FA (155 T)  
25 FA Det (TA)

### Alaska

- FT WAINWRIGHT**  
4-11 FA (-) (105)
- FT RICHARDSON**  
C/4-11 FA (105)

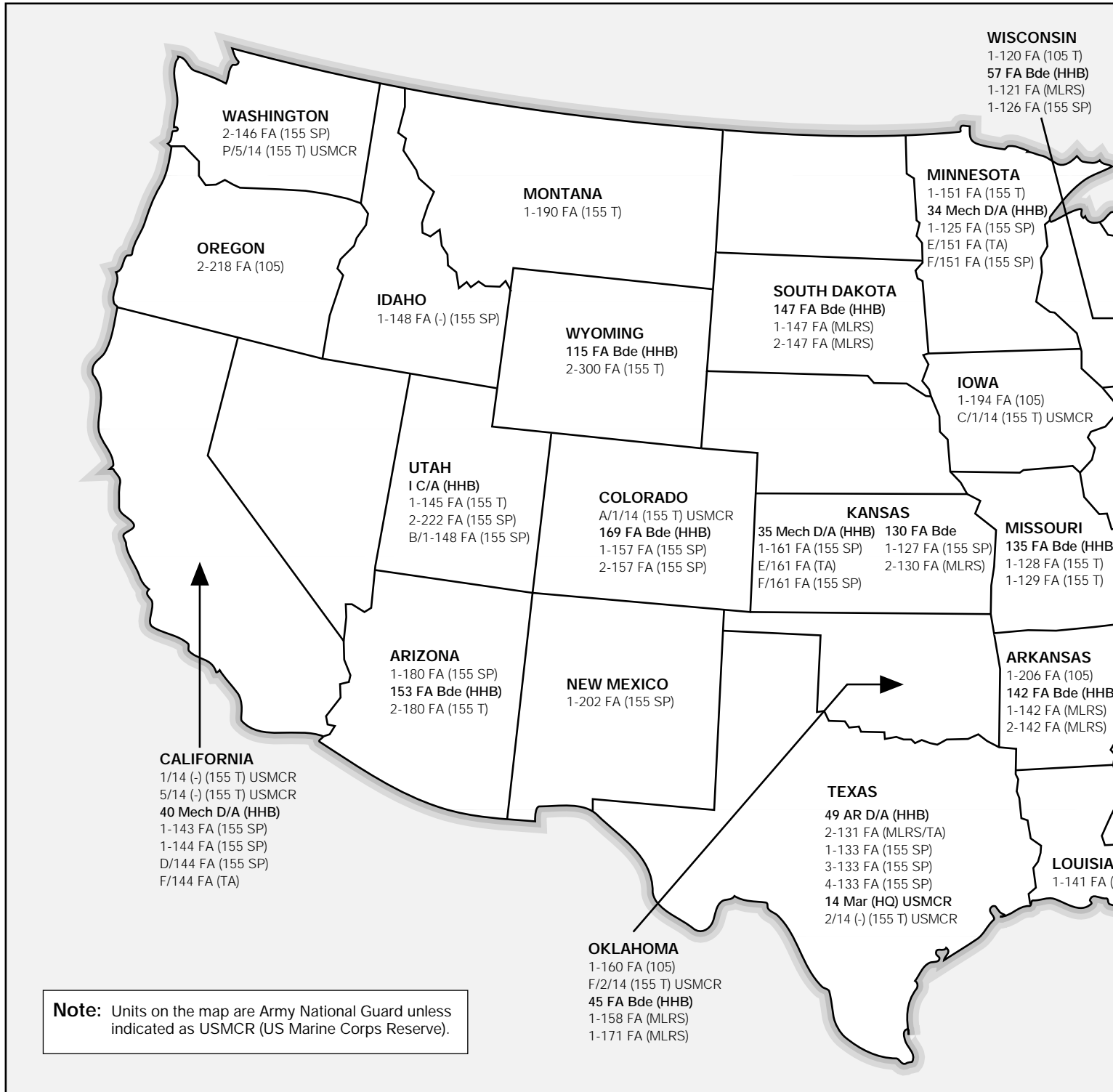
### Republic of Korea

- CAMP HOVEY**  
2-17 FA (155 SP)
- CAMP CASEY**  
1-15 FA (155 SP)
- CAMP STANLEY**  
2 IN D/A (HHB)  
6-37 FA (MLRS)  
1-38 FA (MLRS/TA)



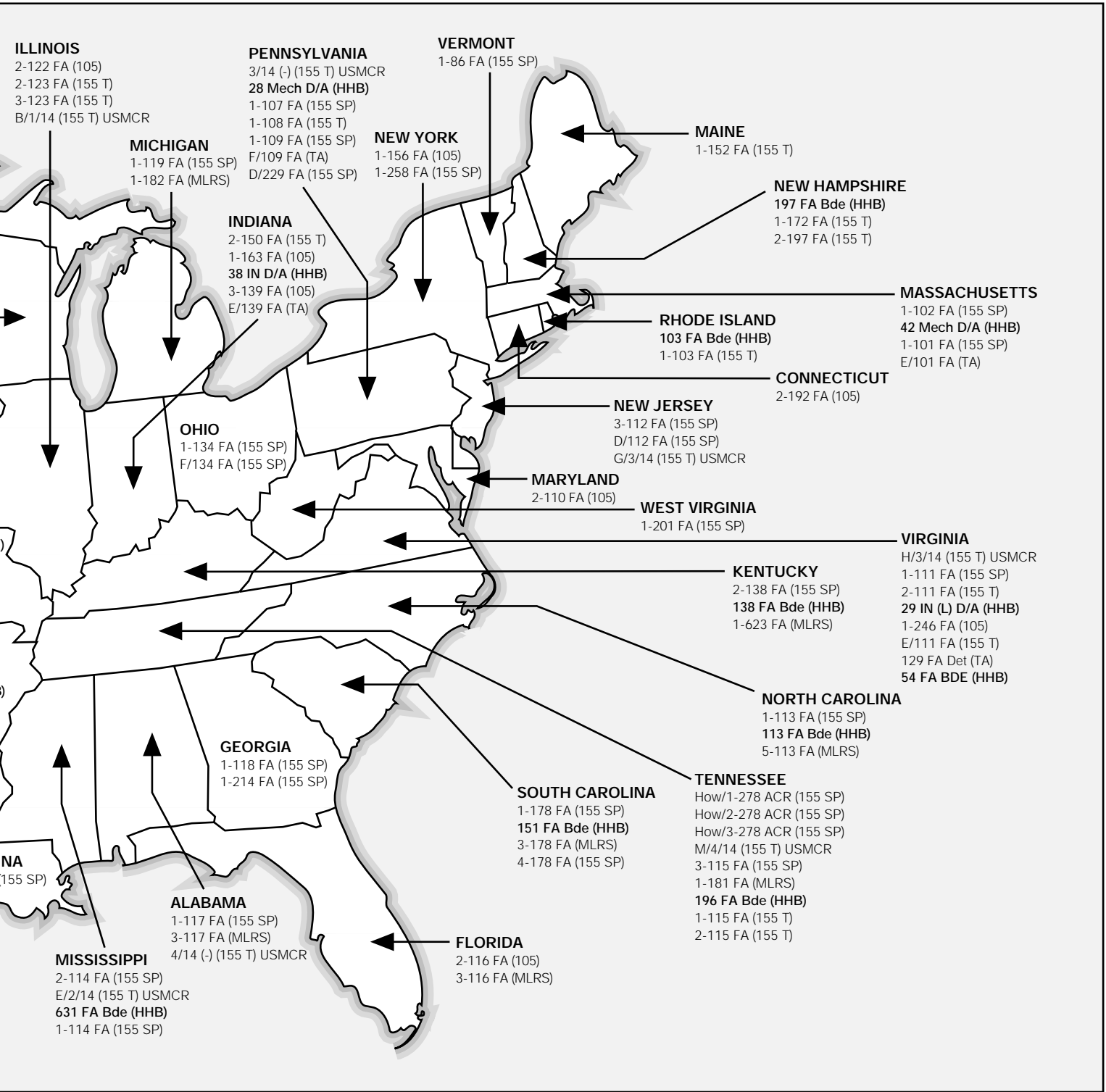
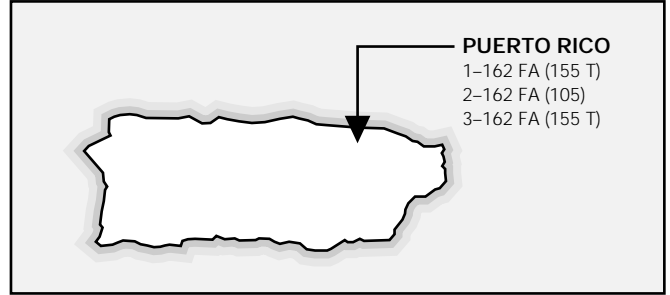
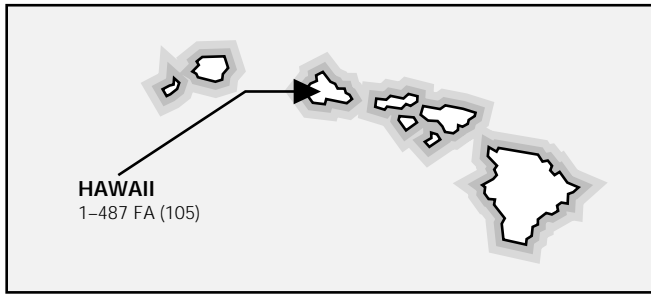
# Army National Guard and Marine Reserves

As of 1 November 2002



**Note:** Units on the map are Army National Guard unless indicated as USMCR (US Marine Corps Reserve).





**O**n Christmas Eve 1998, I was sitting at my desk at the Department of Interior, US Geological Survey (USGS), Water Resources Division in Denver, Colorado, when the phone rang. It was my brigade commander calling to tell me that, as an Army National Guard (ARNG) officer, I was going to take command of a unique battalion. That was the beginning of my journey from citizen soldier to active duty battalion commander.

The purpose of this article is to share some experiences along the journey but, more importantly, to examine some of the differences between Active Component (AC) and Reserve Component (RC)

battalion command. Hopefully, this article will provide some insights into AC command from an RC perspective.

I was on active duty from 1985 until 1988 when I became a member of the ARNG. Upon my selection for participation in the Command and Staff Integration Program (CSIP), I assumed command of 1st Battalion, 17th Field Artillery (1-17 FA), a Paladin battalion in the 75th FA Brigade, III Corps Artillery, Fort Sill, Oklahoma, on 27 June 2000.

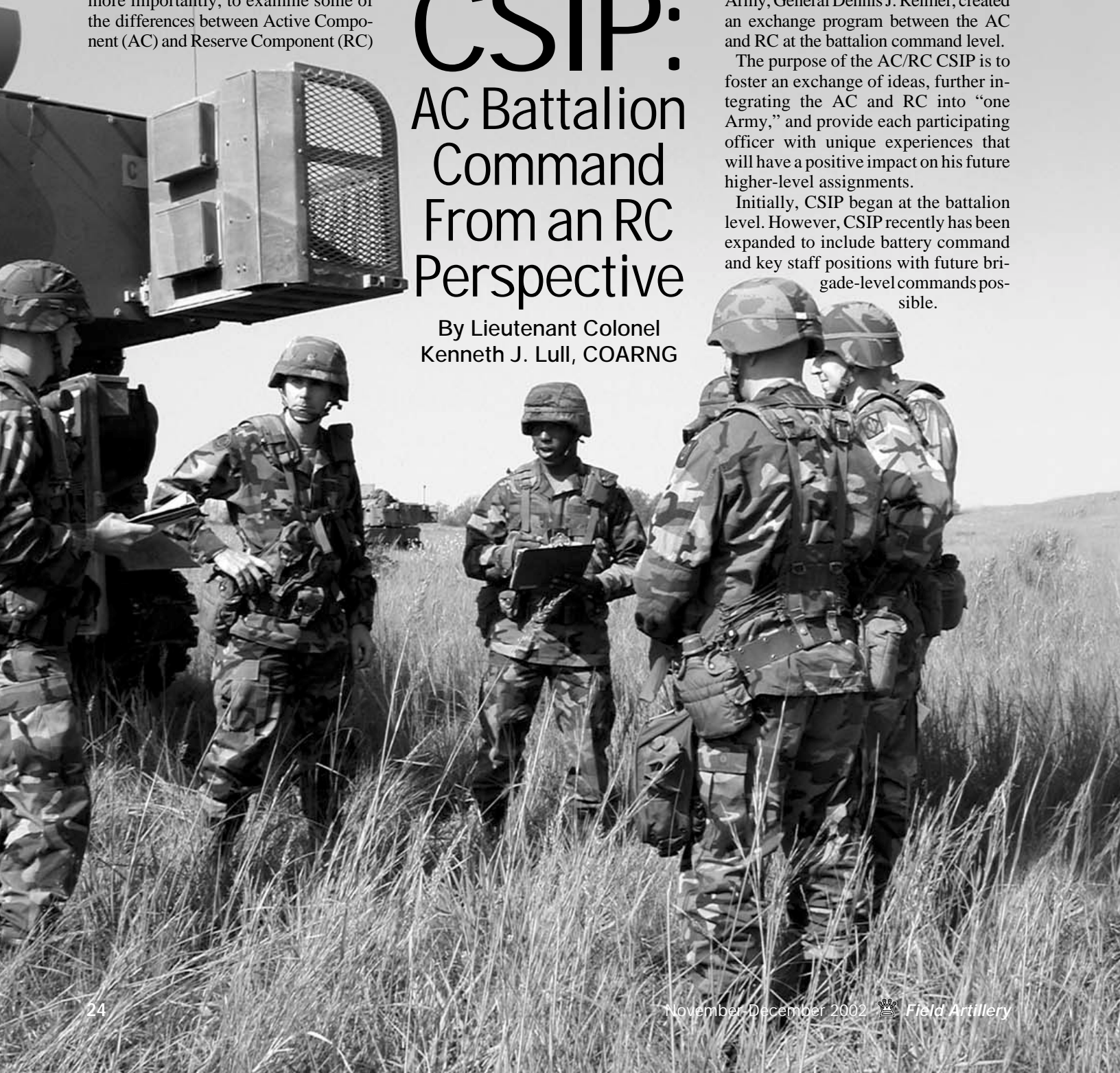
# CSIP: AC Battalion Command From an RC Perspective

By Lieutenant Colonel  
Kenneth J. Lull, COARNG

**History of CSIP.** In 1996, Lieutenant Colonel John R. Hennigan became the first AC officer in recent history to take command of an ARNG artillery battalion, the 1-141 FA in Louisiana. (See his article "First AC Commander of ARNG Battalion," March-April 1998.) Subsequently, in September 1998, Colonel Mark A. Graham took command of the 40th Infantry Division (Mechanized) Artillery, California ARNG, as the first AC officer to take command of a brigade-level ARNG command during peacetime. That same year, the Chief of Staff of the Army, General Dennis J. Reimer, created an exchange program between the AC and RC at the battalion command level.

The purpose of the AC/RC CSIP is to foster an exchange of ideas, further integrating the AC and RC into "one Army," and provide each participating officer with unique experiences that will have a positive impact on his future higher-level assignments.

Initially, CSIP began at the battalion level. However, CSIP recently has been expanded to include battery command and key staff positions with future brigade-level commands possible.



Qualified officers from the RC and AC are selected to exchange command tours for a period of two years. That is to say, the RC officer enters active duty and assumes command of an AC battalion. Likewise, the AC officer transitions into the RC, either as a member of the ARNG or the US Army Reserves (USAR). He then assumes command of an RC battalion fulltime. Upon completion of the command tour, both RC and AC officers transition back to their original components.

The "Class of 2000" consisted of eight officers: four from the RC and four from the AC.

**Training.** Training is always a major concern for both AC and RC commanders. Time is limited and always at a premium, regardless of which component in which one commands.

The typical RC battalion commander has 48 unit training assembly (UTA) periods per year; each monthly drill (typically Saturday and Sunday) equates to 4 UTAs. Additionally, the RC commander has 15 days at annual training (AT). In total, that means the RC commander has approximately 39 days per training year (TY) to train soldiers.

At first glance, the number of days to prepare a unit for combat may seem small. However, when compared to the time the AC commander has to focus on go-to-war tasks in a battalion that operates 365 days per year, the ARNG number of 39 training days per year is not nearly as small as it initially appears.

1-17 FA trains on a 24-week cycle called a Red, Amber, Green, Gold (RAGG) cycle, each divided into six-week blocks. One would assume that this 24-week cycle would yield a lot of time to train on artillery tables and associated tasks. However, if one analyzes the RAGG cycle, it quickly becomes apparent the AC commander faces many of the same challenges the RC commander faces. (See Figures 1 and 2 for the comparison of AC and RC annual training days.)

It is easy to argue the pluses and minuses of the examples in the figures. But the fact remains that all commanders face the challenge of maximizing training. AC and RC commanders must vehemently defend against any incursions into scheduled training.

Training should be driven by the mission training plan (MTP), based on established artillery tables; focused on the unit's mission-essential task list (METL); tough, realistic and challeng-

168	Total Days Per RAGG (24 Weeks x 7 Days)
-48	Weekends
-30	Red Cycle Garrison Support (6 Weeks x 5 Days Per Week)
-10	Federal Holidays (10 Per Year Matched by III Corps)
-5	Gold Cycle Prep for Red Cycle (5 Days)
-18	Command Maintenance (18 Weeks in Amber, Green and Gold)
-6	Payday Activities
-2	Inclement Weather
-4	Mandatory Classes (Safety Day, etc.)
45	Total

Figure 1: AC Artillery Training Days by Red, Amber, Green, Gold (RAGG) Cycle. This chart shows the number of days per 24-week RAGG available for training on artillery tables and mission training plan (MTP) tasks. With two RAGG cycles each year, the AC FA battalion actually trains on artillery tasks about 90 days per year.

39	Total Days Per Year (12 Months x 2 Plus 15 Days AT)
-2	Annual Christmas Party/ Administrative Drill
-2	Load Out and Travel to AT
-2	Recovery/Travel to Home Station from AT
-1	Army Physical Fitness Testing/ Weigh In
32	Total

Figure 2: RC Artillery Training Days Annually. This chart shows the number of days per year available for RC training on artillery tables and MTP tasks, including weekend drills and annual training (AT).

ing; and, most importantly, fun. The commander must achieve excellent training at every opportunity plus all the other requirements of command and maintain a balance between his professional and personal life.

As Figure 1 shows, the AC commander has approximately 90 days per year to train artillery task. For all intents and purpose, the AC unit has just under three times the number of artillery training days the average RC unit has annually.

It is easy to assume that the average AC unit might be more combat ready than the average RC unit. However, that may not be true. The fact is that there are many factors that determine a unit's

readiness. Strength, military occupational skill qualification (MOSQ), fielding of new equipment, morale, unit cohesion and leadership all play major roles in the combat readiness of a unit.

The key for the RC commander is to allocate minimum time to administrative tasks and focus on warfighting tasks. The fulltime staff should ensure the commander and soldiers have every opportunity to train without distracters.

**Maintenance.** Maintenance must be a major priority for *all* commanders. Every aspect of training pivots on a unit's operational readiness. You cannot train on MTP tasks if your maintenance program is "broken."

The AC commander should dedicate a lot of time to training soldiers and leaders how to ensure proper maintenance. Leaders at all levels, especially at the battery level, must be involved. When the leadership is intimately involved in maintenance, not only is that unit's operational readiness (OR) rate higher, but also its morale is higher and soldiers have confidence in their equipment. DA Form 2406 Materiel Conditions Status Report must reflect the unit's maintenance status accurately.

The primary difference between the AC and RC units is that fulltime maintenance personnel perform the majority of organizational and direct support maintenance on RC vehicles and equipment during the 28-days per month when the commander and his soldiers are not present. This makes it more important for RC commanders and junior leaders to check with the fulltime battery or battalion staff on the status of their equipment and its availability for drill periods. Maintenance issues and the DA Form 2406 must always be part of the unit's monthly training meeting.

The biggest maintenance danger for RC units is that while most equipment can "hobble" through the typical drill weekend, long-term combat sustainability is severely jeopardized if the unit's vehicles and equipment are not well-maintained. Leaders and soldiers must be technically proficient at maintaining both personal and section equipment.

**Personnel.** Well-trained and well-led soldiers who are motivated and disciplined remain the key to the operational success of every battalion.

When I took command of the 1-17 FA, our unit strength hovered around 68 percent with 308 of the 454 soldiers authorized by the modified table of organization and equipment (MTOE).

Units, either AC or RC, cannot survive without good people, especially with the correct MOS.

While the total number of soldiers assigned to my battalion increased dramatically after I assumed command, we still had personnel shortages in the correct MOS and grades. For example, during my command from June 2000 to June 2002, my battalion never had more than 50 percent strength in MOS 13E Fire Direction Specialists. As a result, I only could man half my six platoon operations centers (POCs). In addition, I had to modify Paladin tactics, techniques and procedures (TTP) as outlined in *FM 3-09.70, TTP for M109A6 Howitzer (Paladin) Operations* to conduct live-fire operations.

One of the most significant AC combat readiness issue is personnel turnover. The continuous influx and exodus of personnel, especially in key leadership positions, significantly affects readiness and cohesion. It takes time for all soldiers, regardless of rank, to become familiar with new surroundings and personalities and overcome the turmoil of a permanent change of station (PCS).

During my command, I worked with 14 different battery commanders, 10 first sergeants, two operations officers (S3s) and two battalion executive officers (XOs). While they all have been superb, this amount of turnover is not conducive to establishing stability and unit cohesion over an extended period of time.

A battery commander in III Corps Artillery typically commands for 18 months; in comparison, it is not uncommon for an RC battery commander to command for three years, sometimes more. AC battery command should be extended to two years.

Another, and perhaps more significant, example, is the time a battalion S3 and XO serve in their positions in AC battalions. Routinely, these officers are in these positions for 12 months. If they are lucky, they will proceed to other branch-qualifying positions.

Twelve months as a battalion S3 or XO is not enough. During that short time, the officer may experience one rotation to the National Training Center (NTC) at Fort Irwin, California, and a Battle Command Training Program (BCTP) Warfighter exercise or an annual external evaluation (AEE). While



MAJ Dale Owen, 1-17 FA XO, talks with SSG Michael Lewis at the fire direction center (FDC) after an exercise. Personnel turnover in AC units is a combat readiness issue.

these experiences are excellent, the S3 or XO only gets “one shot” at each experience to learn what and what not to do.

On the other hand, it is rare for RC officers to spend so little time in these two key leadership positions. Usually an RC officer will have a minimum of two years as a battalion S3 and, if he is lucky, two more years as the XO. The result is a field grade officer who is well-versed in battalion-level operations and understands all aspects of the command.

An advantage the RC commander has over his AC counterpart is stability of personnel. It is not uncommon to find soldiers in a section who graduated from high school together, left for basic combat training (BCT) and advanced individual training (AIT) at the same time, and have served in the same section or unit for five, 10 or more years.

Such longevity and stability within the RC unit can be counter-productive at times, especially when it comes to adhering to dogma and resisting change. But it also can result in a unit esprit de corps and unit relationships rarely matched by their AC brethren.

**Final Thoughts.** The CSIP is in its third year with the second crop of AC and RC battalion commanders finished with their first year in command. It remains a superb forum for the continued integration of the RC and AC into one seamless Army. Historical bias between the AC and the RC must remain just that—history.

With the AC draw down over the last decade and increased reliance on the RC for wartime missions and stability and support operations (SASO), such as

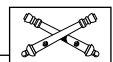
those in Bosnia and Kosovo, we can never again function independently from the other.

With 67 percent of the US Army’s FA assets in the ARNG, it is imperative that, as a branch, we support not only CSIP, but also the continued integration of the FA AC and RC. AC commanders who participate in this program must be among the best the branch has to offer. They should remain competitive upon their return to active duty and be afforded as good or even a better opportunity for selection to senior staff colleges and positions of higher responsibility. These officers have a wealth of knowledge.

Likewise, RC officers who lead AC soldiers must be exceptional leaders and the best of the best.

The RC officer selected for AC command should have experience in line positions, including serving as a platoon leader, battery commander, battalion S3 and battalion XO, if possible. He must have a strong personality and character, be physically and mentally fit, articulate, dynamic and flexible. Prior AC experience is a significant benefit but should not be a prerequisite.

When asked would I participate in the program again—given what I know now—I always answer, “Yes!” The relationships, friendships and the tactical and technical experience I have gained are priceless. My command at Fort Sill is one of the most rewarding of my life.



Lieutenant Colonel Kenneth J. Lull, until recently commanded the 1st Battalion, 17th Field Artillery, part of the 75th Field Artillery Brigade in III Corps Artillery, Fort Sill, Oklahoma. He is the first Army National Guard officer in recent history to command an Active Component battalion as part of the Chief of Staff of the Army’s Command and Staff Integration Program (CSIP). Currently, he is a student at the Army War College at Carlisle Barracks, Pennsylvania. His previous assignments include serving as Executive Officer (XO) of the 169th Field Artillery Brigade and as XO and S3 of the 1st Battalion, 157th Field Artillery, part of the 169th Field Artillery Brigade, all in the Colorado Army National Guard (COARNG). He holds a Master of Science in Civil Engineering from the University of Colorado and a Master of Science in Forest Hydrology and Watershed Management from the University of Montana.

# Field Artillery Digital Photo Shooter's Guide

**W**hen sending photos to *Field Artillery*, our first choice is for you to mail or over-night glossy color prints (preferably) or black and white photos from traditional film cameras. This allows us to scan and work the photos in our software designed for publishing and ensures each electronic image has the high-quality resolution required for magazine publication.

However, if you must send us electronic photos, please read on to save us both a lot of time and trouble.

**1. Shoot the Picture.** When taking a picture, set the camera on the largest image size and the highest quality resolution settings the camera will allow. Set the image size the largest your camera will allow, usually "Full" or "XGA." The highest resolution settings usually are called "High," "Super Fine" or "Ultra-High." (Cameras set at "Standard" or "Basic" quality settings produce images only good enough for web sites.)

Do not shoot a small photo on a low-resolution setting so you can save data space on your camera's storage capacity. Shooting small images at low-resolution would allow you to take more photos per shooting, but we wouldn't be able to publish any of them.

The higher settings will create larger photos and files. A color photo usually results in a file of at least 2 MB and a grayscale photo of at least 1 MB. There is no "hard and fast" rule about the image's file size, but generally, the bigger the size of the digital photo, the better the quality of the photo.

If your camera gives you the option, shoot the photo as a PC tiff file. We also accept jpg files. When saving a file as a jpg, choose a "Quality" setting of "Maximum" or "10" and the "Format Option" of "Baseline (Standard)."

**2. Download the photo in raw data.** When downloading the file from your camera or its removable storage card to another drive, save the image in raw

data. Do not manipulate the data (resize or try to edit the image). Let us take care of that.

And, please don't try to "beef up" the resolution of the small, low-resolution photo you shot. For example, shooting a 500-kilobyte image and enlarging the dpi until the file size is 1.5 MB will not make the image clearer—it only will make the image larger (bigger dots, not more of them).

**3. Send us the digital photo.** By following the first two steps, you'll have a large file for each photo. One way to get your photos to us is to send them on a 100- or 250-MB Zip disk or a CD. In some cases, a jpg file will fit on a 3.5 floppy disk—but do not resize the jpg photo to make it fit.

Our magazine's email will accept 5 MB or smaller per message. Do not try to send us larger files via email. You may be able to send us several photos by email, one at a time. Be sure each message with a photo attached includes a caption of who's doing what, when and where in that image and the article/author for which it is intended to illustrate.

Mailing or over-nighting single electronic photo files larger than 5 MB may be the best option. However, we can go out on the Internet and pick up large images you've loaded onto a special Fort Sill site. The Fort Sill ASP File Upload Site on the Internet can handle large/single file uploads without special software. To access the ASP site, go to our "Digital Shooter's Guide" on our homepage at <http://sill-www.army.mil/famag>. Click on the ASP File Upload Site link that's toward the end of the Guide.

If you have questions about shooting and saving digital photos or how to send them to us, call the Art Director at DSN 639-5121/6806 or Commercial (580) 442-5121/6806; our Fax number is DSN or Commercial 7773. Our Email is



[famag@sill.army.mil](mailto:famag@sill.army.mil). Our mailing address is *Field Artillery*, P.O. Box 33311, Fort Sill, Oklahoma 73503. If you wish to over-night your photos to us, the street address is Building 758, Room 7, McNair Road, Fort Sill, Oklahoma 73503.

We know the majority of our digital shooters are not professional photographers. You are authors/photographers who are soldiers and Marines—even better, mostly Field Artillerymen—telling the story of the best branch and best Army and Marine Corps in the world.

Help us do justice to your articles by following these instructions for taking digital photos. **Good Shooting!**

# Silhouettes of STEEL

## I Corps Artillery

I Corps Artillery, headquartered in Camp Williams, Utah, continues to provide Total Force fires and effects to I Corps—*America's Corps*. During the transformation of the Army and the Field Artillery, I Corps Artillery remains battle-focused and continues to train to deploy and fight in any contingency anywhere and anytime in a joint and coalition scenario.

**Training Corps Artillery.** This year I Corps Artillery had the great opportunity to serve as part of the security forces for the XIX Winter Olympic Games in Salt Lake City. We attribute our success to the great training our Redleg officers and NCOs received at Fort Sill and in other institutional training schools. The I Corps Artillery TOC and liaison personnel had the unique opportunity to coordinate with a variety of state and federal law enforcement agencies throughout the XIX Winter Olympic Games. Our first-line leaders excelled in their tasks and performed the security mission with the utmost professionalism.

I Corps Artillery's training plans for the year were based on the results of our last BCTP Warfighter exercise in 2001. We focused our training to improve our deficiencies, sustain our strengths and prepare for our upcoming Warfighter in October 2002.

In addition, we participated in two major exercises with I Corps. In January, I Corps Artillery deployed to Japan for another successful Yama Sakura exercise. In August we deployed to Korea for the Ulchi Focus Lens exercise. I Corps Artillery used all available deep systems, such as ATACMS, to significantly influence the battle during the exercises. We focused on high-payoff targets deep in the Corps and division zones and planned, coordinated and executed all SEAD and joint SEAD missions in support of Corps deep attacks. By employing advanced techniques for fighting the corps deep battle, we were instrumental in the OPFOR's overwhelming defeat.

I Corps Artillery continues to train on and improve its use of AFATDS. I Corps Artillery successfully fielded the most current version of the AFATDS and has further enhanced its ability to command and control fires on the battlefield. I Corps Artillery has completely digitized its TOC, taking full advantage of the products AFATDS has to offer.

In preparation for I Corps' Warfighter held in the first part of TY03, we participated in several fires and effects coordination cell (FECC) exercises to include



I Corps Artillery served as part of the security forces for the XIX Winter Olympic Games in Salt Lake City.

Cascade Cudgel and Cascade Command held at Fort Lewis, Washington. A major emphasis was to improve timely target analysis, deliver responsive and accurate fires and provide the effects needed on the battlefield in support of I Corps operations.

**Utah ARNG.** As well as its warfighting mission for I Corps, I Corps Artillery assumes an important and active role in the Utah Army National Guard (UTARNG). Serving as a major subordinate command, we provide administrative, logistical, operational and training support for two in-state battalions: 1-145 FA (155-mm towed) in Salt Lake City and 2-222 FA (Paladin) in Cedar City. We also support a firing battery and FIST slice-B/1-148 FA (155-mm self propelled) and Detachment 3/HHB of 1-148 FA, which are located in Logan and Salt Lake City, respectively. The latter units are part of 1-148 FA headquartered in Boise Idaho, which is DS to the 116th Armored Cavalry Brigade.

I Corps Artillery continues to be a leader in providing training assistance, guidance and coordination for a major portion of the Reserve Component Field Artillery brigades. These units and their associated Field Artillery battalions are located throughout the US. Participation with these brigades during exercises and training

conferences continues to be one of the highlights of I Corps Artillery's responsibilities. *America's Corps Artillery* is proud to be associated with these high-quality soldiers who are committed to the defense of our country.

**I Corps Fire Support Conference.** On January 2002, the I Corps fire support community came together for the 20th Annual Fire Support Conference at Salt Lake City. Brigadier General Patrick D. Wilson, I Corps Artillery Commander, hosted the conference and presented command guidance and direction for the Corps fire support units. This guidance set the standards for the productive mission-oriented training for the upcoming year.

Conference presenters covered a variety of fire support issues and subjects, focusing on "Transformation, Targeting the Nexus." Presenters included LTG Roger C. Schultz, Director of the ARNG from the National Guard Bureau in Washington, DC; MG Roger L. Brautigan, DCG of I Corps at Fort Lewis, Washington; MG Michael D. Maples, Chief of Field Artillery and CG of Fort Sill, Oklahoma, and his program managers from the Field Artillery School at Fort Sill; BG James D. Johnson, CG of JTF-Olympics; COL Rodney O. Anderson, Commander of the 25th Div Arty, Schofield Barracks, Hawaii; COL Robert T. Bray, DAC-ARNG from the FA School and National Guard FA Advisory Chairman (FAAC); personnel from the I Corps Simulation Center out of Fort Lewis; TRADOC System Managers; the I Corps G2 and G3; and the I Corps Artillery Deputy Commander.

Representatives from a large portion of the Field Artillery brigades, division artilleries, our Corps Support Command (COSCOM) and many Field Artillery battalions attended the conference.

The conference continues to provide an excellent opportunity for command interface in I Corps and the fire support community. *The next I Corps Fire Support Conference is scheduled for 9 through 11 January 2003 in Salt Lake City.*

**America's Corps Artillery.** The changes of transformation, homeland security missions and new equipment fieldings are challenging, but all take a back seat to ensuring the nation has a viable fire support team ready to deploy worldwide. I Corps Artillery is committed to meeting the challenges and fusing the Total Force into one. We truly are *America's Corps Artillery!*

# Silhouettes of STEEL

## III Corps Artillery

III Corps Artillery *Phantom Thunder* at Fort Sill, Oklahoma, is the Army's largest, most powerful concentration of artillery. This year, III Corps Artillery excelled in planning, training and executing potential contingency war plan operations. The soldiers and leadership of III Corps Artillery also are helping Fort Sill in force protection after the tragic events of September 11th.

**17th FA Brigade** The *Thunderbolt* Brigade validated its ability to move, shoot, communicate and sustain combat operations by deploying its TOC and elements from all three battalions to White Sands Missile Range (WSMR), New Mexico, for 30 days. The Brigade also conducted battalion-level and below FTXs, EXEVALs and LFXs.

5-3 FA (MLRS) *First Round* Battalion deployed to WSMR, underwent an EXEVAL and deployed to Fort Chaffee, Arkansas. The O&I section showed its proficiency in an NTC rotation in support of 1st Cavalry Division elements.

1-12 FA (MLRS) *Raiders* deployed to WSMR, underwent an EXEVAL, deployed to the NTC and fielded the M270A1. *Raiders* also demonstrated the new M270A1 during an Egyptian VIP live-fire demonstration.

3-18 FA (Paladin) *Steel Professionals* deployed to WSMR, conducted an EXEVAL for 1-17 FA and deployed to the NTC. The *Steel Professionals* excelled in every event.

**75th FA Brigade** The *Diamond Team* had an action-packed year with many deployments along with brigade- and battalion-level exercises. The Brigade TOC deployed to Fort Hood, Texas, in support of the 1st Cavalry Division's Warfighter.

1-17 FA (Paladin) *Copperheads* completed its battalion EXEVAL in September, achieving excellent results. The *Copperheads* fired over 800 rounds, validating their ability to shoot, move and communicate. Immediately after the EXEVAL and subsequent 9/11 terrorist attacks, the *Copperheads* provided the quick reactionary force (QRF) for Fort Sill.

6-27 FA (MLRS) *Proud Rockets* had an extremely challenging year. They deployed a battery to Fort Knox, Kentucky, in support of the USMA's mounted maneuver exercise, firing over 30 rockets. 6-27 FA also deployed its O&I TOC to the NTC, providing reinforcing fires for the 2d ACR's rotation.

1-77 FA (MLRS) *Falcons First* deployed "TF Diamond," a battery-sized element, to Kuwait for six months as part of Operation Intrinsic Action. The *Falcons* also completed many FTXs/LFXs in preparation for their July EXEVAL and are preparing for a February NTC rotation.

**212th FA Brigade.** The *Courage and Command* Brigade continues to execute mission-oriented, battle-focused training. In March and April, the Brigade conducted successful EXEVALs for 2-18 FA at Twentynine Palms, California, and 6-32 FA at Fort Sill.

The 2-5 FA (Paladin) *Rock Hard* conducted many battalion- and battery-level FTXs at Fort Sill. In March, it deployed its O&I to the NTC for a rotation with the 4th Infantry Division. In April, 2-5 FA successfully executed an FTX at Fort Sill with the 3d ACR's FSE, an ALO and Striker teams, focusing on A<sup>2</sup>C<sup>2</sup>, CAS and SEAD. In August, the Battalion deployed to the NTC to provide DS fires for the 3d ACR.

2-18 FA (MLRS), the *Mission Ready* Battalion, started the year with a battery Best-by-Test Competition and a battalion LFX. In November, 2-18 FA placed 3d in the Army-wide Phillip A. Connelly (Large Unit) Field Mess competition. In February, 2-18 FA provided deep fires for the 11th Marines in a Desert Firing Exercise at Twentynine Palms. Finally, the Battalion deployed its O&I to the NTC in August to reinforce 2-5 FA.

6-32 FA (MLRS) *Proud Americans* started the year providing reinforcing fires for the 3d BCT, 1st Armored Division, at the NTC. In March, the Battalion excelled during its EXEVAL. Shortly after, key leaders deployed to WSMR to evaluate 214th Brigade battalions in EXEVALs. 6-32 FA ended the year with a battery Best-by-Test Competition and battalion LFX. In the midst of training and fielding requirements, the *Proud Americans* won first place in the Army-wide Connelly competition "Maintenance Excellence for Large Tactical Units."

**214th FA Brigade.** The *Leader Brigade* aggressively trained for war throughout the year, firing 670 rockets and deploying

the Brigade to WSMR for Operation Leader Fury. During, Leader Fury, the Brigade conducted a combined arms and coalition training exercise, administered two challenging battalion EXEVALs and executed a brigade LFX, massing the fires of two battalions simultaneously on time and on target. As a result, the *Big Dawgs* stand trained and ready to deploy, fight and win the nation's wars. Additionally, the Brigade deployed to Fort Hood to support the 4th Infantry Division's Division Capstone Exercise II (DCX II) and the III Corps Warfighter.

1-14 FA (MLRS) *Steel Warriors* deployed its TOC to Fort Hood and NTC 02-05 to support the 1st BCT, 4th Infantry Division. It participated in both DCX II and the III Corps Warfighter. It also deployed to WSMR where it completed a rigorous battalion EXEVAL.

2-4 FA (MLRS) *Deep Attack* conducted a demanding 10-day FTX, *Iron Thunder*, and deployed to Fort Hood for DCX II and the III Corps Warfighter. It completed a rigorous battalion EXEVAL during *Leader Fury*.

3-13 FA (MLRS) *Red Dragons* deployed its TOC to Fort Riley, Kansas, for the *Gauntlet* FTX and to NTC 02-06 to support the 1st BCT of the 1st Infantry Division. It also deployed soldiers to Fort Hood for both DCX II and the III Corps Warfighter and completed a rigorous battalion FTX/LFX at Fort Sill. 3-13 FA deployed C Battery (-) to Fort Knox to support summer training of USMA cadets.

The *More Than Expected* 19th Maintenance soldiers deployed to Southwest Asia, the NTC and JRTC, maintaining its high standards of support.

III Corps Artillery's aggressive training and deployments keep the *Phantom Corps Artillery* battle-focused and ready to support the III Corps anywhere, anytime—***Phantom Thunder!***



C/1-14 FA fires six rockets at McGregor Range, NM.

# Silhouettes of STEEL

## V Corps Artillery

V Corps Artillery, headquartered in Schwetzingen, Germany, continues to conduct rigorous, realistic training "an ocean closer to where we need to be" as the Army's only forward-deployed corps artillery. Our overall focus during the past year has been on force protection, training, deployability and taking care of soldiers. Despite the extremely high European operational tempo and demands of force protection overseas, our soldiers continue to lead the way in planning, preparing and executing corps-level deep strike operations, remaining trained and ready for peace or war.

V Corps Artillery's battle-focused training during calendar year 2002 included a BCTP Warfighter exercise (Urgent Victory) as well as a Warfighter ramp-up exercise (Victory Focus), both at Grafenwoehr Training Area. In addition, the Corps participated in two MLRS live-fire exercises at Grafenwoehr; a CMTC rotation with 1st Brigade, 1st Armored Division; a corps deployment to Poland for Victory Strike III where we supported the Corps aviation regiment's EXEVAL and administered an EXEVAL to 1-27 FA (MLRS); and Exercise Cannon Cloud, a multi-national NATO CPX.

**Joint/Combined Exercises.** In January, Headquarters, V Corps Artillery and the 41st FA Brigade executed Victory Focus, an exercise designed to allow all V Corps staff and subordinate units to train and refine high-intensity conflict operations in a contemporary operational environment (COE) in preparation for the V Corps/1st Armored Division Warfighter in March (Urgent Victory). In both exercises, the increased communications and synergy provided by the Corps Fires and Effects Coordination Cell (FECC) allowed

the Corps to target and V Corps Artillery to deliver timely and accurate ATACMS fires on time-sensitive targets and other high-payoff targets, rapidly destroying the enemy deep and shaping the future fight for the divisions, Div Artys and their reinforcing FA brigades.

In August, Headquarters, V Corps Artillery participated in Victory Start, a CPX designed to train the V Corps staff and exercise all three Corps command posts—main, TAC and rear-in preparation for a deployment to Poland in September-October 2001.

In addition, Headquarters, V Corps Artillery, 41st FA Brigade and 1-27 FA deployed in the vicinity of Grafenwoehr in mid-August to conduct Victory Thunder. This was a scenario-driven exercise that prepared the V Corps Artillery team for 1-27 FA's October EXEVAL in Poland by refining TTPs for the Corps Strike Package Concept. The Corps Strike Concept includes the V Corps FECC's having direct command and control of 1-27 FA with the Corps FCE's executing SEAD and time-sensitive target missions directly to the MLRS launcher level using AFATDS 6.3 software.

Victory Thunder also tested the instrumentation support V Corps Artillery subsequently used in Poland in Victory Strike III. The instrumented launchers provided firing data and after-action feedback down to the individual crew-member level.

In September, all of V Corps Artillery deployed for Victory Strike III—an advanced aviation gunnery and Corps FECC exercise in Poland against a realistic, asymmetrical threat over extended ranges. Headquarters, V Corps Artillery and the Corps FECC supported the corps scenario and the 11th Attack Helicopter

Regiment EXEVAL, while Headquarters, 41st FA Brigade commanded and controlled the 900-man exercise OPFOR more than 100 kilometers away. 1-27 FA supported the corps deep attacks as part of the Corps Strike Package, while Headquarters, V Corps Artillery and 1-27 FA leaders controlled the Battalion's EXEVAL. As in previous Victory Strike exercises, V Corps Artillery further developed relations with our Polish allies, integrating Polish air defense artillery and BM-21s into the exercise.

Finally, immediately after Victory Strike III, Headquarters, V Corps Artillery along with German, Polish and Netherlands Corps and Headquarters AirNorth, participated in Cannon Cloud 02, a multi-national CPX/CAX that allowed V Corps to train for an Article V scenario in a realistic joint and combined environment.

**41st FA Brigade.** The *Railgunners* had an extremely busy and productive year. In addition to playing key roles in most of the exercises already mentioned, 41st FA Brigade actively sought and executed many training opportunities between major events, even as force protection manpower requirements remained high.

After completing the Warfighter, the Brigade, along with both Corps Div Artys and the Battlefield Coordination Detachment (BCD), fielded and trained on AFATDS and 6.3 software and additional AFATDS systems. 1-27 FA then deployed to the CMTC to reinforce 2-3 FA (M109A6) during the 1st Brigade, 1st Armored Division CMTC rotation. Following CMTC, key brigade and battalion personnel deployed to CONUS to participate in annual training with FA units affiliated with the Brigade as part of the Wartrace program.

Finally, 1-27 FA's October EXEVAL in Poland, executed in conjunction with V Corps' command post training and the 11th Attack Helicopter Regiment's EXEVAL, set new standards for realistic training. It included deploying to Poland; conducting reception, staging, onward movement and integration (RSOI); preparing for battle; and executing SEAD targets and time-sensitive targets in support of live-attack aviation squadrons. The EXEVALs were conducted while fighting a real, thinking OPFOR at doctrinal distances on the battlefield.

V Corps Artillery remains prepared to respond to world crises. Our solid, warfighting-focused training over the past year has kept us versatile and agile, ready to rapidly deploy to any contingency; it has kept us focused with V Corps on executing the nation's strategy and on winning the nation's wars. **Thunderstrike!**



V Corps MLRS firing at Grafenwoehr Training Area.



# Silhouettes of STEEL

## XVIII Airborne Corps Artillery

**X**VIII Airborne Corps Artillery continues its mission of providing cannon, rocket, missile and radar support to *America's Contingency Corps*—XVIII Airborne Corps. 2001 and 2002 were busy years for this Corps Artillery. From Fort Bragg, North Carolina, the XVIII Airborne Corps Artillery maintains a crisis response artillery force manned, equipped and trained to deploy by parachute assault, air assault, air-land or over the shore anywhere in the world. The OPTEMPO is high and so is the level of achievement of our units and their superb soldiers.

**Corps Artillery.** The Corps Artillery began 2001 synchronizing fires for the Corps during the 10th Mountain Division (Light) Warfighter Exercise and the Corps Embedded Warfighter Exercise with the 101st Airborne Division (Air Assault). These exercises validated our core competencies, and the XVIII Airborne Corps Artillery Headquarters received outstanding marks from the BCTP O/Cs.

As the year progressed, the Corps Artillery continued its close work with the Field Artillery School on several light fire support modernization initiatives, including the high-mobility artillery rocket system (HIMARS) and the lightweight 155-mm howitzer system (XM777). We also continued our close working relationship with our ARNG Field Artillery brigades by expanding our Long-Range Digital Sustainment Training Program and sending soldiers to serve as integrated members of NG firing batteries during brigade AT periods.

As 2001 came to a close, the Corps Artillery responded to the September 11th terrorist attacks and supported real-world contingency operations in the Balkans. In November, we deployed two cannon batteries to Kosovo in support of the 10th Mountain Division and KFOR3B. We ended 2001 with Corps Artillery soldiers protecting critical facilities on Fort Bragg, which they continue today; ensuring the peace in Kosovo; and conducting operations while deployed in support of Operation Enduring Freedom.

2002 began with the Corps Artillery again synchronizing fires for the Corps during the 3d Infantry Division (Mech)/82d Airborne Division tandem Warfighter Exercise. In April, we deployed the Corps Fires and Effects Coordination Cell (FECC) to the NTC for the corps deep attack CTC rotation, validating our ability to plan and conduct aviation deep attacks over distances in excess of 200 kilometers using live ammunition. Immediately following this highly successful exercise, we deployed the Corps FSE to Afghanistan to



1-377 FA firing M198 howitzers from an LZ during air assault operations.

support Combined Joint Task Force-180 (CJTF-180) and Operation Enduring Freedom with a joint fires cell.

The summer brought us a new commanding general and more deployments in support of a major joint exercise Millennium Challenge 2002 and real-world operations in the Balkans and Afghanistan. In the fall, we continued support of CJTF-180 and Operation Enduring Freedom, regained our critical command and control capabilities in a split-based environment as well as participated in a series of exercises to validate the Corps CP's ability to reconstitute.

**18th FA Brigade (Airborne).** During the last two years, the tough, proud and disciplined soldiers of the 18th FA Brigade enjoyed an extremely demanding and highly successful period of training and operational missions. We started 2001 by supporting the Corps and the Corps Artillery in both the 10th Mountain Division and the XVIII Corps Warfighters, earning high marks as the counterfire headquarters for both the 10th Mountain Division and the 101st Airborne Division. In April, 1-321 FA deployed to the JRTC and became the first reinforcing artillery battalion to participate live in the maneuver box at that CTC.

After the Brigade change of command in July 2001, we enjoyed a very busy summer of training that included an MLRS battalion air deployment to Fort Campbell by 3-27 FA (MLRS/HIMARS), a 155-mm and MLRS LFX in support of the 82d Aviation Brigade deep attack operations and gate training in preparation for the KFOR3B deployment of C/1-321 FA and A/3-321 FA.

As we supported operations in the wake of the terrorist attacks, the pace of training and deployments stayed high. In October, 1-321 FA deployed to the NTC in support of the 3d Brigade, 82d Airborne Division. Two of the 18th FA Brigade's KFOR batteries also deployed for six

months to Kosovo. In January 2002, HHB, 18th FA Brigade and 3-27 FA deployed to Fort Stewart, Georgia, for the 82d Airborne Division Warfighter while 3-321 FA deployed to the NTC in support of the 2d ACR and 1-377 FA (Air Assault) deployed to the JRTC in support of 2d Brigade, 101st Airborne Division.

In April, the Brigade HHB and 3-27 FA deployed again to the NTC for the corps deep attack rotation. 1-377 FA deployed soldiers to Twentynine Palms, California, to help our USMC artillery brethren put the XM777 through its paces.

Summer brought another deployment for 3-321 FA in support of the 2d ACR, this time to the JRTC, while C Battery, 3-27 FA deployed to the NTC in support of the 82d Airborne Division and Millennium Challenge. Immediately following the latter deployment, C Battery and 3-27 FA moved to Fort Chaffee, Arkansas, and executed extensive live fires in support of the Joint Special Operations Command exercise Jaded Thunder 2.

The Brigade HHB and 3-27 FA closed out 2002 with a joint CPX with the Corps Artillery and 10th Marine Regiment while 3-27 FA prepared to deploy a small headquarters element, an MLRS battery and a Q-37 radar section to Kuwait for six months in support of the 3d Infantry Division and Operations Desert Spring and Intrinsic Action.

The pace remains fast and the demands high for the soldiers and leaders of the XVIII Airborne Corps Artillery, but so do the standards of excellence for America's Contingency Corps Artillery. From Afghanistan to the deserts of the NTC and from Kuwait to the woodlands of Fort Bragg, Fort Campbell and the JRTC, the Redlegs of XVIII Airborne Corps Artillery and 18th FA Brigade (Airborne) remain trained and ready to meet any challenge in defense of our nation. ***DragonFire, Steel, Steel Rain, Warriors, Thunderbolts, Gunslingers and Airborne!***

# Silhouettes of STEEL

## Field Artillery Training Command

The first two years of the 21st century have been dynamic for Training Command as we continue to take on the challenges of training a world-class Field Artillery force, fielding new systems and keeping pace with Army transformation efforts.

Located at Fort Sill, Oklahoma, Training Command consists of the Field Artillery Training Center (FATC), the NCO Academy (NCOA), the Field Artillery School and the Marine Corps Detachment. The 30th FA Regiment is integral to Training Command, serving as the staff and faculty for the FA School and parent unit for all civilian staff and students.

**FATC.** FATC is the Army's premier training center. It trains about 18,000 soldiers per year—10,000 in BCT, 3,000 in OSUT and 5,000 in AIT. The Center has five training battalions, a support battalion and a reception battalion.

FATC has been focused on producing a better soldier for our Army. The Center added rigor to the POI with an additional FTX and tougher standards for end-of-course testing and went to the OSUT model for MOS 13F and 13D (to include implementing a combined end-of-course FTX for both MOS)—to name a few of the changes. The OSUT model produces a better-trained soldier; our best NCOs from the respective MOS lead our newest warriors from the beginning of their careers.

In addition to converting 13M and 13P training into OSUT in the coming year, FATC will continue to seek ways to produce the best-trained soldiers and Marines.

**NCOA.** The Academy trains more than 2,200 NCOs annually. Our NCOA PLDC now is conducted for all soldiers stationed

at Fort Sill and Fort Riley, Kansas. The NCOA trains about 1,000 PLDC students annually. In addition, our NCOA has incorporated MOU training into PLDC FTXs—the first NCO Academy in the Army to incorporate such training.

The Academy also trains all FA MOS for BNCOC, about 750 per year, and ANCOC, about 500 per year, for the Active Component worldwide. In 2001, these courses were divided into two phases: Phase I focuses on leadership skills and Phase II is oriented on technical skills. The NCOA has capitalized on the latest technologies and was the Army's first academy to employ "Distributive Learning" to teach BNCOC, ANCOC, Battle Staff and the First Sergeant's Courses, all via video tele-training.

**FA School.** The School has undergone a number of changes in the first years of the new century. Developmental functions formerly accomplished by the School's Directorate of Combat Developments (DCD) and Warfighting Integration and Development Directorate (WIDD) came under centralized management in 2001. The concept was to bring all material, doctrine and training developments together in one organization. This reorganization piloted for TRADOC by Training Command is no longer mandated by TRADOC.

Starting in FY03, the Fort Sill post staff and Training Command will consolidate and reorganize into major staff sections—Chief of Staff, G1, G2, G3 and G4. The latest FY03 reorganization will affect some sections of the current organization of Training Command.

For example, in conjunction with the FY03 organizational changes, the 1st and

3d Battalions of the 30th FA Regiment are being realigned to better support the student population. 1-30 FA will support all enlisted instruction while 3-30 FA will support all officer instruction. The changes also will consolidate student and faculty administrative and training functions. 2-2 FA will continue its mission of providing live-fire support for student training, firing more than 60,000 rounds a year.

Once the Fort Sill reorganization is implemented, *Field Artillery* will include an article detailing the changes and a new telephone directory for units to contact program managers.

This year, the FA School also ran a pilot program for the FA portion of the Basic Officer Leader Course (BOLC) that eventually will replace OBC. Phase I is pre-commissioning training. In Phase II of BOLC, new lieutenants will receive basic leadership training at a centralized location(s) followed by branch-specific training at the proponent school in Phase III. FA BOLC Phase III will prepare lieutenants to assume the duties of platoon leader, FDO or FSO. BOLC is projected to be implemented in the Fourth Quarter of FY03.

The FA School has had several other changes in training, to include the incorporation of a Janus simulation exercise into the Pre-Command Course, addition of Bradley FIST training, establishment of the Light FSO Lane (LFSO) and conversion of Fire Direction Specialist training to the new 13D, FA Automated Tactical Data Systems Specialist.

In the area of technology, the FA School continues to lead the way. Snow Hall now features six high-tech distance-learning classrooms, an automated card catalog for Morris Swett Technical Library and computerized projection in all classroom facilities. With the release of the improved Version 6.3 software for AFATDS, the FA School upgraded the hardware in the 14 "Digital University" classrooms in Burseson Hall.

**USMC Det.** The Marine Corps Detachment continues to play an active role in Training Command. The FATC and the FA School train more than 2,000 Marine Artillerymen annually. As America's Field Artillery, the Army and Marine Corps Artilleries maintain close ties in the areas of training, doctrine and materiel developments. For example, the Army and Marines are jointly developing the new Light-weight 155-mm howitzer, and the Marine Corps is buying HIMARS for the 14th Marine Regiment.

The FA Training Command stands proud of its accomplishments and poised to meet all challenges as the FA and Army transform in the 21st century.



FA second lieutenants during the OBC "Redleg War."

# Silhouettes of STEEL

## 1st Armored Division Artillery

The 1st Armored Division Artillery, America's *Iron Steel Div Arty*, headquartered in Baumholder, Germany, completed another fast-paced year. The Div Arty focused on force protection and realistic combined arms fire support training at the Grafenwoehr Training Area (GTA), CMTC and NTC. The Div Arty also participated in the V Corps Warfighter and NATO's Arcade Fusion, an Article V exercise.

The *Thunder Battalion*, 4-27 FA, returned from Kosovo in May 2001 and conducted section, platoon and battery qualifications as well as LFXs for the 2d BCT at GTA. In January, the Battalion deployed to the CMTC for a challenging winter rotation, participated in the V Corps Warfighter and then returned to GTA in May to support the Ready First Combat Team (RFCT) and 2d BCT CMTC LFXs. The *Thunder Battalion* also provided fires for the German Artillery School in September and returned to GTA and the CMTC for fall gunnery.

The *Gunners* of the 2-3 FA reintegrated by training and qualifying their sections, platoons and batteries in 2001. In addition, they provided fires in the RFCT CMTC LFXs. In September, Battery A deployed to Hungary in support of Delta 2001, a NATO exercise. The *Gunners* participated



4-27 FA at the Grafenwoehr Training Area.

in the Division Warfighter in March and returned to the CMTC to support the RFCT. They redeployed to GTA for a battalion EXEVAL in June while providing fires for the RFCT during CMTC LFXs.

*Deep Steel*, 1-94 FA (MLRS/TA), was certified as a battalion in May 2001. In November 2001, the Battalion participated in Dark Eagle, a combined arms exercise with the 4th Brigade. It also provided deep fires in the Division Warfighter and returned to GTA in May 2002 for section, platoon and battery qualifications.

The *Gunners* of 4-1 FA, Fort Riley, Kansas, conducted section through battalion gunnery qualifications in summer 2001, culminating with a brigade-level CALFEX. In September 2001, the Battalion deployed to the NTC and fired over 2,500 rounds in support of the 3d BCT. 4-1 FA deployed to Germany for the Division Warfighter in March and A Battery to Kuwait for Operation Desert Spring.

The Div Arty remains combat ready in support of *America's Tank Division- Iron Steel! America's Div Arty!*

## 1st Cavalry Division Artillery

The 1st Cavalry Division Artillery *Red Team* located at Fort Hood, Texas, completed a year that was challenging, exciting and rewarding. Throughout a year of global unrest and tragedy, the *Red Team* remained combat ready and proudly provided the *First Team* with timely and lethal fires from the sands of Fort Irwin, California, to the kabals of Kuwait. The unmatched proficiency of our *Redlegs* was evident during highly successful NTC rotations, real-world deploy-

ments and a celebratory Division Warfighter exercise.

The *Dragons* of 1-82 FA spent January 2001 at the NTC reinforcing 2-82 FA. The Battalion then provided DS fires for two consecutive Operation Desert Spring deployments to Kuwait. Additionally, the *Dragons* have led the Div Arty in the transition to full digitization and Force XXI conversion.

The 2-82 FA *Steel Dragons* returned from the NTC in February 2001, went

through a rigorous train-up and then returned to another brilliant rotation to the NTC in December 2001, providing DS fires to 3d Brigade Combat Team. The Battalion began Force XXI modernization in October 2002.

The *Red Dragons* of 3-82 FA successfully deployed to the NTC in August 2001 and superbly provided destructive fires to the 2d BCT. November 2001 through April 2002, HSB and A Battery deployed to Kuwait in support of Operation Enduring Freedom in a show-of-force mission. The Battalion is currently completing Force XXI modernization.

The *First Strike* Battalion, 1-21 FA, deployed to White Sands Missile Range, New Mexico, for a difficult month-long training exercise to begin the summer of 2001 and then provided reinforcing fires for the *Red Dragons* at the NTC in August 2001. Through a tough year of training, the Battalion also successfully integrated its TXARNG battery, C/2-131 FA (San Angelo, Texas) into Battalion operations.

The *Red Team* is combat ready-fully prepared to provide devastating fire support to the 1st Cavalry Division. We look forward to another year of challenges as we prepare to deploy, fight and win America's battles. **Red Team!**



A Paladin from A/3-82 FA direct fires in Kuwait.

# Silhouettes of STEEL

## 1st Infantry Division (Mechanized) Artillery

The 1st Infantry Division (Mechanized) Artillery—*Drumfire!*—stretches from Fort Riley, Kansas, to Germany and farther to the war-torn Balkans, continues to train and integrate combat systems for both high-intensity conflict and SASO.

1-5 FA *Destroyer* faced challenges and rewards this year at every turn. 1-5 FA supported the 1st BCT's Gauntlet FTX in January, conducted rail loading operations in January and February and deployed to the NTC in April—in the latter, defeating the OPFOR in all force-on-force battles and firing over 4,000 rounds. The Battalion deployed to Oregon in July to fight wild land fires in the Pacific Northwest. 1-5 FA also was selected as III Corps' 2002 Army Award for Maintenance Excellence Runner-Up. *Hamilton's Own!*

1-6 FA *Centaurs* won top honors for V Corps in the Army Award for Maintenance Excellence and Supply Excellence. They also provided the salute battery and honor platoons for President Bush and President Chirac's visit to the Normandy American Cem-

etry on Memorial Day. In August, the unit conducted Paladin Table XVIII at Grafenwoehr and moved to the CMTC to prepare for a rotation with KFOR4B in November. *Swift and Bold!*

1-7 FA had a busy year, starting with a rigorous Grafenwoehr gunnery density in January and then immediately demonstrating high-intensity conflict proficiency

at the CMTC and in a subsequent KFOR4A Mission Readiness Exercise. The training culminated in May when 1-7 FA deployed to Camp Bondsteel, Kosovo, and provided "Bright Sky" illumination missions to the Multinational Brigade (East) (MNB(E)). Battery A's SSG Erick R. Macher was named the 2002 USAREUR NCO of the Year. The *First Lightning* Team continues *Never Broken in Hardship or Battle!*

1-33 FA started the year with a gunnery density and transitioned into the KFOR4A mission readiness exercise at the CMTC. In May, the *Golden Lions* of B and C Batteries deployed to Camp Able Sentry, Former Yugoslav Republic of Macedonia, while D Battery deployed to Kosovo to provide radar coverage for MNB(E). In November, 1-33 FA simultaneously returned from KFOR4A and deployed fresh radar sections to KFOR. *Strike Deep!*

The *Big Red One* Artillery stands ready to answer our nation's call. As always—*No Mission Too Difficult, No Sacrifice Too Great—Drumfire!*



From a hilltop in MNB(E)'s sector, a Q-36 from D/1-33 FA keeps watch over the war-torn lands of Kosovo.

## 2d Infantry Division Artillery

**W**arrior Thunder is the Army's most forward-deployed Div Arty, protecting Freedom's Frontier with our allies in the Republic of Korea (ROK).

1-15 FA *Guns* enjoyed another challenging year. The Battalion played an integral role in the outstanding Division Warfighter in December 2001. 1-15 FA also supported the Warrior Thunder Winter Counterfire Exercise in January 2002 followed by the 1st BCT's EXEVAL. The *Guns* then had an EXEVAL and prepared for the Division's counterfire EXEVAL in May 2002. June included fire marking for

the 2d BCTs EXEVAL and O/C duty for a sister battalion. The *Guns* closed 2002 with Warpath I Exercise and Ulchi Focus Lens.

2-17 FA *Steel* is the largest artillery battalion in the Army with unique missions: supporting two air assault battalions, a mechanized infantry battalion and a tank battalion. 2-17 FA had an aggressive EXEVAL, conducted maneuver training, integrated ADOCS digitally into the counterfire fight and linked ASAS to give ground commanders real-time enemy intelligence.

6-37 FA (MLRS), the *Rocket Battalion*, completed three LFXs and many divi-

sional exercises, culminating in the Division Warfighter. A highlight was its participation in the US Army/Navy exercise Operation Neptune Thunder in which MLRS launchers practiced shooting off the decks of ships. 6-37 FA participated in the ROK/US Counterfire Exercise in October 2001 and the Division CPX (War Path II) in November. On 16 October 2001, A/38 FA (MLRS) was detached from 6-37 FA and reassigned to 1-38 FA, as was the Div Arty's F/26 FA (TA).

1-38 FA (MLRS/TA), *Steel Behind the Rock*, has conducted several training exercises since activating 16 October 2001. In November, 1-38 FA participated in War Path II, a one-week SIMEX to prepare for the Division Warfighter in December. These exercises allowed 1-38 FA to establish battle-tracking procedures in the TOC and exercise command and control of the Battalion. 1-38 FA conducted its first FTX in January 2002 and its first LFX in February, firing 54 rockets and qualifying all launcher crews. 1-38 FA also had an EXEVAL in the ROK-US counterfire ARTEP in May and participated in Ulchi Focus Lens.

The 2d Div Arty is disciplined, proactive and ready to "Fight Tonight"—*Warrior Thunder!*



The *Rocket Battalion* fires on Freedom's Frontier.

# Silhouettes of STEEL

## 3d Infantry Division (Mechanized) Artillery

The 3d Infantry Division (Mechanized) Artillery, Forts Stewart and Benning, Georgia, supported SFOR 8 and 9 in Bosnia and deployed units to Kosovo for KFOR3A and 3B during the past year. *Marne Thunder* then quickly transitioned back to its warfighting focus and participated in a Division Warfighter Exercise, deployed units to Kuwait as part of Operation Desert Spring and assumed responsibility for the CONUS Crisis Reaction Force (CCRF). The Div Arty also modernized by fielding AFATDS, ASIP radios and the M7 BFIST.

1-9 FA *Battlekings* began 2001 training several thousand soldiers for deployments to SFOR and KFOR. It then fielded AFATDS and refined its gunnery and fire support skills, preparing for a rotation to the NTC in support of the 2d *Spartan* Brigade. 1-9 FA also deployed to Kuwait and assumed duties as the Combined and Joint Task Force, Force FA (CJTF FFA) Headquarters.

1-10 FA excelled at the NTC while providing timely, accurate fires in support of the 3d *Hammer* Brigade. The *Rock's Support* Battalion then participated in the Warfighter and deployed to Kuwait as the CJTF FFA HQ. 1-10 FA will return and field AFATDS in preparation for another NTC rotation in early 2003.



A BFIST from 1-10 FA in Kuwait.

1-41 FA deployed to KFOR3A in May 2001. The rotation was marked by the closure of the Ground Security Zone between the provinces of Kosovo and Serbia, the firing of "Bright Skies" interdiction missions and the operational debut of the BFIST. After returning from KFOR, *Glory's Guns* fielded AFATDS and prepared for a rotation to the NTC and deployment to Kuwait.

After its activation in 2000, 1-39 FA (MLRS) fielded AFATDS and deployed to the NTC twice in 12 months as a reinforc-

ing battalion for both 1-10 FA and 1-9 FA. The *Speed in Action* Battalion provided TA radars and a target production cell to the KFOR and also sent MLRS batteries and Q-37 radars to support rotations 02-01 and 02-02 in Kuwait.

The 3d Div Arty is trained and prepared to provide lethal fires in support of the *Marne Division*. The Div Arty has demonstrated its flexibility and effectiveness in deploying at a moment's notice in support of contingencies around the world. ***Marne Thunder!***

## 4th Infantry Division (Mechanized) Artillery

The *Iron Gunners* of the 4th Infantry Div Arty, Fort Hood, Texas, the first fully digitized Div Arty, began 2002 with the successful execution of the *Ironhorse* Warfighter and Division Capstone Exercise (DCX) II. *Iron Gunners* continue force modernization while deploying units to the NTC, Fort Carson, Kuwait and Fort Knox. In addition, the Div Arty also participated in Ulchi Focus Lens in Korea. As the first fully digitized Div Arty, *Iron Gunners*



A 3-16 FA Paladin fires during its Fort Hood train-up for the NTC. (Photo by Haus Halberstadt)

massed rocket and cannon fires supporting the 1st BCT FCX in preparation for NTC 02-05. Additionally, each of the DS battalions and elements of the GS battalion assumed portions of the FORSCOM Division Ready Brigade (DRB).

*Deep Strike*, 2-20 FA, began the year by fielding the new M270A1 MLRS launcher—the Army's first and only M270A1 battalion. It deployed as a reinforcing headquarters with 3-29 FA in support of the 3d BCT during NTC 03-01. It then immediately began the train-up as the reinforcing

headquarters for 4-42 FA in support of 1st Brigade and the Division's aviation brigade. *Deep Strike* remains poised for any major deployment with combat force modules as part of the FORSCOM DRB.

*Rolling Thunder*, 3-16 FA, deployed to the NTC in May and executed devastating fires for the 2d BCT (*Warhorse Brigade*). The Battalion capitalized on the howitzer section capability to toggle between FBCB<sup>2</sup> and the AFCS screens. *Rolling Thunder* then deployed C Battery to Fort Knox, demonstrating FA lethality

while training USMA cadets in mounted maneuver operations.

*Pacesetters*, 3-29 FA, Fort Carson, Colorado, deployed B Battery to Kuwait from the beginning of the year through April for Operation Desert Spring. In July, the *Pacesetters* massed the Battalion during Mountain Strike home-station training, including Paladin Table XVIII, force-on-force and a FCX. The *Pacesetters* continue to provide lethal, accurate fires for the 3d BCT *Striker Brigade* during the 03-01 NTC rotation.

*Straight Arrows*, 4-42 FA, provided DS fires for the 1st BCT (*Raider Brigade*) in February at the NTC. In April, it developed and refined adjust-fire TTP in conjunction with the first initial operational test and evaluation of the Brigade's tactical unmanned aerial vehicle (TUAV). *Straight Arrows* closed out 2002 with a highly successful live fire and another train-up with the *Raider Brigade* for NTC 03-05.

The *Iron Gunners* remain trained and ready to heed our nation's call. Leading fires into the 21st century. ***Iron Gunners!***

# Silhouettes of STEEL

## 10th Mountain Division (Light Infantry) Artillery

Throughout the 1990s, the 10th Mountain Division, Fort Drum, New York, earned the title "Most deployed Division in the Army." With the events of 11 September, that trend continues. By January 2002, *Mountain Thunder* Redlegs were deployed overseas to 12 foreign nations as well as CONUS locations in support of the War on Terrorism. During the clash with Al-Qaeda forces in the Shah-e Kot Valley, fire supporters brought to bear fires that destroyed the enemy and his will to fight. Our troops performed magnificently; many were recognized for their valor and two were awarded the Purple Heart. The Division FSE and a Q-36 section remained with the Division HQ until early autumn, completing the nearly 10-month deployment.

The Div Arty also deployed more than 50% of its personnel as part of the Multi-National Force and Observer (MFO) in the Sinai, SFOR in Bosnia-Herzegovina and KFOR in Kosovo and Macedonia.

The *Centaur*s of 3-6 FA executed full-spectrum operations throughout the world this past year. In November 2001, they deployed with Task Force Falcon to the Balkans. 3-6 FA's FSEs were among the first to respond to the War on Terrorism in Afghanistan. During Operation Anaconda, they displayed uncommon valor in the



10th Mountain Division Blackhawk helicopters airlift M119 howitzers.

highest altitude land battle ever fought by US forces. In November 2002, 3-6 FA deployed to the JRTC.

In summer 2001, 2-15 FA, the *Allons* Battalion, fired over 5,000 rounds for USMA cadets. It also helped train Division soldiers for a myriad of complex missions in Bosnia, Kosovo and as part of MFO 41 in the Sinai. Soldiers from its FSEs participated in most of these missions. After September 11th, the Battalion deployed a fire support platoon, brigade FSO and Q-36

section with the 2d Brigade Task Force in Operations Anaconda and Enduring Freedom. In October 2002, 2-15 FAR deployed to the JRTC.

The Div Arty's E/7 FA (155-mm, GS) deployed to Kosovo with 3-6 FA for FA and infantry missions, while 10th TAD deployed to Canada and participated in 197th FA Brigade's annual training.

Deployed around the world, our Redlegs are prepared to provide fires for America as her *Mountain Thunder!*

## 25th Infantry Division (Light) Artillery

From its home in *Army Paradise*, the Redlegs of the 25th Infantry Division (Light) Artillery, Schofield Barracks, Hawaii, have executed the Commander-in-Chief's guidance—"Be Ready!" *Tropic Lightning Redlegs* synchronized fires for 16 company-level CALFEX's at the Pihila'au Range Complex in Makua Valley, focusing on the *close fight*. Elements of the 25th Div Arty deployed on many training and real-world missions, including: SFOR 11 (Bosnia), PACBond (Australia), Cobra Gold (Thailand), Airbridge (Alaska), the JRTC and the NTC.

2-11 FA *On Time* synchronized fires for the 2d Brigade Warrior Fire Control Exercise while deployed to the Pohakuloa Training Area (PTA) on the Big Island of Hawaii. Key training included live SEAD and an air assault insertion followed by close fire support to three simultaneous company attacks. In April, elements of the Battalion deployed to the JRTC. In May, B/2-11 FA deployed to Thailand and conducted three company CALFEXs and executed range control op-

erations for Army, Marine and Royal Thai Army direct and indirect fire weapons.

3-7 FA *Never Broken* synchronized fires and provided danger-close fires for 2-5 IN and 2-35 IN during CALFEXs at Makua Valley. In February, FISTs supported NTC and JRTC OPFOR missions. The Battalion deployed as a whole in April to the PTA for an EXEVAL. Fourth quarter's focus

was the PACBond exchange with the Australian Army. A/3-7 FA and F/7 FA deployed to Darwin, Australia, for live-fire training. On Oahu, the 101st Battery, 8/12 Medium Regiment, Australian Army (155-mm towed) was integrated into operations, culminating with the 3d Brigade Bronco FTX, the first stepping-stone for JRTC 03-04.

2-8 FA *Automatic* executed a successful JRTC rotation that featured an IBCT scenario. It also saw the M119 "silenced" and the M198 "put into action" as it fired during its transition to DS to the 1st Brigade Stryker Team.

F/7 FA (155-mm towed) *Foxtrot Never Stops* deployed to PTA and conducted an EXEVAL, fired SEAD and supported the 2d BCT Air Assault. The 25th FA Det *Eyes of Thunder* supported Marine and Army indirect fires on Oahu and the PTA.

The 25th Div Arty stands ready to attack and provide timely, accurate close fires in support of the *Tropic Lightning Division* as its *Tropic Thunder!*



Soldiers from A/3-7 FA prepare to air assault an M119A1 howitzer with ammunition while training on Schofield Barracks.

# Silhouettes of STEEL

## 28th Infantry Division (Mechanized) Artillery

The dominant themes for the 28th Infantry Division (Mechanized) Artillery, PAARNG, since the 2000 Red Book have been transition, modernization and digitization. All Div Arty units fielded SINCGARS in FY01, enhancing communications and connectivity within "The Army" and improving digital operations. HHB received the TMQ-41 meteorological measuring set (MMS), thus modernizing Met support across the Div Arty.

F/109 FA (TA) fielded Version 8 AN/TPQ-36 radar in July 2001. The unit's NET started high-tempo training to prepare it for deployment to Kosovo, including supporting the 1st Infantry Division Warfighter in Germany and AT live-fire plus conducting a mission rehearsal exercise at the JRTC. The battery, attached to 3-6 FA, 10th Mountain Division, served in Kosovo from November 2001 to May 2002. Also, the Div Arty's D/229 FA (M109A5s) deployed to Europe for a force protection mission as part of Operation Enduring Freedom.

1-107 FA completed Paladin NET during AT in August 2002 at Fort Pickett, Virginia. 1-109 FA will begin Paladin NET in FY03 and receive its howitzers in FY04. C/1-109 FA supported force protection in Europe as part of Operation Enduring Freedom.

1-108 FA began transforming to become DS to the new 56th Stryker Brigade

Combat Team (SBCT) in October. 1-108 FA will field the M198 as an interim howitzer before fielding the M777.

The Div Arty made great strides in improving digital operations at all echelons, supporting Janus exercises for 10 maneuver battalions and one attack aviation battalion. Div Arty units supported three brigade Janus exercises, to include the 1-109 FA's participation with the 55th Brigade in the XVIII Airborne Corps Warfighter in January 2002. The Div Arty TOC also provided brigade/battalion battle simulation (BBS) higher control for three SIMEXs during the past year-two for the 197th FA Brigade and one for the 103d FA Brigade. In addition, the Div Arty ran its first-ever internally generated and resourced Janus exercise during AT in June 2002.

Transition, modernization and digitization—the 28th Div Arty has met every challenge. Anticipating the future, such as fielding AFATDS and standing up an MLRS battalion, the 28th Div Arty in every way remains **Charged to Excellence!**



M109A6 Paladin destined for 1-107 FA at the "Roll-Out" Ceremony on 8 November 2001 at the United Defense Plant in York, PA.

## 29th Infantry Division (Light) Artillery

The 29th Infantry Division (Light) Artillery, with its headquarters part of the VAARNG, consists of units from three eastern states: 1-246 FA, E/111 FA and the 129th FAD in Virginia; 2-110 FA in Maryland; and 2-192 FA in Connecticut. 2-192 FA is due to deactivate in September 2003.

The 29th Div Arty maintained probably its highest peacetime operational tempo to date, participating in Operation Joint Forge (Bosnia), Operation Noble Eagle II (anti-terrorism/Homeland Defense) as well as its AT that included EXEVALs and various community support projects.

The 29th Div Arty's training program this year focused on fire support coordination and the delivery of FA fires. Moreover, every element of the Div Arty participated in three brigade battle staff training exercises. Virginia elements of the 29th Div Arty deployed to Fort Pickett, Virginia, to participate in an FTX, delivering fires in an accurate and timely manner. Units were in the field for nine days and shot more than 2,800 rounds. Essential and advanced fire support skills and all manner of digital equipment were exercised within a very successful collective training field problem.

The leadership and alumni of the Div Arty are especially proud of the soldiers

who have been called to Federal active service in response to the 9/11 terrorist attacks. The 2-110 FA, 1-246 FA and E/111 FA were called to perform a homeland security mission. With just a few weeks' notice, these Div Arty units quickly participated in soldier readiness processing, mobilized and were on station performing security missions along the east coast. This level of readiness distinguishes

the 29th Div Arty within the National Guard as a leader in force protection.

The Div Arty will apply the excellent lessons learned during this fast-paced year to lead the 29th Infantry Division (Light) into its Division Warfighter exercise in August 2003 at Fort Leavenworth, Kansas.

The 29th Infantry Division Artillery continues to shoot, move and communicate—as always, **We Stand Ready!**



E/111 FA stands ready to provide fires during a 10-day FTX at Fort Pickett.

# Silhouettes of STEEL

## 34th Infantry Division (Mechanized) Artillery

The Redlegs of the north continue to push to be the best Div Arty in the ARNG. The Div Arty, headquartered in Minnesota, focuses on training with three artillery systems-M109A5 and M198 in Minnesota and M102 in Iowa. E/151 FA (TA) received version VIII for the Q-36 radar and spent the year training on this new version, including a lane to qualify sections for combat operations. In TY02 the Div Arty staff began yearly section certifications to maintain their proficiency despite not having outside evaluations each year.

1-125 FA (MNARNG), DS to the 1st Brigade, had a very busy year in 2002. With soldiers deploying to Norway in a military exchange and training in Minnesota for annual FTXs and AT, it used every IDT weekend to the fullest. A successful AT in July at Camp Ripley culminated the year.

1-151 FA (MNARNG), a corps battalion, spent the year working with a training support battalion to hone its combat skills. To qualify every gun section, the Battalion planned creatively, taking sections from different units to qualify outside of the regular AT. Called "Battery Z," the training took place in July. The Battalion conducted its August AT Tables through XVIII.

1-194 FA (IAARNG), air assault and DS to the 2d Brigade, conducted June AT at Fort Riley, Kansas. The Battalion deployed directly to the field and began its five-phase AT: command evaluation team, gunnery validation, battery qualification lanes for Tables VII-XV, a 96-hour STX and an intensive recovery lane. The Battalion conducted many battery-battalion- and brigade-level air assault operations, including an early-in, deep-raid, live SEAD for the Brigade. 1-194 FA fired 3,388 rounds, including a flawlessly executed 423-round, six-minute schedule of fires to support a notional TF's deliberate assault.

F/151 FA (MNARNG) focused 2002 on achieving Table XV and conducted live fires in September to support E/151 FA's fielding of version VIII. In February, it supported the Minnesota-Norway troop ex-



A 34th Division FIST prepares to laser a Copperhead target.

change firepower demonstration and, in June and July, conducted section and platoon qualifications. AT began ramp-up training for an OPFOR rotation to the NTC. It fielded SINCGARS in September and completed artillery and crew-served weapons live fire in October.

The soldiers and families of the 34th Div Arty stand at the ready when America gives us the call. **Storm Artillery!**

## 35th Infantry Division (Mechanized) Artillery

The 35th Infantry Division Artillery, the *Santa Fe* Div Arty (Kansas, Illinois and Kentucky ARNG), headquartered in Kansas, is on the cutting edge with multiple equipment fieldings, transforming the Div Arty into a relevant force.

2-122 FA (Illinois ARNG) had an EXEVAL at AT with the 35th Div Arty at Fort Carson in TY01. The focus was on ARTEP standards, artillery raids and massing fires with the Div Arty. In TY02, 2-122 FA deployed to Germany for Operation Enduring Freedom. The remaining soldiers completed weapons qualifications, artillery raids, direct and indirect fire missions, and a Janus exercise.

2-138 FA (Kentucky ARNG) fielded six major systems in the past two years: Paladin, hand-held terminal unit (HTU), palletized loading system, SINCGARS, automated net control device and the Q-36 Firefinder. It restructured two batteries into one, helped the FA School with the MOS 13B

and 13E courses, and converted a heavy engineer company into a firing battery. Also, more than 100 2-138 Redlegs participated in homeland security missions.

1-161 FA (Kansas ARNG) is providing 200 soldiers for homeland security force protection mission, TF Guardian. The Bat-

talion also provided 28 soldiers to Enduring Freedom in Germany. It conducted AT01 at Fort Carson with the Div Arty, focusing on digital fires. AT02 at Fort Riley emphasized mobilization tasks and digital fires. 1-161 FA is fielding SINCGARS.

E/161 FA (TA) *Animals* (Kansas ARNG) fielded Version 8 of the Q-36 Firefinder in TY01. It also conducted several support missions for units outside the 35th Div Arty and underwent an EXEVAL in AT02 at Fort Riley. After rotations to Bosnia in 1996 and Kosovo in 2000 and strength issues, the Battery continues to receive high praise for its performance.

HQB, Div Arty is training to be a joint military affairs (JMA) section for SFOR13. After September 11th, it provided soldiers for airport security and the 2002 Women's Golf Open in Hutchinson, Kansas.

The 35th Div Arty is ready to provide unparalleled worldwide fire support to the **Santa Fe Division** and the US Army!



A 2-138 FA Paladin fires a round during AT 2002 at Fort Knox, Kentucky.



# Silhouettes of STEEL

## 38th Infantry Division (Mechanized) Artillery

**3**8th Infantry Division Artillery, *Cyclone's Thunder*, INARNG, headquartered in Indianapolis, Indiana, participated in a variety of missions this year. HHB supported each annual training period and provided soldiers to the National Guard Bureau (NGB), Slovakia, and security missions throughout the state and nation in support of homeland defense.

The Division FSE played a corps artillery in the 42d Infantry Division Warfighter exercise at Fort Leavenworth.

2-150 FA, headquartered in Bloomington, Indiana, participated in Operation Hoosier Guardian, a 36-hour, multi-agency homeland defense exercise. The Battalion also conducted an intensive AT period at Camp Grayling, Michigan. It began the training period in a consolidated firebase and transitioned to offensive operations. 2-150 FA is part of the 54th FA Brigade.

3-139 FA, headquartered in Crawfordsville, Indiana, underwent a mobilization exercise and conducted battery lanes at Camp Atterbury, Indiana. Batteries participated in a defensive lane and live-fire certification. In the defense, each battery conducted live-fire operations while dug-in. Additionally, personnel were attached to the headquarters of the 142d FA Brigade

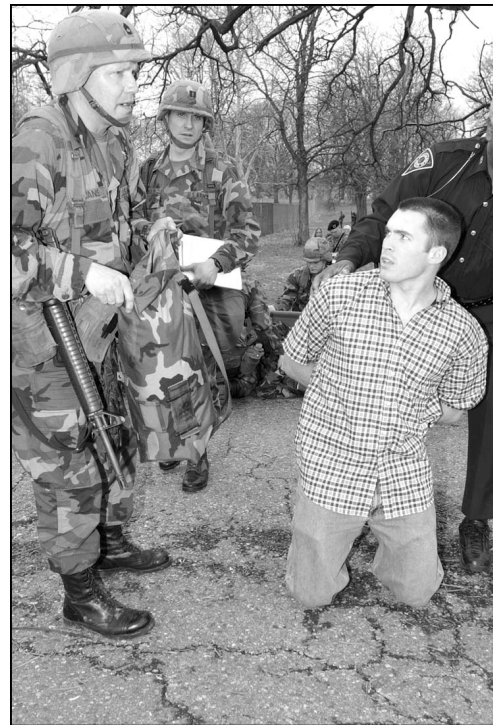
in support of the V Corps Warfighter. Later in the year, 3-139 FA participated in a homeland defense exercise.

1-134 FA, headquartered in Columbus, Ohio, conducted an aggressive AT at the NTC in support of the 11th Armored Cavalry Regiment (ACR) as OPFOR artillery. The unit looks forward to returning to the NTC in 2004. The Battalion conducted annual training at Camp Grayling where batteries qualified on FA Table XV. The training culminated in a battalion and division artillery LFX.

1-119 FA, headquartered in Lansing, Michigan, engaged in a challenging training year, culminating with AT at Camp Grayling. The Battalion is at a high level of readiness and looks forward to building upon this year's successes.

E/139 FA (TA), Indianapolis, supported all Div Arty training exercises and several out-of-state units. Battery E continues to maintain a high level of readiness.

The 38th Div Arty is on the road of excellence where "Do it right" is the only standard. *Cyclone's Thunder!*



2-150 FA "detains" an individual during Operation Hoosier Guardian, a homeland defense exercise, in response to September 11th attacks.

## 40th Infantry Division (Mechanized) Artillery

**S**ince the 2000 Red Book, the *Sunburst Division's* Artillery, CAARNG, has been focusing on improving and sustaining section- and battery-level proficiencies and deploying soldiers in the nation and world-wide.

At the unit level, we had a number of accomplishments. First, soldiers from F/144 FA (TA) added to their previous tour in Bosnia by completing one in Kosovo from November 2000 to April 2001, supporting the KFOR.

Second, HHB Div Arty, 1-143 FA and 1-144 FA participated in highly successful brigade and below battle command training rotations at Fort Hunter Liggett, California. These multi-day CPXs stressed both commanders and their staffs and enhanced tactical and technical skills down to the staff-section level.

Third, soldiers from all Div Arty units participated in I Corps' Warfighter at Fort Lewis in October and November 2001. This training further enhanced our com-



A Q-36 radar of F/144 FA on OP Gunner in Kosovo. (Photo by CPT Jeff Corella)

mand and staff skills and our links with I Corps and I Corps Artillery.

Next, 1-144 FA sent B Battery to train with the OPFOR at the NTC during 2002. This rotation honed B Battery's already considerable tactical skills.

We also supported other operations, such as the US Army Japan and the

Japanese Ground Self-Defense Force during Yama Sakura in 2001 and 2002; the 2d Infantry Division Warfighter in Korea in November and December 2001 (involved the 1-144 FA and 2d Brigade commanders and staff plus the Brigade FSE); and Cobra Gold, in Thailand, a combined FTX/CPX with I Corps and the Royal Thai Army.

In addition, 40th Div Arty soldiers mobilized and deployed in support of Operation Noble Eagle. Although most of our soldiers who deployed remained in California, they helped conduct security operations at 15 different airports across the state and various military facilities in California or in the western US.

Equipment fielding also continued apace. In the last two years, the Div Arty fielded GLPS and MMS and has started to receive palletized loading system trucks to replace our HEMTTs and five-ton trucks.

The *Sunburst Division's* Artillery stands ready to support our nation and communities in the coming year. *Steel Lighting!*

# Silhouettes of STEEL

## 42d Infantry Division (Mechanized) Artillery

The Redlegs of the 42d *Rainbow* Infantry Division (Massachusetts, New York and New Jersey ARNG), with its headquarters in MAARNG, started this training year caught in the wake of the September 11th terrorist attacks on the World Trade Center and Pentagon. The operational pace has not slowed.

1-258 FA, headquartered in Jamaica, New York, began the year conducting security for and providing assistance to civil authorities at Ground Zero in Manhattan. The Battalion lost two soldiers and a soldier's son who worked in the

World Trade Center. 1-258 FA soldiers secured bridges, tunnels, Grand Central Station and the USMA at West Point. 1-258 FA also continued IDT, conducting Tables VI and VII crew certifications, and deployed to the NTC for an OPFOR rotation.

1-101 FA out of New Bedford, Massachusetts, had a year full of operations and changes. In November 2001, C/1-101 FA completed an NTC OPFOR rotation. 1-101 FA trained its staff in a multi-national brigade Warfighter exercise Cooperative Nugget that had phases in Camp Ethan Allen, Vermont; Stockholm, Swe-

den; and Fort Drum in June 2002. It also started converting from M109A5s to M102s in preparation for reassignment to the 29th Infantry Division (Light) in September 2003. AT was at Camp Edwards, Massachusetts, and Fort Drum, and included the first LFX with the M102s.

3-112 FA, headquartered out of Morristown, New Jersey, started the year supporting Operation Noble Eagle. The Battalion wrapped up the year with an AT at nearby Fort Dix. The batteries rotated through crew-served MK-19, SAW, PLGR, IFSAS and FIST training, along with an LFX.

1-102 FA in Quincy, Massachusetts (part of the 113th FA Brigade, NCARNG), had a year of firsts and new beginnings. It participated in its first SIMEX as a reinforcing unit to the 103d Field Artillery Brigade (RIARNG) and conducted a split-AT, deploying twice to Fort Pickett, Virginia, for LFXs within a three-month period. Between the two ATs, the command fielded SINGARS, IFSAS/BCS Version 11 and the HTU.

The Div Arty capped off the year fighting the COE OPFOR in Balkan Rainbow, the Division Warfighter at Fort Leavenworth. These challenges and accomplishments increased the 42d's ability to fight and win on the battlefield. *Rainbow Thunder!*



Soldiers from B/1-258 FA perform a survivability move during annual training at the NTC.

## 49th Armored Division Artillery

The 49th Armored Division Artillery *Balls of Fire*, TXARNG, had an exciting year. Soldiers from the Div Arty trained and deployed in support of state and Federal missions. The deployments started with the activation of members of HHB Div Arty, HHS and A/2-131 FA (MLRS), and 3-133 FA in October 2001 to help the Federal Aviation Administration secure Texas' airports. This activation lasted until June 2002.

In March 2002, 3-133 FA was activated in support of Operation Noble Eagle I. Soldiers from HHB Div Arty, 1-133 FA and 4-133 FA augmented 3-133 FA. These soldiers formed Task Force FORSCOM Border Support (Texas) and were responsible for helping the US Customs Service and the Immigration and Naturalization Service's Inspection Division secure the US-Mexico border from southeastern New Mexico to south Texas. All along the border, proud members of the 49th Div Arty did an outstanding job.

Along with state and Federal activations, the 49th Div Arty continued honing its artillery and warfighting skills. The three DS battalions trained for and supported brigade Warfighter exercises, and the entire Div Arty supported the 49th Armored Division in the III Corps Ramp-Up

exercise and the III Corps Warfighter. The Div Arty then deployed to Forts Hood and Bliss for AT. B/2-131 FA trained with 2-20 FA (MLRS), 4th Infantry Division. The battery fielded and fired the M270A1, MLRS launcher. C/4-133 FA deployed to the NTC for a rotation to augment the OPFOR. The Div Arty helped its neighbors during major flooding that struck the San Antonio area in July 2002. Soldiers from HHB Div Arty, 2-131 FA and 4-133 FA helped evacuate local residents from their homes in floodwater-damaged areas. The sol-

diers used five-ton trucks to transport victims to safety. This state activation lasted 14 days.

In August 2002, 4-133 FA was activated in support of Operation Noble Eagle II. The Battalion deployed to replace other National Guardsmen who have been supporting the homeland security mission since September 2001.

The 49th Armored Division Artillery proved it stands ready to accomplish the mission in support of Texas and the US. *Balls of Fire!*



B/2-131 FA, the multi-component battery, fires the M270A1 at Fort Hood.

# Silhouettes of STEEL

## 82d Airborne Division Artillery

The 82d Airborne Div Arty, Fort Bragg, North Carolina, maintains its ability to deploy worldwide with no notice and synchronize lethal and nonlethal effects for the Division.

The Div Arty Headquarters demonstrated its warfighting skills in two major exercises—the Division Warfighter in January and Exercise Millennium Challenge in July. During the Warfighter, the Div Arty was the force FA headquarters, controlling an active and ARNG FA brigade. In Millennium Challenge at the NTC, the Div Arty leveraged the capabilities of new C4I software and integrated effects into combined/joint operations, to include naval gunfire, Marine and Air Force CAS, organic 105-mm assets, HIMARS and the IBCT's M198s. During the airfield seizure, Div Arty commanded and controlled pre-assault fires from an E8 JSTARS. The Div Arty also conducted two battalion and four battery EXEVALs and many FTXs and CALFEXs.

1-319 AFAR, the *Loyalty Battalion*, deployed to the NTC in November 2001 to support 3d Brigade. In April, it completed intensive training that culminated with a multi-phased, company close-support CALFEX. The *Loyalty Battalion* recently broke new ground by forming three provi-



An 82d Airborne Div Arty howitzer section participates in a live-fire section drill as part of the 319th Regimental Competition.

sional 120-mm mortar batteries manned exclusively by 13Bs. These batteries were certified via live-fire and deployed as part of Operation Enduring Freedom along with a 105-mm howitzer battery.

Paratroopers of 2-319 AFAR, *Falcon's Fury*, continued their tradition of excellence: twice at the NTC during heavy/light rotations and for Millennium Challenge. Additionally, it executed a tough Div Arty readiness test (DART) and massed the Battalion during a battalion artillery readiness test (BART). 2-319 provided fires during two infantry task force EXEVALs, including live-fire SEAD, LZ prep and DZ missions. 2-319 now has the new Striker vehicles and the enhanced capabilities of 6.3 AFATDS and other ATCCS.

3-319 AFAR, the *Gun Devils*, set the standard in METL-based training. It deployed in two JRTC rotations and conducted two extensive DARTs. The Battalion executed many DZ missions, FTXs and LFXs in support of the *Devil Brigade*. The *Gun Devils* are training for a potential deployment in the War on Terrorism.

The 319th AFAR is poised to deliver airborne fires 18 hours from the call, anywhere in the world, any time and in any environment. ***Airborne—All the Way!***

## 101st Airborne Division (Air Assault) Artillery

The 101st Airborne Division (Air Assault) Artillery *Guns of Glory*, Fort Campbell, Kentucky, had a dynamic year of training, deploying and supporting the world's *only* Air Assault Division. After the tragedy on September 11th, Div Arty was chosen to command and control the force protection mission for the Division and post-once again establishing high standards. The Div Arty HQ maintained its warfighting skills during Ulchi Focus Lens, Korea, in August 2001. The *Guns of Glory* also fielded AFATDS 6.3 along with the new mission planning and rehearsal system (MPARS).

1-320 FA *Top Guns* had a busy year with C Battery and a Firefinder section deployed to Kosovo in support of the 2d BCT *Strike* and Task Force Falcon in KFOR3A. The Battery conducted many air assault raids and "Bright Sky" missions to facilitate the interdiction of smuggling operations. *Top Guns* also deployed to the JRTC and supported 38 CALFEXs, closing out this year with an Eagle Fires IV battalion EXEVAL in October.

2-320 FA *Balls of the Eagle* continued to provide outstanding fire support to the 1st BCT *Bastogne*. The Battalion deployed to the JRTC in October 2001 via river barges. In spring 2002, it participated in

"Bastogne Schmal" exercise simultaneously with its EXEVAL. A and C Batteries along with fire supporters from Headquarters and Service Battery introduced USMA cadets to light artillery from June to August.

3-320 FA *Red Knights* displayed their combat skills while supporting the 3d BCT *Rakkasans*. The Battalion personnel, including fire supporters and a radar, deployed to Afghanistan in support of Operation Enduring Freedom and Operation Anaconda from November 2001 until August 2002. The Battalion closed out 2002 with a rotation to the JRTC.

C/1-377 FA (155-mm towed) deployed to Fort Bragg in support of the 18th FA Brigade November through December 2001 and again in April 2002 and to the JRTC with the 1-320 FA in February 2002. 2d FA Detachment *Guardians* deployed a Q-37 section to KFOR3A in June 2001.

The 101st Div Arty is ready to deploy anywhere, anytime and provide fire support for the *Screaming Eagles*—in our next rendezvous with destiny. ***Air Assault!***



101st Air Assault *Guns of Glory* provide fire support wherever and whenever needed.

# Silhouettes of STEEL

## 10th Marine Regiment

As the 2d Marine Division's *Arm of Decision*, the 10th Marines, Camp Lejeune, North Carolina, maintains excellence in tactical proficiency and operational readiness. This year, regimental elements were forward deployed around the world: the frozen mountains of Norway, steamy jungles of the Philippines, hot plains of Spain and rugged terrain of Afghanistan.

The 10th Marines, the centerpiece of the MAGTF's fire support capability, maintains the ability to task organize for the division and MEU (SOC) operations. Elements of the 10th Marines were forward

deployed with the 22d, 24th and 26th MEU (SOC), demonstrating the concept of operational maneuver from the sea. Additionally, we supported the 3d Marine Division in Okinawa, Japan, in the Unit Deployment Program.

In FY02, 1/10 deployed with the 2d Marines for Exercise Battle Griffin/Strong Resolve with the Norwegian 6th Division throughout the central part of Norway. 2/10 deployed with the 6th Marines to San Gregorio, Spain, for Operation Dynamic Mix, conducting joint operations with various NATO forces. Elements of

2/10, 3/10 and 5/10 participated in the rigorous MAGTF CAX at the MAGTF Combined Arms Training Center, Twentynine Palms, California. T/5/10 was the first US artillery unit to live fire in the Philippines during Balikitan 2002 since the US withdrawal in 1993.

The 10th Marines deployed twice to Fort Bragg, North Carolina, for exercise Rolling Thunder. These fire exercises allowed the regiment to fine-tune its capability to command and control multiple battalions and conduct joint training with Army MLRS, towed artillery and Q-37 radar units. Both Rolling Thunders incorporated aviation assets, executing both fixed-wing CAS and heliborne operations.

FY02 was unique due to the many assignments of non-standard artillery missions. K/3/10 executed security missions at the American Embassy, Kabul, and at Kandahar Air Base, Afghanistan, as a provisional rifle company during Operation Enduring/Swift Freedom. Elements of 3/10, 5/10 and Headquarters Battery had quick reaction force (QRF) duties as provisional rifle battalions in support of homeland defense.

The 10th Marines, the oldest artillery regiment in the Marine Corps, stands ready to provide timely, accurate fires as the 2d Marine Division's *Arm of Decision!*



1/10 Marine Gunners shoot their M198 at Fort Bragg during Rolling Thunder.

## 11th Marine Regiment

The 11th Marines *Cannon Cockers*, 1st Marine Division, Camp Pendleton, California (1/11, 2/11 and 5/11)

and one battalion (3/11) at Twentynine Palms, California, supported many deployments, exercises, technological demonstrations and contingency requirements in the past year. At the tip of the spear, the 11th Marines provided firing batteries in support of eight deployments to the Western Pacific with the 11th, 13th, 15th and 31st MEU (SOC). Batteries on these deployments trained in Okinawa, Japan; Australia; Hawaii; the United Arab Emirates; and Kuwait. Of note, one firing battery participated in Operation Enduring Freedom from September 2001 until March 2002 in Pakistan while deployed with the 15th MEU (SOC).

Closer to home, the Regiment sharpened its warfighting skills with continuous METL-based training during the year. The schedule included six CAXs at the MAGTF Training Command (MAGTFTC), Twentynine Palms, in support of the 1st and 5th Marines. Each CAX solidified the fire support relationships between the artillery and supported maneuver and

focused on digital-sensor-to-shooter procedures. Operation Kernal Blitz, a regimental landing team (RLT)-sized amphibi-



11th Marines fire an M198 at Twentynine Palms, California.

ous operation, proved that Marine artillery is fully capable of providing lethal fire support from the beach for the 21st century MAGTF.

Additionally, 11th Marines participated in two division-level CPXs across the Southern California and Arizona deserts (Desert Scimitar), which included staff planning, fire planning and command and control for an actual crossing of the Colorado River and offensive operations over 150 miles of the Mojave Desert. 11th Marines conducted a regimental firing exercise at Camp Pendleton with its four organic battalions with the objectives of honing core competencies, training new staffs and maximizing the use of all training areas on the base.

The Regiment also deployed for two Desert Fire Exercises and a Steel Knight exercise at the MAGTFTC and, while focusing on the five requirements for accurate predicted fire, integrated devastating lethality with massed fires on time and target.

In any capacity, climate or place, the 11th Marines continue to deliver fires on time and on target for the 1st Marine Division. ***Cannon Cockers!***

# Silhouettes of STEEL

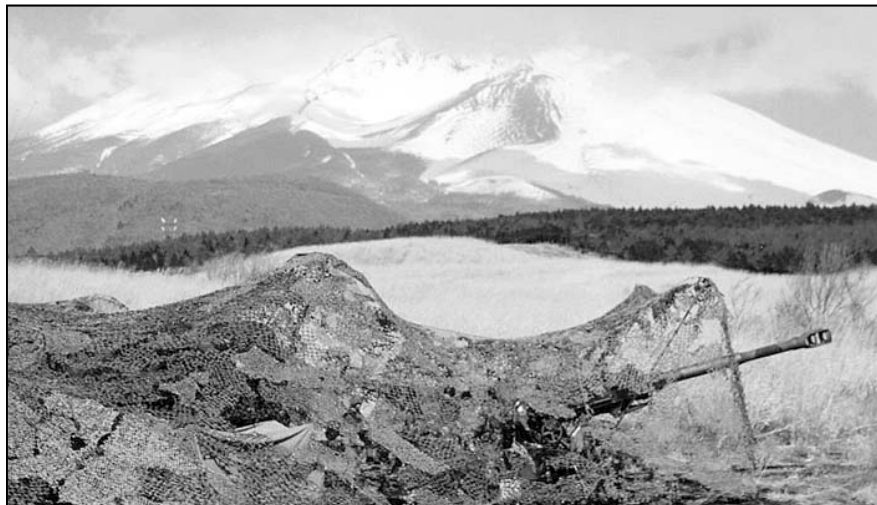
## 12th Marine Regiment

The 12th Marine Regiment, the Marine Corps' forward-deployed artillery regiment, is headquartered on Okinawa, Japan, and maintains one battalion on Okinawa (3/12) and one on Hawaii (1/12). During the past year, elements of the Regiment deployed throughout the region as they trained in Okinawa, mainland Japan, Hawaii, California, South Korea, the Philippine Islands and Thailand.

In November 2001, elements of the Regiment deployed to Pohang, South Korea, to participate in the Korea Incremental Training Program. In January, 12th Marine elements conducted jungle warfare training at the Jungle Warfare Training Center in Okinawa. In January and February, elements deployed to Sendai, Japan, to participate in Yama Sakura 41, a joint and combined exercise conducted with the Japanese Ground Self-Defense Force and the US Army I Corps.

The Regiment conducted a division-level CAX in February and March at Fuji, Japan, while 1/12 deployed to California to participate in a Desert Firing Exercise and Desert Scimitar. In March, the Regiment supported the 3d Marine Division's CPX, Pacific Impact 2002.

In April, May and June 2002, 3/12 participated in Cobra Gold 2002, a combined



With Mount Fuji as a backdrop, 12th Marine artillerymen prepare for action.

exercise with the Singapore and Thai Armed Forces. They honed their ability to deploy rapidly by using maritime prepositioned gear for the exercise.

In April and May, units of the Regiment deployed and participated in Balikatan 2002, a combined exercise with the Armed Forces of the Philippines. 12th Marine elements deployed to South Korea in August and September to participate in

the joint CPX Ulchi Focus Lens, while others participated from Okinawa.

While no live firing of artillery is conducted on Okinawa, the Regiment deployed elements to mainland Japan seven times to conduct battalion- and battery-level live-firing exercises.

Forward deployed in the Pacific Theater, the 12th Marines remain America's **Thunder and Steel!**

## 14th Marine Regiment

14th Marines is the largest regiment in the Marine Corps, organized into five battalions at 19 sites throughout 13 states. 14th Marines, headquartered at Naval Air Station, Fort Worth, Texas, has had a busy year living up to its motto- *At the Ready!*

In March, 2/14 participated in an LFX with 11th Marines at the MAGTF Training Center (MAGCTC), Twentynine Palms, California; the Battalion validated the Total Force concept by successfully integrating selected Marine Corps reserve (SMCR) units with their active-duty counterparts.

Our headquarters provided a liaison team for 1st Marine Division's annual Desert Scimitar in April. In Desert Scimitar, the Division exercised command and control over doctrinal distances as it moved from MAGCTC to Marine Corps Air Station Yuma in Arizona.

In April and May, our MAGTF liaison team supported I MEF at Camp Pendleton, California, during Desert Spear; 14th Marines helped develop and execute the MEF's counterfire plan.

1/14 and 3/14 participated in separate CAXs at MAGCTC in July and August. The Battalions focused on coordinating air- and ground-delivered fires for infantry

battalions. Both successfully honed their artillery skills in the arduous desert environment. In addition, they trained on small-arms and crew-served weapons.

Also in June, 4/14 conducted an LFX at Camp Shelby, Mississippi. The Battalion fired more than 2,000 artillery rounds and conducted nearly 100 individual battery moves.

In July, our Headquarters Battery and 5/14 deployed to Camp Pendleton for an LFX, conducting battery-through force artillery-level operations. We broke new ground using Version 10 EPLRS to transmit digital fire missions from the MEF to the Battalion.

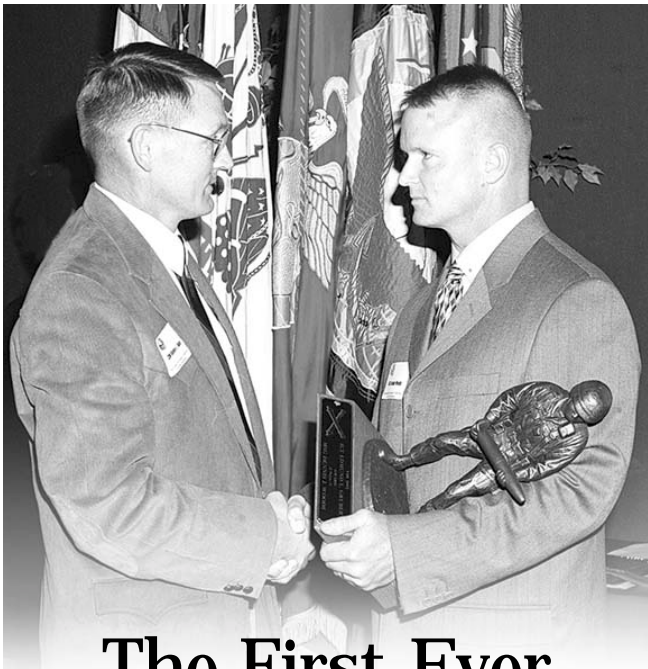
The Regiment supported III MEF in August as its force artillery for Ulchi Focus Lens in Korea; 14th Marines improved staff planning skills and developed tech-



3/14 Gunners pound away at targets in the tough desert environment of Twentynine Palms.

niques and procedures for the force artillery mission. Battery K, 4/14 traveled to the Ukraine in October for the NATO live-fire Exercise Cooperative Adventure Exchange, involving English, Ukrainian and Belgian units.

14th Marines is constantly training to live up to its motto- **At the Ready!**



## The First-Ever Gruber Award for the Outstanding FA Professional

**M**aster Sergeant (MSG) Dennis J. Woods (pictured on the right), recently of A Battery, 3d Battalion, 319th Field Artillery, 82d Airborne Division, Fort Bragg, North Carolina, won the first Gruber Award for the outstanding FA professional of 2002. While in A Battery, MSG Woods invented the gun electronic laying optical night sight (GELON), a sight mounting system used by towed howitzers to engage direct fire targets at night without illumination rounds, allowing FA units to maintain night discipline. During the Senior Fire Support Conference Banquet on 3 October at the Fort Sill Officers' Club, the Command Sergeant Major of the FA, CSM Rodney L. Beck (on the left), presented Woods a statue of "The Cannoneer" in recognition of his professionalism and contribution to the FA.

The purpose of the Gruber Award is to recognize outstanding individual thought and innovation that results in a significant contribution to or enhancement of the Field Artillery's warfighting capabilities, morale, readiness or maintenance.

The award was named after Brigadier General Edmund L. Gruber, 1879-1941, the composer of the Field Artillery's "The Caisson Song" that later was adapted to become the Army's song. The inspired composition of then First Lieutenant Gruber's "The Caisson Song" in 1908 has contributed to Field Artillery and Army morale for more than 90 years.

Lieutenant Gruber composed the "The Caisson Song" at Camp Stotsenburg, Pampanga, Philippine Islands, in March 1908. The original lyrics reflect the routine activities in a horse-drawn Field Artillery battery. Gruber's purpose was to commemorate the arrival of the 1st Battalion, 5th Field Artillery to relieve the 2d Battalion in the Philippines.

With minor revisions to Gruber's original verse and refrain plus the addition of verses, the "The Caisson Song" became "The Caissons Go Rolling Along," the official song of the US Army Field Artillery, in 1917. Then in 1952, H.W. Arberg adapted Gruber's song to make it "The Army Goes Rolling Along," the official song of the United States Army.

Although Gruber was most famous for his 1908 composition, his career proved he continued as a professional, innovative Field Artilleryman. As the commander of the 2d Field Artillery in the Panama Canal Zone during the 1933 maneuvers, he conducted the earliest known experiments in airborne artillery techniques, transporting three 75-mm howitzer batteries with men, ammunition and equipment by plane. The following year, he marched the 2d Field Artillery with full field equipment through the jungle across the isthmus from the Atlantic to the Pacific sides, a feat unequaled since the time of Balboa and Morgan. He also commanded the 7th Field Artillery at Fort Ethan Allen, Vermont. Brigadier General Gruber became the Commandant of the Command and General Staff College (CGSC) and Commander of Fort Leavenworth, Kansas, in 1940, revising the instruction for CGSC. He was serving in this position at the time of his death on 30 May 1941.

MSG Woods is described by his 82d Division Artillery Command Sergeant Major as "...an All-Army man. His personal involvement with and commitment to the goals and ideals of the Field Artillery and the Army are without equal."

MSG Woods' invention of GELON led to its testing and release by the Tank-Automotive and Armaments Command, Rock Island, Illinois. As his CSM said, "His 30-dollar fix has saved the Army millions." Woods' innovativeness has enhanced the warfighting capabilities of the Field Artillery significantly.

(Much of the information on BG Gruber in this article was taken from "General Order No. 17, Headquarters Fort Leavenworth, Kansas," dated June 2, 1941, by order of Colonel Lewis and signed by Dana C. Schmahl, Lt. Col, Field Artillery, Executive Officer, announcing the death of BG Gruber at Fort Leavenworth.)



### Caisson Song, 1908

(Original First Verse and Refrain)  
By First Lieutenant E.L. Gruber

Over hill over dale we have hit the dusty trail  
As our caissons go rolling along.  
Up and down, in and out,  
Countermarch and right about,  
And our caissons go rolling along.

For it's hi-hi-hee  
In the Fifth Artillery,  
Shout out the number loud and strong.  
Till our final ride,  
It will always be our pride  
To keep those caissons a rolling along.  
(Keep them rolling-keep them rolling)  
Keep those caissons a rolling along.  
(B-a-t-t-e-r-y H-a-l-t!)

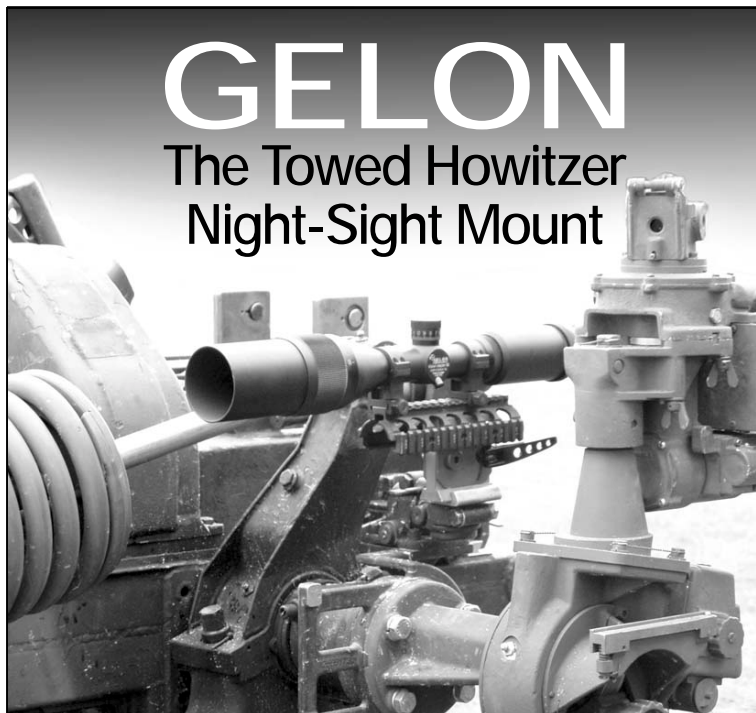
**A** visionary in the artillery world, then Captain Henry L. Eisenbarth, my battery commander, tasked me to develop a night-sight system in 1986. Over the years I have developed different systems for both towed and mechanized howitzers and, on occasion, submitted them for acceptance. But only in the 319th Airborne Field Artillery Regiment, 82d Airborne Division, Fort Bragg, North Carolina, did the officers and NCOs support one.

I used my experiences with night operations in the 82d Airborne Division during Grenada 1983, Desert Shield/Storm 1990-1991 and Operation Desert Fox 1998, the latter while attached to the 5th Special Forces Group, to develop the gun electronic laying optical night sight (GELON). GELON is a mounting system that allows units to use existing and future night weapon sights, laser aimers and (or) thermal weapon sights to conduct direct fire, including towed howitzers and 120-mm mortars. It enables M119 and M198 howitzers to engage direct fire targets at night without firing illumination, allowing FA units to maintain light discipline. This device also enables gunners to use the Killer Junior technique (detonate a high-explosive round above ground to produce a linear spray of shrapnel) under the cover of darkness.

The 319th AFAR is using GELON on its 105-mm howitzers and 120-mm mortars in Afghanistan.

The mount consists of a metal block milled to fit the existing direct fire mount and a deep metal hinge that pivots in line with the howitzer. This allows the gunner to correct the line of sight to compensate for the round's ballistic arch as the tube is raised. A bicycle seat clamp locks the mount in place, but a standard rail taken from an M4 modular weapon system provides the mount's true utility.

The rail system with rail grabber was developed for sniper systems and allows soldiers to bore-sight instruments to it and then remove them



# GELON

## The Towed Howitzer Night-Sight Mount

for storage or transport. When the instruments are returned to their numbered positions on the rail, they remain bore-sighted.

GELON's operation is based on parallel aiming. In indirect fire, the gunner's Pantel sight is used for directional control and his quadrant sight for range. His priority of work is sight-bubble-sight. In a direct fire engagement using the GELON mount, a gunner uses his night weapon sight for directional control and his quadrant sight for range. His priority of work remains sight-bubble-sight.

The mount allows the gunner to measure the difference between the gun and target in elevation to refine the firing solution as well as measure the range-to-target using a rangefinder, also mounted with a rail grabber.

There are many advantages to the night-sighted cannon in battery defense. For example, by having a laser aimer attached, the chain of command can employ the gun line much like it would an AC-130 aircraft by going laser dot to laser dot to confirm the targets before engaging them. Sections close to a wood line use a common thermal sight, and those watching observations points and entry control

points use a passive night sight.

Rock Island Arsenal Manufacturing, Rock Island, Illinois, now produces the mounts. Units can contact Barbara VanOpdorp at vanopdorp@ria.army.mil or Don Bowen at bowend@ria.army.mil in the Tank-Automotive and Armaments Command-Rock Island. TACOM estimates GELON will save the Army \$27.2 million.

MSG Dennis J. Woods, Master Gunner 82d Airborne Div Arty, Fort Bragg, NC 2002 Gruber Award Winner

**Statement of Ownership, Management, and Circulation**  
 Publication Title: FIELD ARTILLERY BULLETIN  
 Issue Frequency: Monthly  
 Issue Date for Circulation Data Below: SEPTEMBER - October 2002  
 Total Number of Copies (Net press run): 38,160  
 Total Number of Copies (Net press run) less: 7,852  
 Total Number of Copies (Net press run) less: 7,232  
 Total Number of Copies (Net press run) less: 3,008  
 Total Number of Copies (Net press run) less: 3,015  
 Total Number of Copies (Net press run) less: 552  
 Total Number of Copies (Net press run) less: 553  
 Total Number of Copies (Net press run) less: 3,560  
 Total Number of Copies (Net press run) less: 3,568  
 Total Number of Copies (Net press run) less: 0  
 Total Number of Copies (Net press run) less: 3,216  
 Total Number of Copies (Net press run) less: 61  
 Total Number of Copies (Net press run) less: 0  
 Total Number of Copies (Net press run) less: 586  
 Total Number of Copies (Net press run) less: 70  
 Total Number of Copies (Net press run) less: 3,886  
 Total Number of Copies (Net press run) less: 158  
 Total Number of Copies (Net press run) less: 7,446  
 Total Number of Copies (Net press run) less: 3,444  
 Total Number of Copies (Net press run) less: 166  
 Total Number of Copies (Net press run) less: 7,012  
 Total Number of Copies (Net press run) less: 7,632  
 Total Number of Copies (Net press run) less: 220  
 Total Number of Copies (Net press run) less: 488  
 Total Number of Copies (Net press run) less: 7,232  
 Total Number of Copies (Net press run) less: 516