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Field Artillery

A JOINT MAGAZINE FOR US FIE JANUARY-FEBRUARY 2007

Making Soldiers
ARMY STRONG
The Transformation of Basic Combat Training

Inside:

HQDA PB6-07-1

Field Artillery

A JOURNAL FOR US FIELD ARTILLERYMEN • SINCE 1911

January-February 2007 HQDA PB6-07-1

ARTICLES

DEPARTMENTS

Front Cover: A basic combat training Soldier lays down fire during a mock rescue mission at Fort Sill, Oklahoma's Freedom Town. With the drill sergeants acting as squad leaders, the Soldiers secured the mock village and rescued a "downed helicopter pilot." The training helps develop Soldiers' into competent warriors with mental, emotional and physical strength that, along with shared Army values and teamwork, make them strong—*Army Strong*. (Photo by Fred W. Baker III)

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.*

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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@conus.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.

POSTMASTER: 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. Send address changes to Field Artillery, P.O. Box 33311, Fort Sill, OK 73503-0311.

Redleg Hotline & Email
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DSN 639-2204 or (580) 442-2204 (24-Hours)
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CounterStrike Task Force
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The FA Master Gunner and Reset of the Redeployed FA Battalion

Never before in the history of the United States Army have Field Artillery units been called upon to perform as many diverse missions as they are today. As one of the most powerful branches in our Army, the FA is capable of dealing more precision destruction than at anytime in our history—FA units are executing these missions in the Global War on Terrorism (GWOT), now called War on Terrorism (WOT).

At the same time, the FA community has demonstrated its flexibility to perform almost any mission in WOT. FA units conduct humanitarian, military police, transportation and infantry missions, just to name a few, and conduct them with outstanding results. However, conducting these nonstandard missions in counterinsurgency operations in a cycle of unit deployment, reset and redeployment comes at a price to traditional FA core competencies.

As the training and management heart of our Artillery skill sets, FA NCOs *will reset* a unit with quality certification programs as mission and time allows—given the right support. The Master Gunner Division at Fort Sill, Oklahoma, has several initiatives to help our talented NCOs improve or reestablish FA certification programs in resetting units.

FA Master Gunner Division Initiatives. Our NCOs and unit master gunners and digital masters are more critical now than ever to reset a unit. A master gunner who is empowered by his battalion commander and CSM can build on or reestablish his unit's certification-qualification programs quickly if he has the knowledge and experience and has kept current on ongoing changes in the branch. The FA Master Gunner Division has a number of initiatives to help master gunners reset their units.

FA Certification and Qualification. The FA Master Gunner Division helps units develop and implement FA certification and qualification programs using a coach-teach-mentor methodology. As an FA unit transitions from nonstandard missions to the skill sets needed for its primary Field Artillery role, recertification is a key component.

Currently, the division helps units reestablish their certification programs during unit visits. Units needing assistance contact the division's operations sergeant to coordinate dates and determine the unit's specific needs. Based on these needs, the division assembles the appropriate team to visit the unit.

While visiting the unit, the division's team mentors the NCO leadership to establish a certification plan in a three-day process. On Day One, the NCO-in-charge (NCOIC) of the certification team meets with the command team to determine the unit's mission and commander's guidance. Then the certification team meets with the unit's master gunner, digital master and operations sergeant to determine the unit's current level of FA proficiency as well as review its certification programs.

On Day Two, the team conducts workshops on *FM 3-09.8 Field Artillery Gunnery* with the master gunner, operations sergeant and artillery platoon sergeants. At the same time, the digital master and his NCOs participate in a workshop on Chapter 6, "Fire Direction Center (FDC)/Battery Operations Center (BOC)/Platoon Operations Center (POC)" of FM 3-09.8.

On the last day, unit personnel divide into working groups and the certification team facilitates the development of draft digital and cannon or multiple-launch rocket system (MLRS) certification programs. The team answers questions on everything from the new procedures for processing a fire mission on a Paladin to reloading operations for an M270A1 MLRS launcher to the newest software available on the advanced FA tactical data system (AFATDS). Finally, using the most up-to-date information, the team guides and mentors the master gunner and digital master into finalizing their certification-qualification programs that comply with current FA doctrine and the unit's mission and commander's guidance.

FA Master Gunner Home Page. Although units may email the division at famastergunner@conus.army.mil, the division also maintains communications with the field via its home page. The website is on the Fires Knowledge Network (FKN), part of Army Knowledge Online (AKO). On FKN, click on "Field Artillery Links" and scroll down to the "Field Artillery Center Quick Links" to find the "FA Master Gunner Division Home Page."

The home page not only has all the points of contact (POCs) for FA subject matter experts (SMEs), but also up-to-date examples of unit certification programs and standing operating procedures (SOPs) plus notification of FA changes to update the field. It has a real-time link for the field's questions that are posted and answered on a message board. A monthly newsletter is published on the home page to provide current information from the different departments and directorates of the Fires Center of Excellence at Fort Sill as well as unit stories sharing innovative ideas and procedures.

FA Master Gunner and Digital Master Course. The division supports this two-week course, which is conducted once

a quarter at the Fort Sill NCO Academy (NCOA). As a pilot, the October 2006 course included two days of relevant training for unit digital masters. Future courses will continue to train not only 13B Cannon Crewmember and 13M MLRS Crewmember master gunners, but also 13P MLRS System Operations/Fire Direction Specialist and 13D FA Tactical Data Systems Specialist senior fire direction NCOs.

The course teaches current doctrine, training management, crew-served weapons and small arms, Artillery weapon-specific tracks and fire direction operations to help master gunners and digital masters implement their unit's training and certification programs.

The FA Master Gunner and Digital Master Course start dates for 2007 are 29 January to 9 February, 11 to 22 June, and 10 to 21 September. Master Gunners and digital masters sign up for the course via the Army training requirements and resources system (ATRRS). If master gunners or digital masters have questions about the course, they can email the division at famastergunner@conus.army.mil.

Other Future Initiatives. The way ahead for the FA Master Gunner Division is fluid as it changes with the needs of the field; however, it is focusing on three specific areas. First, the division is updating the Master Gunner and Digital Master Course, based on feedback from the field and current WOT tactics, techniques and procedures (TTPs). This updating includes developing a one-week additional skill identifier- (ASI)-producing digital master track within the Master Gunner Course.

Second, the division is steadily collecting and posting small-arms specific data on the FA Master Gunner Home Page. Units projected to deploy in WOT should access the data.

Last, the division is finalizing and then will update a database of all master gunners and digital masters in our active and Army national guard (ARNG) units. The database and feedback from the field is critical as it will facilitate the division's tracking the needs of the FA community.

Ongoing initiatives in the FA NCOA include building programs of instruction (POIs) to help "reset" NCOs who attend the advanced and basic NCO courses (ANCOC and BNCOC). The new POIs will "recertify" NCOs by adding hands-on training that culminates with a live-fire exercise. The new NCOA training could be implemented as early as the Second Quarter of FY07.

Continue Gaining Field Feedback for Initiatives. The FA Master Gunner Division will continue to query units on what they need to recertify and qualify in FA skill sets and what improvements it can make to existing initiatives. Unfortunately, many units will perform back-to-back nonstandard missions and won't have time to reset when they return from Central Command (CENTCOM). Regardless, the division and FA Center will "lean forward" now to get the resources needed to help resetting FA command teams.

Advice from the FA CSM. I want to stress the importance of selecting the right NCO to be the unit master gunner and then empowering him to serve as the unit's training and certification "combat multiplier." And I would advise commanders that the most senior cannon or MLRS sergeant first class (SFC) is *not necessarily* the right choice for master gunner. The right NCO is someone who is not only technically competent, but also has the intestinal fortitude to ruthlessly enforce a *quality* certification program—the bedrock of his Soldiers' competence as Artillerymen. In my letter to promotion boards explaining the responsibilities of a master gunner, I describe him as one of the best and most competent NCOs in FA units, an NCO who is hand-picked by the CSM.

I recommend the battalion CSM rate the master gunner and the battalion S3 senior rate him with the battalion commander reviewing the efficiency report. This rating chain sends a clear signal about the master gunner's importance in the unit.

However, the master gunner rating scheme or other initiatives may not be "cookie cutters" for the digital master. We will implement initiatives to most effectively train and develop the digital master.

As a branch, we will continue to face

FA Master Gunner Division

In October of 2005, the Chief of Field Artillery established the FA Master Gunner Division to help train master gunners and help FA units maintain their Artillery proficiency through the turbulent times of transforming the force and supporting the War on Terrorism (WOT). The division's mission statement is "to conduct visits with Active and Reserve Component units throughout the Artillery community; to assist units in transformation develop unit certification/qualification programs, to serve as an informational portal and to receive feedback from the field." Its mission now also supports unit digital masters.

Further, the division serves as the key staff section to advise the Chief of Field Artillery, FA Command Sergeant Major (CSM), Assistant Commandant (AC), Director of the Directorate of Training and Doctrine (DOTD) and Commander of the 428th Field Artillery Brigade (formerly the 30th FA Regiment) in the FA School on all matters affecting master gunner and digital master programs. To meet the needs of the field, the division is staffed by a number of senior NCOs who are subject matter experts (SMEs) from various military occupational specialties (MOS) in the FA branch. One advantage of being at Fort Sill is the FA Master Gunner Division stays abreast of the most up-to-date information and rapidly can pass FA changes on to the field.

The FA Master Gunner Division is under the 428th Field Artillery Brigade in the FA School. The division's email is famastergunner@conus.army.mil. Master Sergeant Robert A. Niebauer is the FA Master Gunner and can be emailed at robert.niebauer@us.army.mil or called at the 24-hour Redleg Hotline at DSN 639-4089 or commercial 580-442-4089. The division also posts answers to questions on a message board on its home page on the Fires Knowledge Network (FKN) on Army Knowledge Online (AKO), among other online support programs.

The FA Master Gunner Division stands ready to provide units training and assistance to improve or rebuild their FA skill sets.

challenges in maintaining our core skills as our units conduct nonstandard missions in a succession of deployments in WOT. As some of the most lethal and flexible warriors on the battlefield today, Field Artillerymen demonstrate daily that they are Army "Pentathletes"—able to adapt and adapt very quickly

The FA Master Gunner Division and the Fires Center of Excellence will support redeployed units as they rebuild their FA core competencies, maintaining their Pentathlete adaptability to execute lethal as well as nonlethal missions.

Command Sergeant Major (CSM) William E. High, Jr., has been the CSM of the Field Artillery at the Fires Center of Excellence, Fort Sill, Oklahoma, since May 2005. He has performed in every leadership position from Section Chief of a Lance Missile Section to Multiple-Launch Rocket System (MLRS) Platoon Sergeant to First Sergeant of five batteries to CSM of a battalion and division artillery. He was the First Sergeant of line MLRS and M119 batteries, an MLRS separate battery, the Headquarters and Headquarters Battery of the 1st Infantry Division Artillery in Germany and Headquarters and Service Battery of 3rd Battalion, 319th Airborne Field Artillery Regiment (3-319 AFAR) in the 82nd Airborne Division at Fort Bragg, North Carolina. He was the CSM of 2-320 FA and the 101st Airborne Division Artillery at Fort Campbell, Kentucky, and while deployed for Operation Iraqi Freedom (OIF) I. Among other assignments, he served as a Drill Sergeant and S2 Operations NCO-in-Charge.

Photo by Fred W. Baker III

Students in the Field Artillery Master Gunner Course are helped by course instructor Lawrence Streeter (center) while disassembling the MK19 grenade machine gun.

The author wishes to acknowledge the contributions to this column of the Master Gunner Division, part of the 428th Field Artillery Brigade, Fort Sill, Oklahoma.

30th FA Regiment Redesignated the 428th FA Brigade

On 7 December 2006, the Field Artillery School's 30th FA Regiment became the 428th FA Brigade during a ceremony at Fort Sill, Oklahoma. The reviewing officer was Assistant Commandant Colonel Albert Johnson, Jr. The redesignation was part of the Training and Doctrine Command's (TRADOC's) move to the brigade structure in all its schools. The 30th FA Regiment had served the FA School since 1 February 1989.

The 428th FA Brigade retains the same mission as the 30th FA Regiment. The 428th's motto is *First, or Not at All.* Soldiers and leaders on the brigade staff and in the Master Gunner Division and maintenance shop will wear the 428th's shoulder patch. The Directorate of Training and Doctrine (DOTD), Futures Development and Integration Center (FDIC), Joint and Combined Integration Department (JACI), commanding general's staff and post support agencies will continue to wear the schoolhouse patch.

428th FA Brigade Shoulder Patch: The scarlet and gold patch has a wheel with a cross through the center, simulating the muzzles of guns in action. The numerical designation of the brigade is indicated by the quatrefoil (4), two colors (2) and eight segments between the spokes of the wheel and cross (8).

On the left, COL Kevin M. Batule, Commander of the new 428th FA Brigade, stands with the brigade's new flag while CSM Gary W. Bess on the right stands with the 30th FA Regiment's flag. The 428th's crest is scarlet and gold with three "bomb bursts" symbolizing the unit's three Italian campaigns in World War II: Roma-Arno, North Apennines and Po Valley. (Photo by CW4(R) Terry G. Melvin, S4, 428th FA Brigade)

GMLRS Unitary in the Close Fight

In April 2006, I received a phone call from my previous artillery brigade S3 from Iraq who is now the 2-4 FA [2nd Battalion, 4th Field Artillery] (MLRS) [multiple-launch rocket system] commander, Lieutenant Colonel Adam Legg, [214th Fires Brigade] at Fort Sill, Oklahoma. During his tenure as S3 for the 41st FA Brigade, I was the HHB [headquarters and headquarters battery] commander. I am now a BCT FSCOORD [brigade combat team fire support coordinator] for one of the Army's newest transformed infantry BCTs, the 2nd IBCT, 2nd Infantry Division, from Fort Carson, Colorado, currently deployed in support of OIF [Operation Iraqi Freedom], again. While we were training to deploy, LTC Legg offered to provide a dedicated MLRS platoon to support our upcoming NTC [National Training Center, Fort Irwin, California] rotation scheduled for July 2006.

He explained the accuracy of the new guided-MLRS, or GMLRS, unitary munition and asked if I could sell the BCT commander, Colonel Jeffrey Bannister, on bringing the additional assets to the NTC.

As soon of the word "MLRS" was mentioned in the BCT headquarters, it was met with a lot of chuckles, especially from those on the staff who recently returned from Special Operations Forces assignments. It was followed by comments like, "You mean that thing with all those cluster bombs that can take out an entire grid square…you think we can really use that at in Iraq or even at the NTC?"

I knew my work was cut out for me. But after finding some videos on the Fires Knowledge Network (FKN) on the Army Knowledge Online (AKO) website, I thought this MLRS plan could be approved. After re-working the NTC 220-day letter of intent to include LTC Legg's unit from Fort Sill and receiving COL Bannister's approval, we were on our way.

To ensure the AFATDS [advanced FA tactical data system] software would work correctly, we invited two launchers from C/2-4 FA (MLRS) to participate in the BCTs pre-NTC mission rehearsal exercise at Fort Carson in May 2006. The visibility of the launchers and their integration into the BCTs counterfire drills helped to ensure more members of the BCT were aware of the GMLRS unitary's capabilities—that it is extremely timely and accurate.

Soldiers look over the results of a test of the guided multiple-launch rocket system (GMLRS) unitary on a building in Iraq in June 2005.

At the NTC, the platoon of launchers gave an exceptional performance. The brigade used them routinely for counterfire on locations outside of the range of 120-mm mortars and 105-mm artillery. Surprisingly, they were the weapon of choice for one infantry battalion commander on two of his raids as a means of effective fires with reduced collateral damage. The question started coming up at every rehearsal, "What kind of launcher support will we receive?"

LTC Legg and I would've been satisfied if the platoon had fired five rockets during the entire two-week period, but the platoon received so many requests that it fired well over 50 rockets and twice had to relocate to support units because the rocket requests were inside the munition's minimum range.

The entire purpose behind the integration of C/2-4 FA into our NTC rotation was to educate maneuver forces on today's GMLRS unitary capabilities. Not only did the maneuver leadership (and artillery leadership, for that matter) learn of a new, reliable and extremely accurate weapon system (no more chuckles by the way), but also the entire NTC staff became more aware of the GMLRS unitary's capabilities. Eight days into "the box" portion of the rotation and the NTC leadership was still learning about (and believing) the capabilities of the GMLRS unitary munition.

The more people I talk with about the GMLRS unitary, the more I realize that the word is just not getting out to both maneuver and artillery personnel throughout the force. If you are still one of the hardliners out there who has yet to educate yourself and spread the word to your maneuver brethren about GMLRS unitary (be ready for a snicker when you mention it as a viable weapon for the close fight), then educate yourself, become a believer, and spread the word. To start your education, see the article "FA PGMs—Revolutionizing Fires for the Ground Force Commander" by Colonels Gary S. Kinne, John A. Tanzi and Jeffrey W. Yaeger in the May-June 2006 edition. It is online at sill-www.army.mil/famag/index.asp. Then view the FKN video.

After you've seen GMLRS in action, then it is easy to believe. The Chief of FA says the Marines have dubbed it their "70-kilometer sniper" and are using it as the weapon of choice.

MAJ Christopher W. Wendland, FA
BCT FSCOORD, 2nd IBCT, 2nd ID
Fort Carson, CO

Developing Cultural Understanding in Stability Operations:

A Three-Step Process

By Lieutenant Colonel
Prisco R. Hernandez

Captain Smith walks into Haji Yar Molavi's house to discuss the needs of students in the neighborhood's elementary school and the recent car bombing that occurred near the mosque. Haji Molavi had invited Captain Smith to his house because he was comfortable with their relationship. His son serves hot *chai* (tea), freshly baked bread and fruit.

Captain Smith is a bright, adaptable Artillery officer. As such, he tackles many sensitive issues that lie well outside the traditional areas of expertise of combat arms officers. He is willing to learn and has adjusted well to the various roles he must play in stability operations.

However, once the initial pleasantries are exchanged, Captain Smith and most of his fellow officers are unable to accomplish anything without relying on interpreters. This puts the captain and his peers in a position of disadvantage when dealing with local leaders.

Ideally, the captain would have all the language and cultural skills of "Lawrence of Arabia." Obviously, this exceptional level of linguistic and cultural expertise is unattainable without years of immersion in a foreign culture.

Does this mean that our officers and NCOs must accept their limitations and rely on contracted "experts" for such a crucial and sensitive part of their jobs in stability operations? I contend that this

The author with Pashtun children in a village near Gardez, Afghanistan, December 2004. Children grow up within a cultural context and a set of values—but they are open to change and fresh understanding.

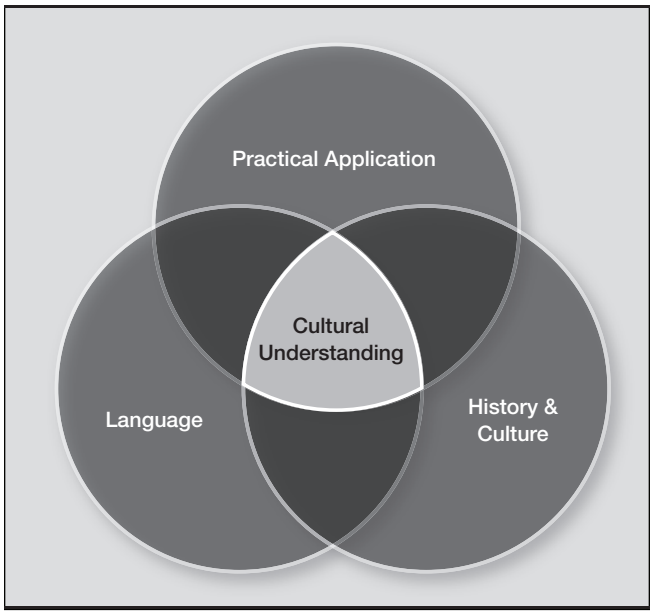

Figure 1: Three-Step Approach to Cultural Understanding

reliance on "outside help" is neither good for the Army nor something that must be accepted because any alternative would be "too difficult to implement."

There are many examples in the history of the US Army and other military forces where one person made a significant impact because of a superior level of cultural understanding.

Identifying a Training Need: Cultural Understanding. The Army recognizes that to succeed in today's contemporary operating environment (COE), cultural knowledge is not optional or "nice to have" but essential to mission success. This has been addressed in the Army's capstone manual *FM 1 The Army. FM 1* says, "Military professionals must be culturally aware—sensitive to differences and the implications those differences have on the operational environment."[1] Cultural training is now an integral part of pre-deployment training and applies to all Soldiers.[2]

In addition, the Army recognizes the value of skilled professionals who have a deep understanding of specific regions and countries, to include knowledge of the language. Due to the importance of the information environment and the requirements of stability operations, many Soldiers are in positions where a deeper knowledge of the culture in which they are working could increase their ability to accomplish the mission.

This deeper level of cultural understanding is clearly more than simple "cultural awareness" but does not reach the level of expertise required of an academic area expert. "Cultural awareness" is basic knowledge of a region and culture that includes social mores, religious traditions, customs and perhaps a few key phrases; "cultural expertise" is the deep knowledge acquired after years of cultural, linguistic and regional study, including practical experience, living and working in the target culture.

With those definitions, we can define "cultural understanding" as the "gray area" in between superficial familiarity and profound expertise. It is precisely this gray area that is critically important to military professionals engaged in stability operations.

A Three-Step Approach to Cultural Understanding. I propose a three-step approach that takes the student beyond mere cultural awareness to a deeper level of cultural understanding—from the level of merely avoiding causing offense to being an active and independent participant in the target culture.

The intent is not to make the Soldier a regional or cultural expert. Such expertise requires many years of sustained study and immersion in a culture. The program I propose would equip the Soldier with skills to operate with true understanding—not simply awareness. This understanding would come from purposeful study in three distinct, but related, cognitive areas: history and culture, language, and practical application. (See Figure 1.)

History and Culture. Knowledge of history and basic cultural understanding are, conceptually, the easiest to acquire. This knowledge involves a considerable investment of time in reading and thinking about the history and the society of the target region and country. It includes understanding the origins and development of the dominant culture or cultures of a region.

The student is exposed to the deep history of civilization in the target area. This enables him to take a long perspective on conflict, war and the cultural, intellectual and material achievements of the region or country.

To gain balance, he needs to view the history and culture through more than one perspective. Thus, the student must find the best books by prominent historians that offer contrasting views of the subject.

If the target culture is a non-Western one, the student should try to find a translation of a good history written by a historian from that culture. Even in cases where a native historian writes what is an evidently ideological version of history, for example, a Chinese Maoist history, it provides invaluable insights into a particular cultural ideology and serves as a balance against histories written from the "outside."

To successfully complete this step, the student should complete a core reading list that is supplemented by other choices, based on personal interest. This phase may be accomplished primarily by individual study evaluated in a final examination or essay that tests the student's grasp of the target culture.

Language Skills. The second step to cultural understanding is, perhaps, the most difficult—learning a language. Language is one of the most complex human constructs. It is a closely interrelated set of skills used not only to communicate simple thoughts to others, but also to describe reality and even transcend the material world by creating ideas.[3] This complex universe of communication is tied to the specific structure of each language.

There are many methods for language instruction. Most involve repetition and include verbal, visual and written instruction. Regardless of the method, the key to learning a new language is a positive attitude, regular, preferably daily, use of the new language and persistence over time. A concentrated period of weeks or months of "total immersion" is helpful as are methods that include native speakers of the language. The Army's initiative for web-based language training is a laudable step in making language training available to Soldiers.[4]

Other possible areas for exploration include forming partnerships with universities and colleges near military installations and partnerships with language programs used by the US State Department and other government agencies, and identifying Soldiers who speak the target language as resources for local programs, etc.[5]

Language is a set of distinct skills—understanding spoken language, speaking the language plus reading and writing it.

In addition, translation from English to the target language and from the target language to English are distinct skills. There are levels of proficiency in each of these aspects of linguistic expertise.

In his book *Travels in Afghanistan,* Jason Elliot provides an interesting insight into the difficulties of intercultural communications. Relating his conversation with an Afghan, he writes, "I was at a loss for many of these explanations even in English, let alone in my unpolished Persian (Farsi), and tried to find ways in which our worlds might overlap. I found myself not only translating from one spoken language to another, but across a gulf of meanings and significances, against which the business of words and their equivalents seemed straightforward.

"Again and again I felt thrown up against the ideological frontier dividing our universes. You can travel across continents to reach a different civilization, but the barrier of ideas that separates one culture from another remains as formidable as ever."[6]

Practical Application. The third step in achieving cultural understanding is the practical application of the student's cultural and linguistic knowledge within the target culture. The best way of doing this is to live in the target culture.

Thus, a Soldier studying Arabic should be assigned a tour in an Arab country. This would enable him to practice his skills and gain additional knowledge and understanding. Cultural immersion for an extended period of time is the best way for the student to progress from a mostly theoretical understanding of language and culture to practical application and internalization of the culture. However, this is not always possible.

Other venues for practical application include foreign exchange programs, participating in combined exercises as part of ongoing theater engagement plans and sponsoring student officers or NCOs from the target country as they participate in US military academic institutions. These and other creative ways may be used to ensure that Soldiers who study a particular language and culture can apply their knowledge with members of the target culture.

Understanding Civilizations and the Impact of Religion. A useful way of picturing the world is as a web of interlocking and, at times, conflicting civilizations. One such model of the world was proposed by Samuel Huntington in his influential book *The Clash of Civilizations and the Remaking of World Order*.[7] The model is useful because it groups many cultures in larger civilizational spheres and creates a hierarchy that cuts across the sometimes arbitrary boundaries of nation states. Even if one does not accept every feature of his thesis, the Huntington construct provides a useful mental model for understanding the complex and sometimes violent interactions between distinct civilizations.

Interestingly, of all available cultural factors, Huntington uses religion as the most significant determinant of a civilization.[8] This is a more generic aspect than language because many languages are united under a single religion. Religion is a universal phenomenon.

Even the apparently atheistic or secular humanistic societies of the 20th century provided a secular ideological substitute—such as the communist state and associated dogma or the ideals of a liberal democracy and market capitalism. In any case, religion unifies a significant number of cultural characteristics and, thus, serves well as the basis for macro cultural differences.

To understand civilizations, the student studies the history of the area. Then he proceeds to a more detailed study of specific cultures or regions—with special emphasis on the religion or religions important to these regions.

Strategic Languages and Key Languages. The most critical decision for both individual Soldiers and the Army is what languages to study. Of the more than 6,000 living languages in the world, the Army only will be able to maintain expertise on a handful.[9]

The most useful languages to the Army are those that are predominant in areas of strategic or potential strategic interest, spoken by a significant number of native and secondary speakers, and the principal languages in their particular linguistic family. Languages that meet these criteria are "strategic languages."

Strategic languages are not only important in their own right, but as the dominant and most influential language in their family group, they also serve as a kind of "Rosetta Stone" for learning similar languages.[10] Thus, someone who knows Turkish may learn Azeri or Kyrgyz much faster than one who does not understand Turkish.

Languages with regional importance but that do not meet the criteria of strategic languages are "key languages." Key languages are important in their own right and may rise to the level of strategic languages, given the right circumstances.

A useful guide to strategic and key languages may be constructed by superimposing a linguistic map of the world over Huntingon's civilizational model. Taking the geographical combatant commands in turn, it is possible to determine the strategic and key niche languages in their areas of responsibility (AORs). (See the sidebar "Languages of US Combatant Command Areas of Responsibility.")

Interestingly, each major civilization is dominated by one strategic language

US Marine Corps Photo by Cpl Brian M. Henner, 1st Marine Division

MAJ Thomas A. Shoemake, 6th Civil Affairs (CA) Group, and CPT Chris T. Kuzio, A Company, 1st Battalion, 36th Infantry Regiment (A/1-36 IN), meet with Iraqis inside the Islamic Culture Center in Hit, Iraq, 14 March 2006.

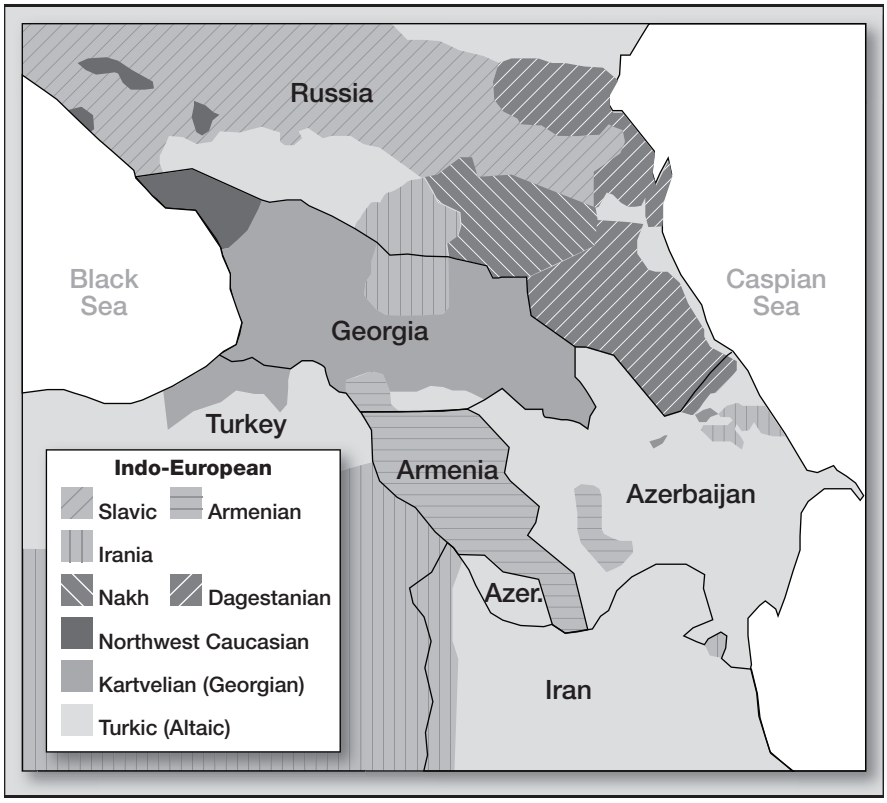

Figure 2: Language Groups in the Caucasus Region. (Source: http://linguistics.buffalo.edu/people/faculty/dryer/dryer/map.caucasus.gif)

with, perhaps, one or two additional strategic languages and a handful of important key languages.

Applying the Model. To see how the three-step model prepares Soldiers for a potential future situation, we apply it to the training scenario used at the Command and General Staff College (CGSC) and the Battle Command Training Center (BCTP), both at Fort Leavenworth, Kansas. The scenario posits a crisis in the near future in the Caucasus region. This region has been identified as an area of potential conflict because of many unresolved differences based on ethnicity, historical animosities, natural resource scarcity and the instability that resulted from the breakup of the Soviet Union.[11] A simplified language map of the Caucasus portrays the degree of linguistic complexity in this region (see Figure 2).

Languages overlaid on the region can tell us a lot. There are more than 40 recognized languages in the Caucasus, most of which spread across national borders. However, only a few of these are spoken widely in the region. The Caucasus is home to three unique linguistic families that occur nowhere else in the world as

Languages in US Combatant Command Areas of Responsibility (AORs)

Central Command. In the CENTCOM AOR, Arabic, a language spoken from Morocco in the west to Iraq and Southwest Asia, will continue to be the dominant language throughout North Africa and the Middle East. Arabic includes several distinct and almost mutually unintelligible varieties of one basic language. However, modern standard Arabic is increasingly dominating print and broadcast media. Two other languages, Turkish and Persian (and their varieties), are very important in this part of the world.

Turkish is the principal language of Turkey—a member of NATO and the most advanced secular Muslim state. Many varieties of Turkish and the closely related Turkic languages are spoken in a wide belt extending from the Cyprus and the Balkans to western China. Related languages include Azeri, Khyrgyz, Uzbek and Khazak.

Persian, or Farsi, is the principal language of Iran and other neighboring areas. Mutually intelligible varieties of the language include Dari in Afghanistan and Tajik in Tajikistan. Even though Persia accepted Islam in the 7th century, it remains an alternative center of power within the Islamic civilization and has become the leader of the Shia branch of Islam.

Key languages in this area include Kurdish, the language of the Kurdish people, an Indo-European language closely related to Persian, and Pashto or Pukhtu, another branch of the family spoken widely in southeastern Afghanistan and the "tribal areas" of Pakistan.

Pacific Command. Traveling east from CENTCOM, Pakistan marks the beginning of the PACOM AOR. Urdu is the first strategic language encountered. Urdu counts more than 60 million speakers. Urdu is an Indo-European language and bridges Persian and Hindu.

Hindi, the language of 810 million people in the Indian subcontinent is another clearly strategic language. India includes no less than 415 living languages. Some of these may become important niche languages. These include Tamil in the south and Hindustani in the north.

In India, a former British colony, English is widely spoken and important as a language of media and technology. This is clearly an advantage for US forces called to operate in an Indian context.

Proceeding east into Southeast Asia, we encounter an area of enormous linguistic and cultural diversity and

well as other widely spoken languages, such as Turkish, Russian and Persian.[12]

If we rely on a base of Soldiers knowledgeable in strategic languages, we can readily see that Turkish, Russian and, to a lesser extent, Persian speakers provide a solid base from which to begin a cultural engagement with the Caucasus. As the situation develops, other languages and dialects will emerge as important key languages. Two of these—Armenian and Georgian (the latter included in the Kartvelian family)—have quite distinct linguistic identities as well as cultural histories.

Familiarity with the Islamic world, the Orthodox world and the historic legacy of the Soviet Union provides the cultural context. Situations of similar complexity could occur in the Indian subcontinent, Southeast Asia and Africa. Indeed, cultural and linguistic complexity occurs especially in those areas that constitute Huntington's civilizational fault lines.[13]

Once a Soldier acquires a good cultural and historic background of his area of interest and a basic knowledge of the target language, he will be well on his way to cultural understanding. This understanding allows the Soldier to operate with considerable independence from an interpreter and gain stature with leaders and people in his area.

The Soldier can gain this level of understanding after one to three years of study, depending on the Soldier's abilities, effort and the degree of difference between the Soldier's own culture and language and the target area's culture and language. But it is the third step of the program—living and working in the target culture—that finally qualifies the Soldier as having true cultural understanding.

Soldiers who achieve a high level of cultural understanding must be rewarded for their efforts and used where their skills will benefit the Army. I propose the creation of a specific additional skill identifier (ASI) for these Soldiers and leaders. They should not be considered linguists but rather Soldiers whose level of cultural expertise will be used in the normal course of their duties—in the same manner as, say, airborne-qualified Soldiers are used.

Soldiers with this ASI would not take the place of linguists, whose duties are more specifically translation and interpretation of both verbal conversations and written material. Soldiers and leaders with the ASI for a specific culture would be employed throughout Army formations. Thus, our hypothetical Captain Smith would still be a 13A Artillery officer exercising his duties of fire support or as an information officer in stability operations, but he could exploit his cultural understanding, greatly enhancing his effectiveness in full-spectrum operations.

When the same captain is promoted to major and serves as assistant operations officer on a division staff, he would bring his cultural expertise and practical experience to the staff. In this way, the Army grows a new depth of genuine cultural understanding throughout its tactical formations and operational staffs.

In an era where the Army's main concern was to defeat the enemy decisively with overwhelming military might, investing the time and resources to reach cultural understanding was not possible. In today's COE, such investments are not only possible, but essential. As the Army continues to transform, cultural understanding has emerged as a critical force multiplier that may help achieve effects out of proportion to the effort invested.

complexity. Burmese, Malay, Javanese, Vietnamese and Khmer are all distinct and important regional languages. They all could become niche or even strategic languages, given the right circumstances.

Of these, perhaps Malay may be considered a strategic language. It is spoken by more than 30 million people as a primary or secondary language in Malaysia and Indonesia—where it is known in the latter as the Indonesian language for political reasons. Other languages spoken in the Indonesian and Philippine archipelagos are closely related to Malay.

Chinese is undoubtedly the dominant strategic language, or more properly, family of languages, in East Asia. Chinese includes several closely related but mutually unintelligible languages. Of these, Mandarin Chinese, with almost 900 million speakers, is by far the dominant language of government, media and commerce in East Asia. Cantonese Chinese or Yue, the language of the southern province of Guangzhou, comes a distant second with 55 million speakers.

North of China, Russian remains the key strategic language of Central and Northern Asia.

Another strategic language is Korean. Despite the fact that it is rather narrowly circumscribed to the Korean Peninsula and adjacent areas, it is the language of the 'Two Koreas" currently engaged in a longstanding conflict that involves a nuclear standoff.

Finally, Japanese is an important niche language because of Japan's role as a close US ally in the Pacific region.

Southern Command. Proceeding to the Americas, Spanish is clearly the dominant strategic language of Latin America with the exception of Brazil and a few other small countries. Other important niche languages in SOUTHCOM's AOR include Portuguese, the principal language of Brazil, and French, which is spoken in French Guiana, Haiti and other Caribbean islands. Some of the many native languages could become significant in some circumstances.

European Command. EUCOM's AOR is the home of western culture and languages. In the 21st century four western European languages—English, Spanish, Portuguese and French—still retain strategic significance, primarily because of the legacy of colonialism or their importance in international media and technology. A fifth European language, Russian, remains an important strategic language because of the Soviet Union's geopolitical importance in the 20th century.

Niche languages, such as Serbo-Croat, become important because of regional conflicts. Ukrainian, Byelorussian and other Slavic languages are also important niche languages. As US forces establish bases in Eastern Europe, other languages, such as Polish, Romanian and Czech, will be important for liaison purposes.

Standard Arabic and its major regional variants comprise the strategic language of North Africa. Important niche languages in Africa include Swahili and Hausa, both of which serve as the language of commerce and social intercourse in East and West Africa, respectively. Omro is spoken widely in Sub-Saharan Africa. Amharic or Ethiopian is another important niche language.

As in India, English is an important secondary language in many parts of Africa, as are other former colonial languages—French, Portuguese and Afrikaans, an African variety of Dutch.

As in other parts of the world, other native languages may rise in importance under the right strategic circumstances.

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Endnotes:

1. *Field Manual 1 The Army* (Washington, DC: Headquarters, Department of the Army, 14 June 2005), 1-12.
2. An example of this culturally informed training is the incorporation of a realistic "villages" populated by role players native to Iraq or Afghanistan at the Army training centers, such as the National Training Center (NTC) at Fort Irwin, California, and the Joint Readiness Training Center (JRTC) at Fort Polk, Louisiana.
3. Miriam Webster Dictionary defines language as "a systematic means of communicating ideas or feelings by the use of conventionalized signs, sounds, gestures or marks having understood meanings" and dialect as "a regional variety of language distinguished by features of vocabulary, grammar and pronunciation from other regional varieties and constituting together with them a single language <the Doric dialect of ancient Greek> b: one of two or more cognate languages <French and Italian are Romance dialects> c: a variety of a language used by the members of a group <such dialects as politics and advertising—Phillip Howard> d: a variety of language whose identity is fixed by a factor other than geography (as social class) <spoke a rough peasant *dialect*> www.m-w.com/dictionary. Linguists and ethnologists often have very technical definitions, but they are all subjective to some degree. In general, the difference between a language and a dialect has been best described by the aphorism cited by language scholar Max Weinrich, "a language is a dialect with an army and a navy." www.wikipedia.org/wiki/language-dialect_aphorism.
4. The Army recently launched an internet-based distance language learning program with the commercial company Rosetta Stone.
5. Certain methods of language learning emphasize expediency and practical issues. An example is found in A.G. Hawke's *The Quick and Dirty Guide to Learning Languages Fast* (Boulder, Colorado: Paladin Press, 2000).
6. Jason Elliot, *An Unexpected Light: Travels in Afghanistan* (New York: Picador, 1999), 167-168.
7. Samuel P. Huntington, *The Clash of Civilizations and the Remaking of World Order,* (New York: Touchstone Press, 1996).
8. Ibid., 42. "Blood, language, religion, way of life, were what the Greeks had in common and what distinguished them from the Persians and other non-Greeks. Of all the objective elements which define civilizations, however, the most important is religion, as the Athenians emphasized. To a very large degree, the major civilizations in human history have been closely identified with the world's great religions; and people who share ethnicity and language, but differ in religion, may slaughter each other, as happened in Lebanon, the former Yugoslavia, and the Subcontinent."
9. According to the respected ethno-linguistic publication *Ethnologue,* there are currently 6,912 living languages; however, many of them are spoken by few speakers. *Ethnologue,* http://www.ethnologue.com/site_map.asp.
10. "The Rosetta Stone is a dark grey-pinkish granite stone (often incorrectly identified as basalt) with writing on it in two languages, Egyptian and Greek, using three scripts, Hieroglyphic, Demotic, Egyptian and Greek. Because Greek was well known, the stone was the key to deciphering the hieroglyphs." http://en.wikipedia.org/wiki/Rosetta_Stone.
11. Olga Oliker and Thomas Szayna, *Faultlines of Conflict in Central Asia and the South Caucasus: Implications for the US Army* (Santa Monica, California: Rand, 2003).
12. The indigenous language families of the Caucasus are Kartvelian or South Caucasian, Abkhaz-Adyghe/Abkhaz-Circassian or Northwest Caucasian, and Nakh-Daghestanian or Northeast Caucasian. Significant languages in the region include Georgian (a member of the Kartvelian family), Ossetic, Karachay-Balkar, Kumyk, Azerbaijani/Azeri, Tat, Talysh, Armenian and Urartean. Johanna Nichols, "An Overview of languages of the Caucasus," http://popgen.well.ox.ac.uk/eurasia/htdocs/nichols.html.
13. "…Central Asian and South Caucasus states remain institutionally weak. This increases not only the risk of strife…but also the danger of interstate conflict." Oliker and Szayna, *Faultlines of Conflict,* 29. "Fault line conflicts are communal conflicts between states or groups from different civilizations. The territory at stake is…a highly charged symbol of their history and identity...[for example] Nagorno-Karabakh." Huntington, *The Clash of Civilizations*, 252.

Editor Receives Katie Award for Interview with LtGen Sattler

Editor Pat Hollis poses with her Katie Award statue for "Best Magazine Profile/Interview of 2006" in the Southwest US. She received the award on 18 November 2006 at the black-tie optional gala at the Hyatt Regency in Dallas with more than 700 media personnel attending.

The award was for the interview "Second Battle of Fallujah—Urban Operations in a New Kind of War" with Lieutenant General John F. Sattler, USMC, commander of forces in the battle of Fallujah II, that appeared in the March-April 2006 edition. General Sattler discussed the integration of Phase IV stability and reconstruction operations into the Battle of Fallujah II in November 2004 that had some of the most intense urban fighting since the Battle of Hue City in Vietnam. The interview is online at sill-www.army.mil/famag/index.asp.

During the 2006 48th Annual Katie Awards ceremony, statues were presented in 150 categories for magazine and newspaper journalism, radio and TV broadcasting and public relations. There is some confusion about how the Katie Awards got started. One popular story is it was started by John A. Jackson, owner of the Katy Petroleum Company and longtime patron of the Dallas Press Club that now sponsors the awards. Jackson believed the name of the award, although only close in spelling, would be good advertisement for his company; in addition, his wife was named Katy.

The annual media competition is for a six-state area: Texas, Oklahoma, New Mexico, Colorado, Arkansas and Louisiana. The judges were from New York and Washington, DC.

Iraqi Army soldiers and police officers prepare for a large-scale operation to simultaneously raid 16 targets in search of insurgents in the Adhamiyah area of Baghdad, Iraq, 3 June 2006. (US Navy Photo by Photographer's Mate 1st Class Bart A. Bauer, Combat Camera Group Pacific)

The MiTT and Its "Human Terrain"

Transitioning the Iraqi Army into the Lead

By Lieutenant Colonel Richard A. McConnell, Major Christopher L. Matson and Captain Brent A. Clemmer, IN

It's your first day with your Iraqi Army (IA) unit as part of a military transition team (MiTT), and you have no idea what to expect. Upon arriving at the combat outpost, the first thing you see is a shell of an unfinished building with a puddle of sewage in front and a pile of garbage 150 meters from the building's entrance. Flies are an issue—and it does not smell so good either.

At first blush, the IA operations do not impress you either—operations are quickly planned and top-fed. Iraqi Soldiers often roll out in a mix of uniforms, some with helmets or body armor but others without.

You spend your first week running around telling Soldiers to put on their helmets and clean up. One day you realize that this strategy is not working. Not only is no one listening to you, but also you have failed to build any rapport with your IA unit. Then it hits you: you are not here to make this into an American unit—you are here to help this unit become the best Iraqi unit it can be.

You have just made your first step toward understanding your MiTT role in mentoring and coaching the IA.

Although this scenario is not unique, for some American Soldiers on Iraqi (or Afghan) MiTTs or police, border patrol or national guard transition teams, the circumstances may not be as grim. Regardless, American Soldiers approach military service from a different perspective than the average Iraqi Soldiers. To be successful, you must understand the Iraqi perspective, bearing in mind

that you want the same thing: a strong IA prepared to secure and protect Iraq so US troops can go home.

This article is based on our experiences mentoring and coaching both an IA battalion and the Iraqi police that the IA operates with to improve security in Mosul, Iraq. The article presents a few ideas about fostering teamwork within the human terrain in Mosul. This is by no means an attempt to discuss all the cultural differences between US Soldiers and the Middle Eastern Soldiers and policemen. Whether you are reading this article as part of the Coalition Force, a MiTT or military police (MP), the goal is the same—to build cooperation between the IA and Iraqi police to provide security to Iraq.

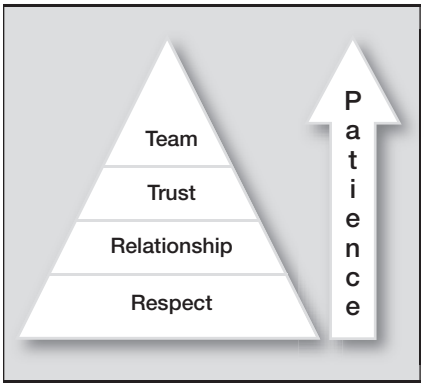
Meeting Expectations. If you are part of a MiTT in Iraq today, the process of transitioning the IA into the lead while working with its Iraqi police counterparts can be confusing and frustrating. The cause of this confusion can be traced to preconceived notions about how army and police units should act and be developed plus how the US Army measures success. These notions come from your experiences as US Soldiers, and you can't help but apply them when working with the Iraqis.

The trick is to understand what you are expected to accomplish and what you are *not* expected to change. Armed with this understanding, you can help the Iraqis fashion their army and police into the forces necessary to protect this fledgling democracy.

What are you expected to accomplish? You must help the IA and police become strong enough to beat the insurgency and sustain security in their country. What are you not expected to change? You can't (and would not want to) change the culture and social mores in Iraq. The bottom line, whether you embrace it or not, is that a uniquely IA and Iraqi police will be the result of your mentoring and coaching.

But before you can build a team, you must understand who the players are and how they interact within this human terrain.

Human Terrain System. According to Dr. Montgomery McFate and Andrea Jackson, the human terrain system is "the social, ethnographic, cultural, economic and political elements of the people among whom a force is operating." (See the article "An Organizational Solution for DoD's Cultural Knowledge Needs" in *Military Review*, July-August 2005 edition.)



This figure shows the process for building a relationship that, ultimately, builds a team.

Here are the players for your team.

Iraqi Army. The IA consists of leaders who may have served in the former regime's army or in the Peshmurga (in Kurdish units). The background of these leaders will influence how their units operate (doctrine, loyalties, sectarian influences, etc.). Often these units do not trust the Iraqi police and may view the MiTT or other Coalition Forces as having ulterior motives.

MiTTs. These are teams of 10 to 12 Soldiers assembled from across the US Army and, after a two-month train-up, assigned to IA units. They must support themselves while advising the IA units often away from Coalition forward operating bases (FOBs). Their primary purpose is to help the IA take the lead and support the IA with Coalition Force effects. (For more information about MiTT operations and organization, see the article "So You are Going to Be on a MiTT. What Do You Need to Know?" by Captain Jared R. Kite, et al, in the November-December 2006 edition.)

Coalition Forces. These may be American units often on their second tour in country. Our MiTT in Mosul was partnered with a Stryker company, consisting of four platoons and a company headquarters. Two of the Military Occupational Specialty (MOS) 13F Fire Support Specialist Soldiers from this company were attached to the MiTT to bring it up to 12 men.

The Stryker company's leadership had served in the same area of Mosul 18 months earlier and had a thorough understanding of the city and its people. Although this repetitive assignment in the same area of operations (AO) in Iraq may not be replicated everywhere in theater, it's a reasonable assumption that the US Army or Marine Corps brigade you are working with will have been in Iraq before.

Fostering a win-win relationship between the MiTT and the Stryker company commander is key to the success of the mission. The Coalition Force can't accomplish the mission without the MiTT, and the MiTT can't be successful in its foreign internal defense mission without the Coalition Force—this must be a team effort.

Iraqi Police. The long-term goal is to get the IA out of internal matters and focused on external threats to Iraq. Until the police force is strong enough (manned, equipped and trained properly), Iraqi civilian leaders will continue to rely on the IA to provide tactical over watch in the cities.

Ideally, the IA battalion is partnered with an Iraqi police district that has an officer-in-charge (OIC) comparable to the rank to the IA OIC, but this is not always the case. It is important that these two commanders (IA and Iraqi police) have as open a relationship as possible. If critical information sharing is to take place, these two men must trust one another and work closely with each other's organizations. A key metric of success for the Coalition Force and MiTT within their sector is the level to which they can facilitate cooperation between the IA and Iraqi police.

MP Squads. Along with contracted police trainers, these MP squads visit stations daily. They are tasked to improve and train the Iraqi police. They train the Iraqis on evidence collection and the systems that make a successful police force.

MP units will be critical in helping you to build the relationship between your IA battalion commander and the Iraqi police commander. Including these key MP players is important in facilitating IA and Iraqi police cooperation.

What makes this situation more complex is the requirement for each to trust each other, and trust among these players can be a limited resource. Some players even might exclude others actively when it comes to mission planning and information sharing.

For the IA to transition successfully into the lead and provide for a secure Iraq, all these players must work together. Facilitating this can be a daunting task. All five of these players have separate chains of command and, often, different agendas.

Relationships are central. As they say in real estate, the key is "Location, Location, Location." In dealing with

Iraqis, it is "Relationships, Relationships, Relationships."

To illustrate this concept, see the figure. It shows how to build a healthy relationship with an Iraqi unit that leads to the unit's trusting you and, ultimately, your integration into one team. It first begins with conveying respect.

Showing Respect. Iraqis are sensitive to being shown respect and quickly will sense a lack of respect. It is important that you do *not* make a poor first impression through an unintentional act of disrespect. You will not be able to mentor or coach the Iraqis if their leaders view you as lacking respect for them.

Likewise, you could get a few steps into the team-building process and have to start all over because of a simple act of disrespect. Here are a few pointers about showing respect.

Salutes. Salutes are rendered when approaching officers more senior than you. Because there is a strong British influence, the traditional "foot stomp" is rendered, To foot stomp, extend your right leg with your knee bent waist high and then smartly stomp the foot to the ground accompanied by a salute if you have headgear on (without a salute if you are not wearing headgear).

If you are the same rank as the commander, it is still customary to render these honors to him—green tab (commander) is "trump."

You do not have to go with the British approach, but you must render some kind of honors. This is their custom, and you will gain credibility as someone who knows what he is doing.

Greetings. Handshakes and smiles are important—the neutral face makes Iraqis think that you are angry or do not like them. As you get to know your counterparts better, hugs are not uncommon. If you are especially close, a kiss on the cheek may become commonplace. You will get used to it—it is a compliment indicating that your status has been raised to "brother."

First Impressions. As indicated in the intro scenario, you may see things in your unit that you want to fix immediately. Do not rush to judgment; you must build credibility before your advice will be considered. If you just arrived and already are telling them what to do, you will be viewed as incredibly disrespectful.

Building Relationships. The next step in the process is working out the specific nature of your relationship. This only can be started once you have established respect for each other. Only then can you figure out how you are going to work with the members of the unit. This encompasses everything from how you share battlespace to how you will share information.

Photo by SFC Michael Guillory, 982nd Combat Camera Company

A US Soldier and an Iraqi Army soldier clear the second floor of an Iraqi home during a cordon and search operation in Hawijah, Iraq, 11 November 2006. The Soldiers were looking for insurgents, unauthorized weapons and materials for constructing improvised explosive devices (IEDs).

You are here to put this organization in the lead so make sure they know who is in charge—*they are*. There is a huge temptation to act as a surrogate chain of command and dictate operations. This will be the approach during the developmental phases of these units, but never forget the goal: Iraqis in the lead.

It is like teaching someone to ride a bike. The goal is to get the training wheels off. You are the "training wheels." Here are a few pointers.

Combined Operations. A good tool for maintaining a good relationship with your IA unit is to conduct combined operations. Our MiTT maintains a 24-hour combined tactical operations center (TOC). In addition, our Coalition Force unit conducts regular combined operations with the IA and stages quick-reaction forces from our Iraqi combat outpost. This gives the MiTT and Coalition Forces 24-hour-a-day exposure to our IA battalion everyday.

This team operational concept facilitates sharing vital information and dramatically has improved the speed and efficiency with which IA, MiTT and our Coalition Force unit react to changes in our battlespace.

Mentoring. Your approach should be mentoring and coaching. Remember, this is their unit, not yours.

If you make a recommendation and the Iraqis don't accept it—move on. Choose your battles; if every operation becomes a point of contention as you fight to win your point, the Iraqis will view you as a pain to be endured. You also will damage your rapport with the Iraqis and their perception of your respect for them, pushing you back to step one: building respect. You must choose "bones of contention" carefully and approach the Iraqis with respect.

Attitude. Another technique for building relationship with the Iraqi unit is to be as positive as possible in public forums and reserve recommendations for improvement for private forums with the commander. The leader can't afford to be viewed as failing—his popularity counts. If a leader is viewed as bad, his organization might suffer serious retention problems. You can't afford to be the cause of those retention problems.

Establishing Trust. After you establish how your relationship will work, you will have to gain experience working together to build trust. You will have

credibility just by the fact that you are an American Soldier. But that won't earn you automatic trust. In this culture, trust has to be earned through experiences with each other, and that takes time. Here are a few things to consider.

Reporting. Regardless of what you are doing with the unit, there will be reporting requirements. You can't afford to be seen as a coalition spy who reports the IA unit for every minor mistake. The Iraqis understand that you must report without compromise such things as corruption and detainee abuse. But just like in American units, some things you keep in-house and fix yourselves.

If having you around is a sure way to get the unit attention for every minor blemish from its higher headquarters, you never will establish trust with your Iraqi counterpart.

Promises. Be careful what promises you make. If you promise something, you better deliver it. Conversely, promising things you know you can deliver will build trust and provide the very things your counterpart values from Americans—capabilities.

At this point, if you are successful at building trust, do not be surprised if you are invited to your counterpart's home for a social event; attend if you can. Iraqis are very social and value showing you who they are. Embrace them, and you will build trust.

Shared Danger. Nothing builds trust faster than facing the enemy together. Several times the IA battalion commander, US company commander and MiTT chief have been on the battlefield together in a Stryker and been mortared, struck by a suicide vehicle-borne improvised-explosive device (SVBIED) or had to clear houses together. The Middle Eastern culture values bravery and courage. A little shared danger buys a lot of trust.

The opposite is true as well. If you always monitor the battle from the TOC, the Iraqis will notice.

Building a Team. If you have been successful at these initial steps of showing respect, building relationships and establishing trust, you will start to notice some significant benefits that will yield concrete results. During this phase of the relationship, American and Iraqi units will start to work seamlessly. There will be fewer attempts by Americans to try to motivate Iraqis and more examples of the Iraqis motivating themselves.

The way this synthesis happens has nothing to do with what is *said* to the Iraqis and everything to do with what is *shown* to them. Set the example.

Sanitation and "Police Calls." If you do not like how dirty the perimeter you share with the Iraqis is, set the example of cleanliness. The Iraqis will begin to emulate your example.

Caution: this takes time. You will feel like you are alone in some of your efforts. Then, one day, you will look up and an Iraqi will be next to you mopping as you clean out the combined TOC.

In our AO, the Stryker company first sergeant led his Soldiers through a police call of the motor pool where the Coalition Forces park their vehicles. Most of the trash was not caused by US Soldiers, and there were several why-are-we-picking-up-someone-else's-mess comments. However, after several iterations of police calls, the IA began to emulate the Coalition Force example, and regular police calls began to take place.

Uniform Standards. Maintaining these standards always will be a challenge. But show your Soldiers wearing body armor and helmets, and the Iraqis, ultimately, will follow your example.

Maintaining Patience. A great deal of patience is required throughout this process. This is a level of patience with which we American Soldiers are not familiar. For example, it is not uncommon to sit with your counterpart drinking *chai* (tea) for hours, just being together. This is time well spent.

Our Armies simply are different in how we approach things. In our Army, we are quick to assess problems and determine solutions. We are dedicated to expediency; we value efficiency in every operation we approach. We would have worked through many issues in the time required to exchange pleasantries with the Iraqis. The Iraqi approach is neither good nor bad but a reality.

You must be aware that our concept of time is not shared by your Iraqi counterpart. To be successful in your mission, you must operate in their environment without becoming frustrated and "losing your cool."

Work with your US counterparts behind closed doors to resolve those issues you know you can resolve. After deciding on how you need to coach or model the solution, then provide a united front to the IA battalion commander.

On occasion, your advice will be disregarded by the Iraqis who implement a different solution. View that as a good thing. When the IA unit accomplishes the mission, even if it's a bit rough around the edges, it learns and gains confidence in its abilities. If you come into conflict with the Iraqi perspective, you will show disrespect and damage the relationship, causing you to start all over with building rapport.

This entire process will be frustrating only if you do not endeavor to understand the nature of the human terrain in which you are operating. Transitioning Iraqi units into the lead can be very fulfilling. Your first step is to embrace the human terrain in your Iraqi AO.

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Major Christopher L. Matson, US Army Reserves from Charlotte, North Carolina, is the Maneuver Advisor and XO on 3/4/2 IA MiTT. Before deploying, he was a Strategic Analyst with the 108th Division (Initial Training) in Charlotte where he also served as a Budget Officer and Company Commander. Among other assignments, he was a Company Commander and Communications and Electronics Platoon Leader in the 337th Military Intelligence Battalion (Airborne), also in Charlotte. He served on active duty as a Platoon Leader and Battalion Air Operations Officer with the 1-27 IN, 25th Infantry Division, Schofield Barracks, Hawaii.

Captain Brent A. Clemmer, Infantry (IN), is the Commander of *Charger Company*, 2-3 Infantry, 3rd Stryker Brigade Combat Team (SBCT), 2nd Infantry Division, in Mosul. He is on his second tour of duty in Iraq. He was the Assistant Operations Officer with 2-3 Infantry for OIF I and II. Additionally, he served as a Platoon Leader and Company XO in 3-75 Rangers, participating in combat operations in Afghanistan for Operation Enduring Freedom (OEF) I. In Korea, he was a Platoon Leader and Company XO in 2-9 IN, 2nd Infantry Division. He is a graduate of the Infantry Captain's Career Course at Fort Benning, Georgia.

1-5 FA in OIF II

Maintaining FA Competencies While Deployed

By Lieutenant Colonel Richard M. Cabrey and Captain Douglas M. Thomas

Lately, much has been written in professional military magazines about the exploits of units in Operations Iraqi Freedom (OIF) and Enduring Freedom (OEF). As is the case for direct support (DS) FA battalions supporting the Global War on Terrorism (GWOT), now called the War on Terrorism (WOT), the 1st Battalion, 5th Field Artillery (1-5 FA), 1st Brigade, 1st Infantry Division, proved its versatility while executing a maneuver and fires mission in OIF.

This article not only discusses 1-5 FA's three-part mission in OIF, but also the battery rotation cycle and the live-fire training range the battalion instituted in theater to maintain the Soldiers' FA core competencies while deployed.

1-5 FA had fewer than six weeks' notice for deployment in support of OIF II. Exceptional staff work, flexible junior leaders and disciplined Soldiers ensured the battalion deployed, executed full-spectrum operations and redeployed, proving to be a combat multiplier for the brigade.

The 1st Brigade from Fort Riley, Kansas, was notified of its impending deployment in support of OIF in August 2003. Because the ground war was complete, the brigade's mission was to support post-hostilities operations. These operations had not been performed on such a large scale since World War II, and reports coming from units in theater indicated that the tasks would be similar to those of the Kosovo Force (KFOR) and Stabilization Force (SFOR) (Bosnia) missions with some additional warfighting tasks.

In addition, the brigade was in the process of becoming an integrated light and heavy brigade. It was headed for a light-heavy rotation at the National Training Center (NTC), Fort Irwin, California.

1-5 FA's Mission. When looking ahead to his mission in Iraq, the brigade commander realized his area of operations (AO) would require more maneuver elements than he had available. Therefore, he assigned 1-5 FA its own AO. 1-5 FA's task organization for OIF II is shown in Figure 1 on Page 16.

The battalion conducted a mission analysis using the military decision-making process (MDMP) outlined in *FM 101-5 Staff Organization and Operations* and redefined its task and purpose to support the brigade. The battalion mission became "1-5 FA attacks to defeat anti-Iraqi forces, conducts base defense and secures Camp Junction City in Ramadi while conducting CMO [civil-military operations] to establish a safe and secure environment throughout the brigade's AO to facilitate Iraq's transition to a self-governing democratic state." Although long, this mission statement

1st Battalion, 5th Field Artillery (1-5 FA) Soldiers fire during a gunnery exercise in Iraq.

was necessary to describe the multitude of key tasks assigned.

One of the things we learned in predeployment and while in Iraq is that the MDMP works; it facilitates the planning process when followed and is a common reference for problem solving, regardless of the mission.

Based on the mission statement, 1-5 FA defined new tasks to train before deploying and tasks to train once it arrived in theater. The FA battalion had to perform many unconventional tasks, such as conduct base defense and offensive infantry operations to kill or capture anti-Iraqi forces.

Before deploying from Fort Riley, all three firing batteries conducted a Table VII Light Cavalry Gunnery under the coaching of the brigade reconnaissance troop. This provided each gun chief the opportunity to have his crew perform the anticipated firing expected in theater.

In addition to training on core branch skills, all Artillerymen in the battalion completed a theater-specific lane training program at Fort Riley. It included conducting cordons and searches, route reconnaissance, mounted and dismounted patrolling, and military police tasks, such as establishing traffic control points (TCPs). Clearance of buildings was trained in theater. In effect, every Soldier in the battalion was a rifleman but had the intent of winning the hearts and minds of the Iraqi people.

The Deployment. 1-5 FA deployed one six-gun battery to conduct conventional FA missions. In Iraq, one battery was the FA delivery battery, one a motorized infantry battery and one the base defense battery. During the deployment, the batteries rotated through these mission tasks. See Figure 2.

During 1-5 FA's OIF II tour, a typical daily situation report (SITREP) to the brigade may include the following: "First Platoon, Alpha Battery, fired one counterfire mission with eight rounds HE/VT [high-explosive/variable-time fuze] and 22 rounds of illumination in support of TFs [Task Forces] 1-16 and 1-124 Infantry. Second Platoon, Alpha Battery, fired 18 rounds of illumination in support of the brigade reconnaissance troop and one counterfire mission in support of TF 1-34 Armor.

"Delta Battery had no significant enemy activity with one local national bringing two 82-mm [mortar] rounds to the gate to be dropped off in the UXO [unexploded ordinance] pit.

"B Battery conducted one mounted route reconnaissance in support of CIED [counter-improvised-explosive device] operations, one dismounted area reconnaissance in the local village in support of weapons black market operations, one dismounted OP [observation post] and one cordon and search to capture and detain a suspected IED maker."

Nothing in the SITREP for B Battery sounds like a standard report for a 155-mm battery in a DS battalion.

Base Camp Defense. This part of 1-5 FA's mission is not too different from securing a battery perimeter. This was a fairly standard task right out of the mission training plan (MTP). The brigade's battlespace was large enough to have three geographically separated base camps. One of 1-5 FA's battery was responsible for the defense of one of the base camps—Camp Junction City.

The number of operations, entry control points (ECPs) and reaction forces varied with the size of the camp and expected threat. Because of the other tasks in the battalion's assigned mission and the role of a DS FA battalion in a brigade, base defense required its own command and control element to ensure synchronized efforts within the brigade and with other base tenant units.

Knowing that 1-5 FA would not be massing battalion fires, the battalion fire direction center (FDC) became the base defense command post. This section already was an integrated part of the battalion tactical operations command (TOC) with an officer, senior NCO and several radio-telephone operators (RTOs) to receive reports from the ECPs and the OPs. This cell in the TOC was responsible for base camp defense and the safety of a force of almost 2,000 Soldiers on Camp Junction City.

The cell worked well for the battalion

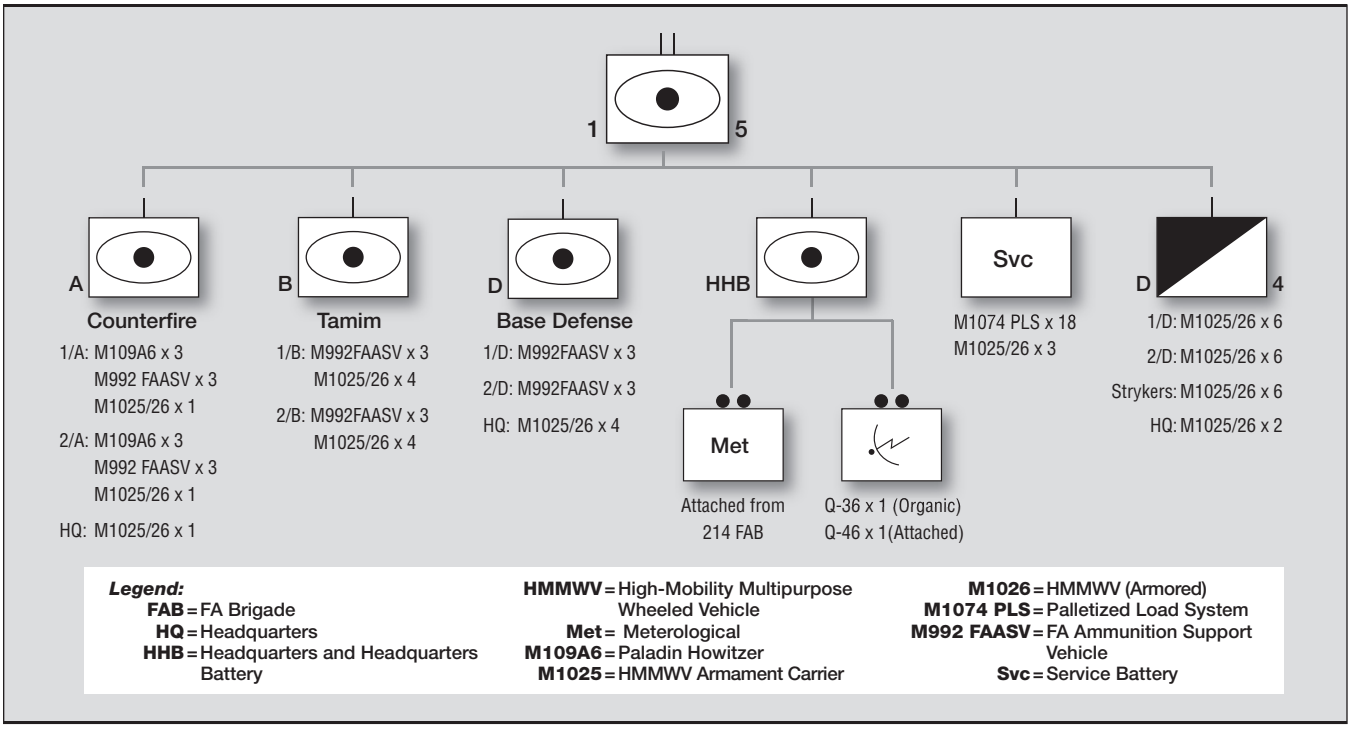


Figure 1: 1st Battalion, 5th Field Artillery (1-5 FA) Task Organization for Operation Iraqi Freedom (OIF) II

	31 Oct	30 Nov	31 Dec	31 Jan	29 Feb	31 Mar	30 Apr	31 May	30 Jun	31 Jul	31 Aug	30 Sep
Area Recon	B	B	B	B	A	A	A	A	D	D	D	D
Hot Gun, BDA	A	A	D	D	B	B	D	D	B	B	A	A
Base Defense	D	D	A	A	D	D	B	B	A	A	B	B
Comments		A Battery completes 50% of the written/ gunner's test.	100% of the battalion completes the APFT.	B, D, and Service Batteries plus HHB complete 50% of the CTT. D Battery completes written/ gunner's test.	Battalion completes 100% individual weapons qualification.	B Battery completes 100% of CTT. B Battery completes written/ gunner's test.		D Battery completes 100% of CTT. D Battery completes 100% of section certifications.	A Battery completes 100% of CTT. Battalion completes 100% of APFT and CTT.	B Battery completes 100% of section certifications.	Battalion completes 100% of individual weapons certification. A Battery completes 100% of section certifications.	

Legend:
APFT = Army Physical Fitness Test
BDA = Battle Damage Assessment
CTT = Common Task Training
HHB = Headquarters and Headquarters Battery

Figure 2: 1-5 FA's Rotation Schedule for Motorized Infantry Operations, Delivery of FA Fires and Base Defense while deployed in OIF II. (The battalion's maintenance, survey, meteorological and radar personnel participated in operations or trained simultaneously.)

and allowed the remaining TOC personnel to focus on other tasks. The FDC radios allowed the cell to establish a base defense net that coordinated eight OPs, a four-gun truck base defense reaction force and two ECPs. This base defense cell also tracked the movement of every convoy into and out of Camp Junction City. The brigade TOC monitored the base defense net.

FA Delivery of Fires. Counterfire and illumination are FA firing missions routinely executed from base camps in a post-hostilities environment. The three base camps were targets for enemy forces' mortar and rocket fires.

In addition to bringing one battery of M109A6 Paladins, the battalion brought all 18 FA ammunition support vehicles (FAASVs). Initially the FAASVs were used to reinforce the perimeter and as initial OPs until permanent OP towers could be constructed.

Because of the distance between the brigade's base camps, the Paladins could not range targets from camp to camp. Positioning the guns in locations between the camps was not an option due to the threat. So, three guns, an FDC and one FAASV deployed to Camp Manhattan (Habaniyah) to support TF 1-34 Armor and the forward support battalion (FSB) on an airfield close to Camp Manhattan, leaving an FDC and three guns in support of the remainder of the brigade in Camp Junction City. At Camp Manhattan, the firing platoon was attached to TF 1-34 Armor and performed as if it were DS to the task force.

Both firing elements were linked to counterfire radars. Camp Junction City had the Q-36 Firefinder radar that deployed with the battalion, and Camp Manhattan had a Q-37 from the 82nd Airborne Division Artillery (Div Arty). Later, 1-5 FA received a Marine Q-46 at Junction City and an additional Q-37 in Manhattan. In both camps, critical friendly zones (CFZs) were established over each forward operating base (FOB).

At Camp Junction City, counterfire missions generated by CFZ violations were sent directly to the brigade fire support element (FSE). The firing platoon FDC monitored the voice counterfire net and started processing missions as "At my command, special instructions do not load." (At that time, 1-5 FA did not have the advanced FA tactical data system (AFATDS), so it coordinated the missions over FM radio.) This allowed the guns to receive the mission and traverse onto the target deflection. (See the counterfire process in Figure 3 on Page 18.)

While the FDC processed the mission, the brigade FSE conducted a clearance-of-fires drill in the brigade TOC. The clearance was not only for maneuver elements, but also took into account rotary- and fixed-wing air routes.

At Camp Manhattan, the Q-37 acquisitions were sent directly to the task force FSE for the same clearance-of-fires procedures. Direct communications with the aviation brigade in the immediate area and an enlisted tactical air controller (ETAC) in the task force TOC enabled the same clearance procedures as in Camp Junction City.

Immediately upon clearing the fires, the responsible FSE executed the target—told the platoon FDC to "Cancel do not load; fire target number KS ####."

With multiple rehearsals involving all agencies down to the gun section, the counterfire times averaged 90 seconds from acquire-to-fire.

At both camps, the task force mortars followed every mission and quickly were added to the effects when targets were in range.

Motorized Infantry Battery. The idea for a motorized infantry battery was an extension of motorizing two of the tank companies in the brigade. All of the batteries drew six M1025/1026 high-mobility multipurpose wheeled vehicles (HMMWVs) in Kuwait and mounted .50 cal machine guns on them. This gave each battery the ability to perform as a motorized infantry unit. The two batteries responsible for defending Camp Junction City and providing the Hot platoons, respectively, contributed to the motorized infantry battery's base defense quick-reaction forces as well as provided security for logistics convoy.

During motorized infantry training at home station, the biggest challenge for the batteries' leadership was controlling direct fires. As Artillerymen, we traditionally are proficient at range cards and sector sketches in a stationary environment. In a motorized, dismounted infantry environment, sectors of fire and control of fire must be identified and rehearsed, based on positions within the convoy and anticipated upon dismounting. (Table VII Light Cavalry Gunnery training at home station was an excellent starting point to train these skills.)

Section chiefs, platoon sergeants and platoon leaders had to be intimately familiar with the control status for individual and crew-served weapons as well as the immediate application of the rules of engagement (ROE). Soldiers in every vehicle trained and rehearsed on identifying IEDs as well as conducted immediate action drills upon encountering an IED or a small arms ambush.

Another big challenge for the battalion in this infantry transformation was the focus of the battalion staff. The battalion staff was responsible for ensuring the firing battery met the five requirements for accurate predicted fire, overall command and control of the base defense plan for Camp Junction City and planning and executing ground maneuver.

The S2 developed named areas of interest (NAIs), priority intelligence requirements (PIRs) and a ground threat situation template that was nested with the brigade S2's. The S3 coordinated maneuver space, developed the task and purpose for each battery patrol and determined the rotation schedule for the batteries' missions.

Every patrol outside the gates had a task and purpose. The patrols' missions varied from kill or capture a high-value target (HVT) to distribute school supplies to further civil affairs (CA) and information operations (IO) efforts. (Most of the missions were non-kinetic missions for counterinsurgency operations.)

Battery Rotation Plan and Training Core Competencies. The batteries had three primary missions and rotated among them, as shown in Figure 2. The desired end state was for all firing batteries to execute motorized infantry operations and redeploy with little or no degradation in their delivery of fires core competencies.

Constraints to the plan included the amount of time the patrol battery needed in its AO. The battery had to learn every street, work with the local police, visit with imams (local religious leaders) and execute CA projects. This mission required a four-month rotation.

Base camp defense and Hot platoon personnel changed every two months. We wanted to ensure the base defense personnel did not become complacent, and two months was the right amount of time.

While on base defense, the battery used one of the remaining guns to maintain crew proficiency and prepare to assume Hot platoon duties. The battalion master gunner supervised certification of the gun sections in accordance with the battalion's standing operating procedures (SOPs) and *FM 6-50 Tactics, Techniques and Procedures for the Cannon Battery*.

Additionally, the battalion identified and cleared an area in the desert off one

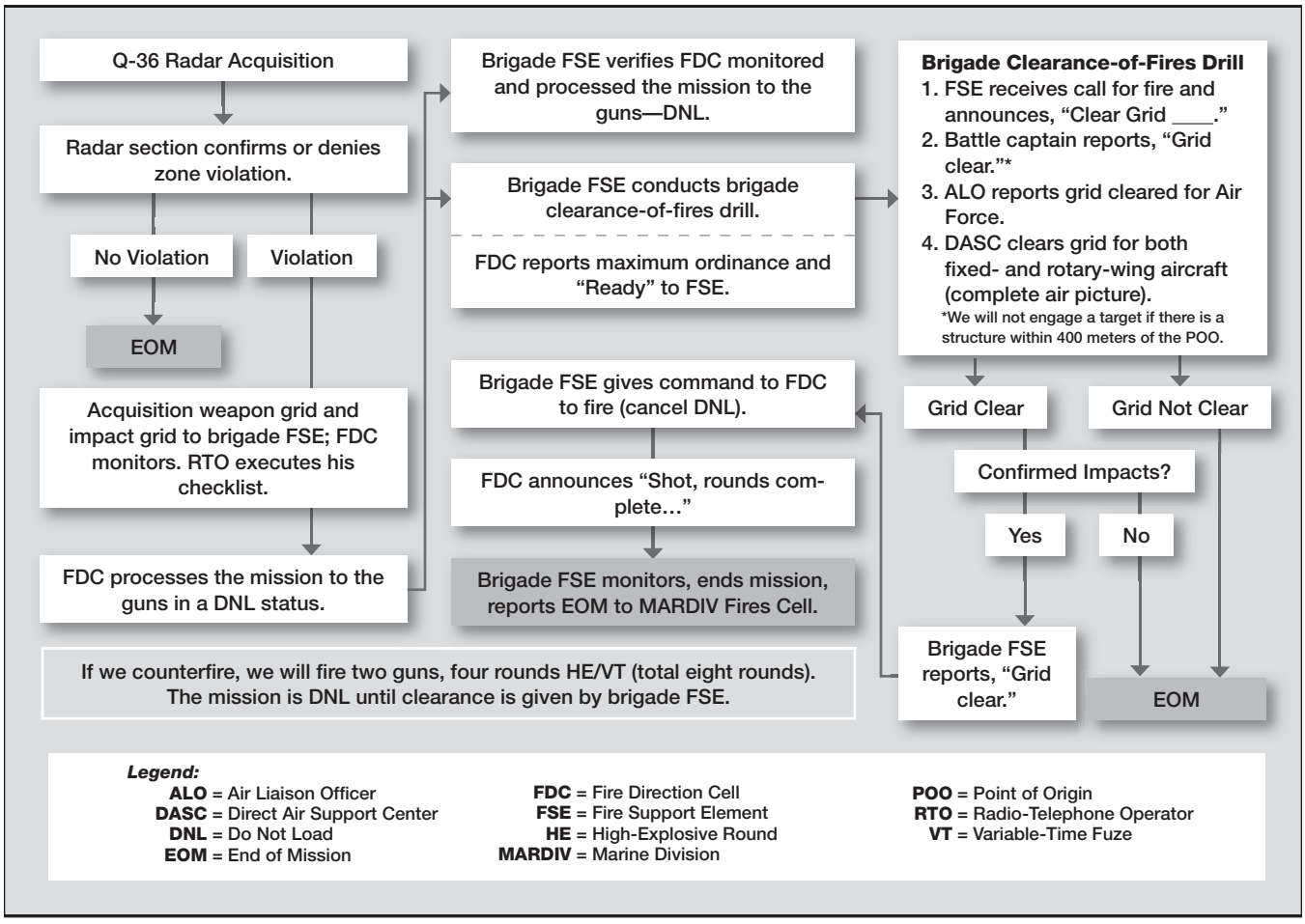


Figure 3: Brigade Counterfire Flow Chart

1-5 FA Soldiers clear a room during training. The unit used abandoned buildings on the base camp to train the skill.

base camp for live-fire training. The battalion sent out OPs (HMMWVs) to secure areas where Bedouins were most likely to enter the area and then called in missions. The battalion salvaged old Iraqi armored vehicles and hauled them to the area to use as targets. 1-5 FA worked with the infantry, armor and Marine units in the area to give their 13Fs opportunities to train on fire support skills.

In rotation, each battery live fired FA missions not normally performed in Iraq. This training gave all the gun crews multiple opportunities to fire smoke, Copperhead and illumination in close air support (CAS) battle drills. The training was scheduled at the least likely times for enemy indirect attacks; however, the Q-36 remained ready to acquire.

The training gave leaders a chance to review battalion gunnery and FDC personnel training and certification while in theater.

In addition to the live-fire training, 1-5 FA scheduled all platoon FDCs for rotating into the Hot platoon's fight. Minus the one FDC at Camp Manhattan, the battalion had five platoon FDCs that rotated every 12 hours as the controlling FDC for the Hot platoon in Ramadi. This paid great dividends upon returning to Fort Riley.

Only eight weeks after redeploying, the battalion fielded AFATDS and immediately went to the field for a live-fire AFATDS validation exercise. The battalion's success in fielding AFATDS can be attributed to FDC personnel who recently and continuously had worked the basics of fire mission processing.

During the deployment, leaders from the base defense and Hot platoon batteries conducted a series of "right seat" and "left seat rides" at the six-week mark. An official transfer of authority (TOA) took place, and the units conducted the swap of missions with no degradation to the overall mission of the brigade. The patrol battery also executed such a plan for its TOA.

During the course of our deployment, each firing battery had one rotation on patrol and two rotations in the base defense and Hot platoon missions. The Hot platoon battery occupied two separate base camps, allowing one platoon to execute autonomous operations for two months.

The autonomous Hot platoon leader was fully integrated into the task force commander's organization. His battery was treated as a tenant unit, and he attended the command and staff meetings with that task force. His equipment data was transferred to the task force unit-level logistics system (ULLS), and he was fully supported by the maneuver battalion to prevent degradation of maintenance support for the separate platoon.

Service battery became the "workhorse" organization for the brigade. Logistic supply convoys were conducted every other day to maintain the stock of required supplies and turn-in of equipment needing repair or evacuation. Of the 18 palletized load system (PLS) vehicles, six supported convoys. The remaining members of the ammunition platoon and, eventually, all the cooks helped man the brigade defense reaction force. Headquarters battery personnel not working in the battalion TOC also were part of the brigade defense reaction force and manned OPs and ECPs.

With a strong home-station pre-deployment training, 1-5 FA executed a variety of tasks in Iraq, proving, once again, that DS artillery battalions are versatile combat multipliers for their brigade combat teams. The battalion executed its mission in OIF superbly, while training and maintaining its FA core competencies throughout the deployment.

Lieutenant Colonel Richard M. Cabrey commanded 1st Battalion, 5th Field Artillery (1-5 FA), 1st Brigade, 1st Infantry Division, Fort Riley, Kansas, from June 2003 until June 2004 with the battalion deployed for Operation Iraqi Freedom (OIF) I and II from September 2003 until September 2004. Currently, he is a student in the Advanced Operational Arts Studies Fellowship at Fort Leavenworth, Kansas. After commanding 1-5 FA, he became the Command and Control Chief for the Battle Command Training Program (BCTP) at Fort Leavenworth. Among other assignments, he served as the Fire Support Coordinator (FSCOORD) for the NATO Allied Rapid Reaction Corps in Germany; S3 for both the Division Artillery and 3-6 FA in the 10th Mountain Division (Light Infantry) at Fort Drum, New York; Chief of Current Operations for the 2nd Infantry Division in Korea; and Commander of a firing battery in the 1st Infantry Division. He holds a Master of Military Science from the Command and General Staff College at Fort Leavenworth.

Captain Douglas M. Thomas commanded D Battery, 1-5 FA, at Fort Riley and served as a Fire Direction Officer (FDO) for the battalion while deployed for OIF I and II. He currently is the Battalion Fire Direction Trainer at the National Training Center (NTC) at Fort Irwin, California. Among other assignments, he was the Assistant Brigade Fire Support Officer (FSO), Targeting Officer for 2-63 AR and Platoon Leader and FDO for B Battery, 1-6 FA, all in the 3rd Brigade, 1st Infantry Division, in Germany. He is a graduate of the Officer Basic Course and Captain's Career Course at Fort Sill, Oklahoma, and the Combined Arms and Services Staff School (CAS³) at Fort Leavenworth.

Fires Brigade TAB:

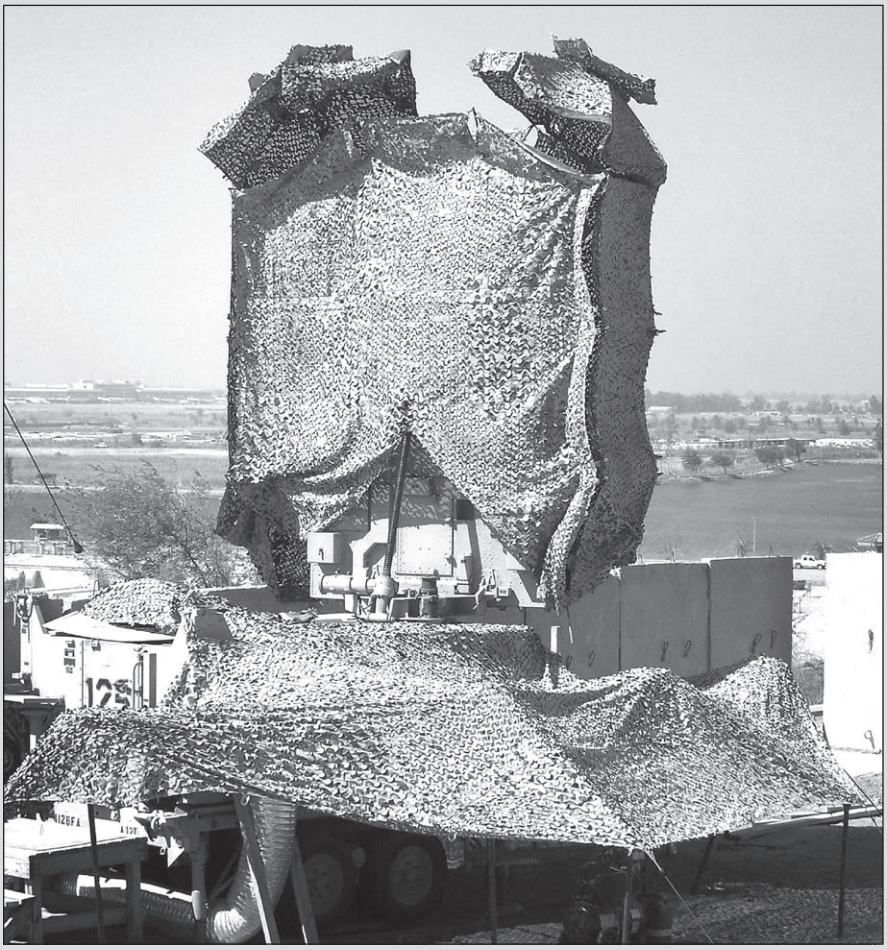
Expanded and Unique Missions in OIF

By Captain Albert G. Bossar

The new fires brigade target acquisition battery (TAB) has a diverse mission in Operation Iraqi Freedom (OIF). The TAB provides not only doctrinal counterfire radar operations, but also logistical and operational support, mobile training teams (MTTs) and new equipment training (NET) teams for all radar systems in the area of responsibility (AOR). It also provides meteorological (Met) data for the fires battalions.

A Battery, 26th Field Artillery (A/26 FA), a TAB in the 4th Fires Brigade, supported organic radar sections on Camp Liberty, Iraq, and acted as a combat enabler for all counterfire radar systems in the Multi-National Division-Baghdad (MND-B). This included support for not only its Q-36 and Q-37 radars, but all radars in the MND-B's AOR—more than 20 systems.

The TAB's mission evolved from the traditional role of augmenting a division- or brigade-level fires and effects cell (FEC) into a multi-faceted, autonomous organization that can deploy in whole or in segments. It supports not only internal logistical operations for the battery, but also projects logistical and operational support forward for radars, including new systems, such as the lightweight countermortar radar (LCMR) and the unattended transient acoustic measurements and signatures intelligence (MASINT) sensor (UTAMS).



A Q-37 radar set up in Iraq. The modern target acquisition battery (TAB) has two Q-37 radar sections and one each target processing, Profiler Met, supply and survey section plus one headquarters element with a maintenance team

A/26 FA is the first operational TAB under the fires brigade organization to deploy to combat operations in OIF.

The Modern TAB: An Overview. The new TAB has two Q-37 radar sections and one each target processing, Profiler Met, supply and survey section plus one headquarters element with a maintenance team—in our case, from the 589th Brigade Support Battalion (BSB). The organic strength of the current TAB is 48 personnel.

A/26 FA deployed with a third Q-37 radar section from the 2nd Brigade Combat Team (BCT), 4th Infantry Division. It assumed control of this section while staging in Kuwait. During the deployment, A/26 FA also integrated two Q-36 radar sections from B/1-14 FA, 214th Fires Brigade, Fort Sill, Oklahoma. With that addition, the TAB's strength increased to 77 personnel.

A/26 FA fielded the Profiler section immediately before deploying and began operations once in theater. Met operations are conducted on a 24-hour basis for radar operations and to fulfill one of the five requirements for accurate predicted fires for the fires battalions organic to the division's BCTs.

Counterfire Ops. The TAB still performs the traditional FA mission of providing continuous target acquisition (TA) and counterfire radar coverage, in this case, for Camp Liberty and key areas within Baghdad. A/26 FA manned, trained, supplied and operated the radar sections on Camp Liberty and provided them access to the unit-level logistics system-ground (ULLS-G) and

ULLS-S4 without the need for external coordination, greatly increasing section operational readiness rates.

New Radars. When the Army fielded the LCMR and UTAMS, A/26 FA (TAB) led the NETs and MTTs throughout the MND-B.

The LCMR covers a wide array of fronts not only for small patrol bases or observation posts (OPs), but also for integrated defenses at larger forward operating bases (FOBs) and logistical support areas (LSAs). The LCMR covers areas subject to high volumes of mortar attacks. Consequently, the LCMR's readiness status and trained manning capability in Iraq were extremely important.

A/26 FA began preparing for this facet of its mission months before deploying to Iraq by training personnel at home-station and operator- and supervisor-level personnel in theater. The battery used personnel from Military Occupational Specialties (MOS) 13R Radar Operator and 13F Fire Support Specialist as primary operators and trainers.

The radar platoon sergeant was designated senior subject matter expert (SME). This enabled the operators/trainers to use current radar emplacement operations and techniques as a baseline for instruction on the new LCMR systems.

Fire support specialists were an obvious choice for operators/trainers. They were assigned primarily as combat patrol personnel and could deploy to a location, conduct LCMR operations and redeploy to Camp Liberty with minimal effect on radar operations at the camp.

The LCMR NET/MTT challenge was to get trainers and equipment to each location to enable units to maintain operations 24/7. The focus of this training was on hands-on application at the individual user level. The result was two weeks of training for four to eight Soldiers per LCMR location, to include key leaders and fire support supervisors. This focused on meeting the largest operational challenge of continually maintaining trained, experienced operators at patrol bases and OPs.

With trained personnel at all levels, accurate, responsive acquisitions from the LCMR can correlate or confirm acquisitions of other systems to validate indirect fires. Unit commanders used this data to employ various means to eliminate anti-Iraqi force (AIF) mortarmen. Intelligence analysts used the information for pattern analysis on weapons systems.

The UTAMS training and quality assurance/quality control model that was implemented mirrored the LCMR model with senior SMEs provided by A/26. UTAMS was implemented as a secondary system that provided a listening post/OP to facilitate accurate point of origin (POO) and point of impact (POI) locations at smaller patrol bases and FOBs.

Radar Logistical Support. A/26 FA assumed logistical responsibility for all radar sections within MND-B. The battery had to become proficient in maintaining the large-scale essential repair parts supply list and managing the recommended integrated supply list plus conducting logistic patrols to deliver these essential parts and equipment.

Radar Inventory Management System. A/26 FA developed the radar inventory management system. This is a web-based system that enabled division counterfire officers and A/26 FA senior maintenance technicians to maintain visibility of all essential repair parts supply lists within MND-B. This increased parts flow to not-mission-capable (NMC) radars in the MND-B and allowed A/26 FA and the division counterfire cell to identify critical shortages ahead of "zero balance" reports.

The battery's logistical support node coordinated with outside agencies, such as the Communications and Electronics Command (CECOM), Fort Monmouth, New Jersey, and with local radars for critical Firefinder technical support as well as civilian field service representatives for new LCMRs fielded in theater.

Radar Parts by Air and Ground. A/26 FA integrated wheeled and air assets to move radar parts. With logistical patrols and through air movement using divisional organic aviation, parts and tools were delivered across the battlefield to resupply radar systems rapidly.

Although movement of parts by air assets proved to be the safest and most expedient, ground assets had to carry some of the burden. A/26 FA cross-trained survey, Met and target processing sections to perform not only their MOS-specific skills, but also to serve as combat convoy crews.

Radar Parts Team. Historically, radar sections are attached to distant units and (or) positioned away from their logistical support chains. This reduces their ability to order parts and manage document numbers effectively—a challenge for many radar sections in previous OIF deployments.

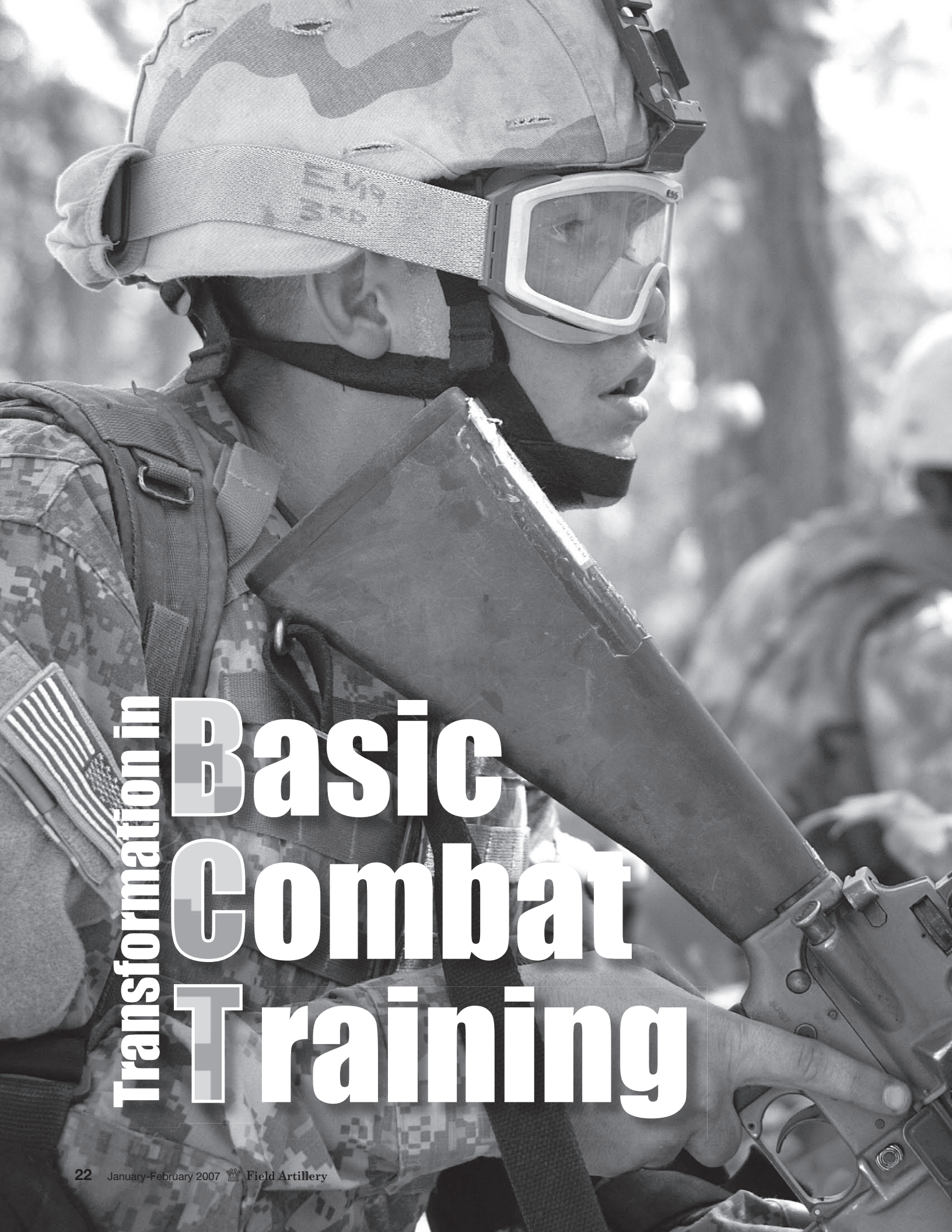
A/26 FA maximized the use of a maintenance team to order critical parts and tools on a daily basis. The team was augmented with a senior FA warrant officer (MOS 131A Radar Technician), who served as the senior master technician. His focus was quality assurance and quality control of radar parts flow and management.

Via the BSB, the team coordinated for critical parts to be shipped high priority from the continental US (CONUS), reducing downtime on critical radar systems. Having access to the prescribed load list (PLL), essential repair parts supply list and recommended integrated supply list management ensured that document numbers were validated and reordered when cancellations or drops occurred. This expedited requisitions and significantly reduced NMC time for MND-B radars. It resulted in a higher volume of acquisitions by systems throughout the AOR.

In a "typical day," A/26 FA supported several logistical patrols to transport critical personnel or equipment from locations ranging from LSA Anaconda to Kalsu and Abu Grahib to Rustamiyah. Simultaneously, the battery command post (CP) coordinated for air and ground movement of parts to any number of locations within theater while an LCMR crew conducted on-site training and maintenance operations. This was while the battery manned and conducted TA operations in support of multiple locations within MND-B and provided Met support for division counterfire operations.

A/26 FA spent its tour in Iraq adapting and refining its operations to meet the ever-changing demands of MND-B and its radars. The many facets of A/26 FA's mission also are helping to define the role of the new fires brigade TAB in the Army's continuing campaign for Iraq's freedom.

Captain Albert G. Bossar is the Commander of A Battery, 26th Field Artillery (Target Acquisition) (A/26 FA), 4th Fires Brigade, that supported the 4th Infantry Division in Operation Iraqi Freedom (OIF) IV. He was deployed from November 2005 until November 2006. He also served as an Operations Officer in the Deep Operations Coordination Cell (DOCC) in the Third US Army, at Camp Doha, Kuwait, during OIF I. Other assignments include Paladin Platoon Leader, Battalion Maintenance Officer and Battalion S1 for the 3rd Battalion, 82d FA (3-82 FA) in the 1st Cavalry Division at Fort Hood, Texas.



Transformation in Basic Combat Training

Basic Combat Training Soldiers patrol for "insurgents" during training at Fort Sill, Oklahoma's Freedom Town. (Photo by Fred W. Baker III)

Making Soldiers *Army Strong*

By Captains Alfonso T. Johnson, Richard M. Hewitt, Frank K. Krammer, CM, and Russell P. Lemler

The Soldier is tired, dirty and restless. He's been in the forward operating base (FOB) for a while now and is anxious to go out on a mission and get "in the game." At the same time, he's nervous—he's never *done this before.*

He and the rest of his platoon ready themselves for the unexpected. They check and double-check their gear. They put on their elbow and kneepads, interceptor body armor (IBA) with small-arms protective inserts (SAPI) and eye protection and get on the trucks at the platoon sergeant's command. They receive their ammunition and place their weapons into a weapons' status of ready-for-action.

The Soldier's heart races as he awaits directions and orders from his squad leader. Finally, he receives the order to engage as he makes enemy contact. He rotates his selector lever from safe to semi-automatic and fires as many rounds as he can on the enemy position. He keeps firing until he empties his magazine. He reloads and empties another magazine.

"Wow, what a rush," he thinks.

Suddenly, the truck comes to an abrupt halt after a huge explosion. The truck was hit by an improvised explosive device (IED). The platoon dismounts quickly in an orderly, precise fashion—just like it rehearsed many times before. The Soldiers takes cover behind whatever they can find in the urban jungle. They fire magazine after magazine, repelling a relentless enemy.

By the end of the day, every Soldier is exhausted but has a renewed sense of confidence in himself, his equipment and his platoon. He is thankful for the training he had received; it just may have kept him and his battle buddies alive today.

This vignette could have occurred anywhere in Iraq or Afghanistan as our American Soldiers continue to engage and destroy the enemies of the US. In this case, the story described is a typical Soldier's experience in today's basic combat training during the Convoy Live-Fire Exercise at the Field Artillery Training Center (FATC), Fort Sill, Oklahoma.

This training event is one of 11 battle drills that Soldiers are required to perform. It helps develop Soldiers' into competent warriors with mental, emotional and physical strength that, along with shared Army values and teamwork, make them strong—*Army Strong.*

Warrior Training. During the past several years, Training and Doctrine Command (TRADOC) leaders have made considerable improvements in providing and, more importantly, resourcing realistic and relevant training. To keep pace with the ever-evolving threats in our contemporary operating environment (COE), TRADOC has incorporated several essential tasks into its standard program of instruction (POI) based on feedback from combat veterans of Operations Enduring Freedom (OEF) and Iraqi Freedom (OIF). These essential tasks are based on the premise that all Soldiers must be warriors first and technical experts second. From this premise, the warrior task and battle drills evolved.

"40 and 11" Training. This relevant and rigorous initial entry training (IET)

Photo by Fred W. Baker III

Under the watchful eye of their drill sergeant, basic combat training Soldiers fire on targets along the live-fire convoy route at Fort Sill.

is comprised of 40 core warrior tasks and 11 battle drills, commonly referred to as the "40 and 11." (See the figure on Page 26.)

The number of warrior tasks trained is not "set in stone," and, hence, fluctuates as lessons are learned on the battlefield. These combat-focused tasks include detailed instructions on shooting, moving, communicating and warfighting—with special emphasis on operations in an urban environment.

Additionally, there are 11 essential battle drills to enhance training and produce Soldiers who are competent, confident and better prepared to enter into the ranks of an Army at war immediately upon graduation from basic combat training. Soldiers spend more time than in previous years focusing on tasks that will help them survive in any combat situation.

For example, in basic rifle marksmanship (BRM), Soldiers now fire more than twice as many rounds as before. This training includes executing day and night reflexive fire with close combat optics during the Convoy Live-Fire Exercise, military operations in urban terrain (MOUT), security patrolling, room-clearing operations and checkpoint operations based out of a FOB.

Physical training (PT) is now a standardized program across all training centers; exercises replicate movements made during combat operations and strengthen Soldiers accordingly.

The reality is that many Soldiers are assigned to units deploying to OIF and OEF within 90 days of departing IET. Therefore the training adaptation and refinement cannot start at the operational unit. The Army's newest Soldiers must leave basic combat training prepared for combat operations and ready to accomplish their missions, regardless of their military occupational specialties (MOS).

So how does this happen? Who gets it done?

Drill Sergeants. Not since the 1970s has the Army had such a concentration of combat experience in the IET environment. Currently, of the 320 drill sergeants assigned to the FATC, 80 percent are recent combat veterans with a significant portion of those having been on multiple combat deployments in support of the Global War on Terrorism (GWOT), now called the War on Terrorism (WOT).

The average drill sergeant is roughly 28 years old, has some post-high school education and has been in the Army approximately 12.7 years. Most drill sergeants also are married and have at least one child. Many of them became drill sergeants immediately after returning from a combat tour, leaving little time for reintegration before beginning drill sergeant's school.

Our drill sergeants' combat experience is important to our newest Soldiers. The Soldiers receive firsthand, passionately told, realistic accounts of the war and learn how the training they receive may

Today's American Soldier

Today's newest Army recruits come from all walks of life, but one thing can be said of all—they all know they enlisted during a time of war. The reasons for enlisting are varied just as they always have been. American Soldiers want to serve their country, make their parents proud and provide for their families. They want college tuition assistance, signing bonuses and job skills. They want discipline, and they want to accomplish something they'll be proud of when they're older. They want a bright future for themselves and their families.

The majority of Soldiers entering service today are part of the Millennium Generation that is defined as those born from 1980 through 2000. These are Soldiers who entered the work force in the first decade of the millennium.

A recent Roper survey showed that millennial teenagers fault "selfishness" more than anything else as the major cause of problems in America. Nine out of 10 describe themselves as "happy, confident and positive." Most are already cooperative team players. They like doing community service and working in groups.

Studies and characterizations of generations abound, but it's widely accepted that Millennium Generation Americans were exposed to the following: they were raised during a period of heightened focus on improving the lives of children;

save their lives or a buddy's life.

The drill sergeants speak candidly with their Soldiers about the impact deployments have had on their families and careers. Drill sergeants take the time to tell Soldiers about operations that are similar to the training the Soldiers are receiving or how they wish that they had had similar training before combat. This allows the Soldiers to grasp the importance of the training.

Continually reinforced are concepts like "IBA and SAPI can save your life… they did mine" and "I saw a buddy saved because we applied first aid immediately after he was wounded." These reinforcing comments are integral to the training and of the utmost importance in keeping the Soldiers engaged and making them more survivable on future battlefields because of their training.

One constant lesson taught is that Soldiers are expected to be relentless and aggressive while waging war yet compassionate and understanding when nation building. These complementary personality traits are what Soldiers find in their drill sergeants.

So, how do drill sergeants lead these new Soldiers? They lead from the front.

"Soldierization"—Leading from the Front. The art of transforming civilians into Soldiers who meet the Army standards in only nine weeks is still a major undertaking and presents many unique challenges for drill sergeants. The process starts with getting to know each Soldier, his motivation for serving and who he really is.

Civilians enter basic training knowing they will go to war. They have an avid desire to be trained and prepared properly to defend this nation. Civilians who join the Army deserve to be transitioned to Soldiers in the most professional manner possible.

Respect for a Soldier is now "front-loaded" by honoring the critical moral choice they have made. The training the Soldiers receive focuses more on developing them with the baseline they have instead of the antiquated ethos of "breaking them down" only to rebuild them.

The Army now focuses heavily on the seven Army values and the importance of embedding them into everything the Soldier does. These values are loyalty, duty, respect, selfless-service, honor, integrity and personal courage. How a Soldier acts and performs during each training event can be related to these values—a critical part of the success of the soldierization process. Soldiers don't graduate from basic combat training until they show they can live by these values.

Today's drill sergeants have a different perspective on the process of training Soldiers than those of the past. The drill sergeants' professional, positive and inspirational leadership fosters a better overall training environment that provides superior results. This in comparison to an ego and power-driven training climate that promotes ridicule, unprofessional acts and language, and general disrespect of Soldiers.

Soldiers have the desire and ability to learn more effectively and faster when the environment is one in which they are lead, not pushed and harassed. Of course, all Soldiers require discipline, and the ability to instill that discipline has not been taken away from the drill sergeant. But in the process, Soldiers are treated with dignity and respect. By following these basic criteria, the result is a more motivated, team-oriented, mission-focused Soldier who respects himself and his leadership.

Major General John M. Schofield spoke at an address to the US Corps of Cadets at the US Military Academy at West Point in 1879 and gave his own definition of discipline. He stated, "The discipline which makes the Soldiers of a free country reliable in battle is not to be gained by harsh or tyrannical treatment. On the contrary, such treatment is far more likely to destroy than to make an army."

This statement has never been truer than today when it comes to training new Soldiers for war. Soldiers must be instilled with pride in and a sense of dignity and respect for themselves and others—as modeled for them by strong leaders. The result is that each Soldier has a feeling of worth and importance to the Army from day one.

Lieutenant General Robert L. Van Antwerp, the Commander of Accessions Command, instituted an acronym called "AURA" to explain how he wanted IET Soldiers treated. AURA stands for Acceptance, Understanding, Respect and Appreciation. As Soldiers see these attributes of good leadership in basic combat training and begin to adopt them, they will be more content with the Army as their chosen profession—this kind of leadership provides a reason for them to continue to serve our nation in a time of war.

Soldiers want to be accepted and have a desire to be a part of something larger

they were involved in more camps, lessons and after-school programs than any previous generation; they have had more interracial interaction than any previous generation; they witnessed the bombing of the Oklahoma City Murrah Federal Building; they saw two Columbine High School students murder their classmates; and they lived through September 11, 2001.

The generation of young Americans entering the military today has seen that America still has heroes. They've seen that one doesn't have to be a celebrity to be a hero. They've seen the media and their own communities pour praise on Soldiers, policemen and firefighters. Many realize they can be heroes by enlisting in the Army. (The source of information about the Millennium Generation in this paragraph is from Claire Raines' 2003 book *Connecting Generations: The Sourcebook for a New Workplace*, printed by Crisp Publications, Berkeley, California.)

In an interview with *Time* magazine, former Secretary of Defense Donald Rumsfeld said that when today's recruit arrives at basic training, "they have purple hair and an earring, and they've never walked in step with another person in their lives. And suddenly, they get this training and in a matter of weeks, they become part of a unit—a team.

"They're all sizes and shapes, and they're different ages, and they're different races, and you cannot help when you work with them but come away feeling that it is really a special thing that this country has." (The quote was taken from Nancy Gibbs' article "Person of the Year, 2003: The American Soldier" in the 29 December 2003 *Time*, Volume 162, Number 26. The quote was retrieved online on 7 September 2006 from http//www.time.com/time/.)

The modern day recruit comes from a multitude of backgrounds and has any number of motivations for being there. But when basic combat training is complete, he or she must be able to perform in combat.

40 Warrior Tasks

Shoot
- Qualify with assigned weapon.
- Correct malfunctions with assigned weapon.
- Engage targets with an M240B machine gun.
- Engage targets with an M249 machine gun.
- Engage targets with an M2 cal .50 machine gun.
- Engage targets with an MK19 40-mm grenade machine gun.
- Correct malfunctions of an M240B machine gun.
- Correct malfunctions of an M249 machine gun.
- Correct malfunctions of an M2 cal .50 machine gun.
- Correct malfunctions of an MK19 40-mm grenade machine gun.
- Engage targets with weapon using a night-vision sight.
- Engage targets with weapon using an aiming light.
- Employ mines and hand grenades.

Communicate
- Perform voice communications situation report (SITREP)/spot report (SPOTREP).
- Perform voice communications (medical evacuation, or MEDEVAC).
- Use visual signaling techniques.

Urban Operations
- Perform movement techniques during an urban operation.
- Engage targets during an urban operation.
- Enter a building during an urban operation.

Move
- Determine location on the ground (terrain association/map/global positioning system, or GPS).
- Navigate from one point to another dismounted.
- Move over, through or around obstacles (except minefields).

Fight
- Move under direct fire.
- React to indirect fire (dismounted and mounted).
- React to direct fire (dismounted and mounted).
- React to an unexploded ordnance hazard.
- React to man-to-man contact (combatives).
- React to a chemical or biological attack/hazard.
- Decontaminate yourself and individual equipment using chemical decontamination kit.
- Maintain equipment.
- Evaluate a casualty.
- Perform combat life-saving for open wounds (abdominal, chest and head).
- Perform combat life-saving for bleeding extremities.
- Perform tactical combat casualty care.
- Perform field sanitation and preventative medicine field craft.
- Select a temporary fighting position.
- Determine escalation of force.
- Perform personnel recovery.
- Serve as a sensor (every Soldier as a sensor).
- Detect and defeat an improvised explosive device (IED).

11 Battle Drills

- React to contact (visual, IED and direct fire, including rocket-propelled grenade, or RPG).
- React to ambush (near and far).
- React to indirect fire.
- React to a chemical attack.
- Break contact.
- Dismount a vehicle.
- Evacuate a casualty (dismounted and mounted).
- Establish security at a halt.
- Conduct checkpoint entry operations.
- Conduct vehicle roll-over drill.
- Conduct Convoy Live-Fire Exercise/convoy operations.

"40 and 11" Required for Soldiers' Initial Entry Training (IET)

than themselves. They want to be understood when something goes wrong in their lives. They want respect and have the right to be treated with respect. Appreciation constantly needs to be shown when Soldiers do something to better themselves, the unit and the Army.

Today's revised soldierization process is successful because of the professionalism that our adaptive drill sergeants display and the ability of leaders in the training base to create a climate that encourages the essential process whereby a civilian (and his family) decides to become a Soldier.

The FATC and other Army training centers are responsible for this soldierization process and growing IET graduates who are Army Strong.

Captain Alfonso T. Johnson commands C Battery, 1st Battalion, 19th Field Artillery (C/1-19 FA), an initial entry training (IET) battalion that is part of the FA Training Center (FATC) at Fort Sill, Oklahoma. In his previous assignments, he was a Platoon Leader for B/1-77 FA, 75th Field Artillery Brigade, III Corps Artillery, and a student at the FA Captain's Career Course, both at Fort Sill.

Captain Richard M. Hewitt commands D/1-19 FA in the FATC. In his previous assignment, he deployed with the 1st Infantry Division to Iraq from February 2004 to February 2005, first as the Headquarters Commandant and then as part of G3 Operations, coordinating the efforts of the Iraqi Security Forces Cell.

Captain Frank K. Krammer, Chemical Officer (CM), commands E/1-19 FA. Previously, he served as the S3 for 1-19 FA and in the Plans and Operations Divisions for the both the 214th FA Brigade and the brigade's 2-4 FA, III Corps Artillery.

Captain Russell P. Lemler commands A/1-19 FA. He also served as the battalion's S3. In the 25th Infantry Division at Schofield Barracks, Hawaii, he was the Assistant S3 and Civil-Military Officer for 3-7 FA; Executive Officer and Fire Direction Officer for A/3-7 FA and Company Fire Support Officer for A/2-5 IN.

The authors wish to thank the following for their contributions to this article: Commander of 1-19 FA Lieutenant Colonel Michael T. Endres, 1-19 FA's First Sergeant Carl A. Fagan and Drill Sergeant of the Year for 2006 Sergeant First Class Edward J. Hurley, Jr., 1-19 FA.

2006 Knox Award Winner:
HHB, 4th Fires Brigade

Headquarters and Headquarters Battery (HHB), 4th Fires Brigade, that supported the 4th Infantry Division at Camp Liberty, Iraq, is the winner of the 2006 Knox Award for Best Active Component (AC) Battery. Captain William H. Ward commands HHB with NCO leader First Sergeant Kenneth D. Carmickle.

The annual award is named for the first Chief of Field Artillery Major General Henry A. Knox, a Revolutionary war hero. It recognizes an outstanding AC battery based on specific criteria and a narrative of performance. A similar award was established in 1924, but it was phased out in 1940 as World War II loomed. The award was reestablished in 2002.

HHB, 4th Fires Brigade, out of Fort Hood, Texas, was known for many things in the Multi-National Division-Baghdad (MND-B), but its most notable attribute can be summed up with one word: "results." This battery is the standard bearer of the 4th Fires Brigade in many venues. The Soldiers and leaders of HHB excel in combat operations, physical readiness, safety, command inspections, professional contributions and many other areas.

During Operation Iraqi Freedom (OIF) IV, HHB's "calling card" was its outstanding personal security detachment (PSD) and M1114 high-mobility, multipurpose wheeled vehicle (HMMWV) training tactics, techniques and procedures (TTPs). HHB pioneered an innovative convoy-training technique before deployment and enlisted the help of Military Professional Resources, Incorporated (MPRI) contractors to help its PSD with formation and training.

In Iraq, HHB's PSD has been lauded for its performance by many senior leaders, including the Division's Chief of Staff, and it has been called the "best PSD in the Division" on multiple occasions. The battery developed a comprehensive PSD/M11114 crew certification program that is partially responsible for its success, but the motivation and intelligence of HHB's Soldiers are the true keys to the PSD's success.

The HHB leaders always have emphasized a high level of physical readiness, and the battery's track record proves it. This battery has maintained an extremely high Army physical fitness test (APFT) average, even while deployed. It was the first unit to earn the 4th Infantry Division Commanding General's "Fit to Fight" streamer and has maintained a 250 APFT average for more than 24 months.

Headquarters and Headquarters Battery (HHB), 4th Fires Brigade, 1SG Kenneth D. Carmickle, CPT William H. Ward (commander) and CPT Maxwell E. Fuldauer (executive officer) stand in front of the headquarters while deployed to Iraq. HHB won the 2006 Knox Award for Best Active Component (AC) Battery.

The battery has developed the largest sports trophy collection on Victory Base Complex at Bagdad International Airport. Soldiers from HHB have the distinction of holding awards from power-lifting and strongman competitions (nine awards from the last competition, including four first place trophies and the heaviest bench press and dead-lift ever seen in that gym), boxing, volleyball, basketball, touch football and other APFT competitions.

The Soldiers of HHB maintain a positive outlook on physical fitness and take every opportunity to improve their fitness and health. Rather than make excuses to avoid physical training, these Soldiers make it a priority.

Recognition for achievements in safety readiness and accident prevention also has been a highlight of HHB's deployment. HHB received the Army accident prevention award for 12 and 24 months. The battery has gone without a Class A, B, or C accident for more than two years. It also earned the division's quarterly safety streamer. The prevention of accidents can be attributed to section-level leaders' and Soldiers' focus on safety.

During the most recent brigade command inspection program, HHB posted exceptional results. Three areas were deemed, "Best in the Brigade," including the arms room and mail room. Results like this come for one reason—intelligent leadership. The battery's leaders took the time to teach their Soldiers what "right" looks like. They reviewed applicable references and prepared books and files to facilitate more organized and streamlined commodity areas. This is especially challenging while deployed and will translate into phenomenal results in garrison.

The lessons learned in Iraq during OIF IV will not be lost once HHB redeploys. HHB can take credit for almost a dozen articles posted in professional journals, with several in *Field Artillery*. From "coining" new theories and models on information flow to innovative safety programs, HHB has left its mark on the Field Artillery community and overall Army readiness as one of the finest FA batteries in the US Army.

2006 Gruber Award Co-Winners:

SFC William S. Funk, B/1-12 FA, 17th FA Brigade, and SFC Ivan J. Geter, A/2-20 FA, 4th Fires Brigade

Two outstanding NCOs were recognized as co-winners of the 2006 Gruber Awards for their innovations in support of the FA while they were deployed for Operation Iraqi Freedom (OIF) IV. Co-winner Sergeant First Class (SFC) William S. Funk is with B Battery, 1st Battalion, 12th Field Artillery (B/1-12 FA), 17th FA Brigade, out of Fort Sill, Oklahoma, and was deployed to Camp Arifjan, Kuwait. Co-winner SFC Ivan J. Geter is with A/2-20 FA, 4th Fires Brigade, out of Fort Hood, Texas, and was deployed to Camp Fallujah, Iraq.

The Gruber Award was established in 2002 to recognize outstanding individual thought and innovation that results in significant contributions to or the enhancement of the FA's warfighting capabilities, morale, readiness or maintenance. It is named after Brigadier General Edmund L. Gruber, 1979-1941, who, as a First Lieutenant in 1908, composed the *Caisson Song* that the Army adapted as *The Army Goes Rolling Along* in 1952.

SFC Funk, B/1-12 FA. As a Military Occupational Specialty (MOS) 13M Multiple-Launch Rocket System (MLRS) Crewmember, he deployed in support of OIF as a gun-truck platoon sergeant. SFC Funk developed multiple force-protection modifications for the battery's vehicles to enhance the survivability of Soldiers during improvised explosive device (IED) attacks.

SFC William S. Funk

Following a January 2006 attack on a battery convoy that resulted in two Soldiers being injured by shrapnel, SFC Funk developed additional armor plating for the low-signature armored cab (LSAC) doors that mounted to existing brackets. His modification proved effective in IED strikes.

During the same attack, a secondary IED penetrated the fuel tank of an M915 truck, igniting the fuel and burning the truck to the ground. SFC Funk developed an external fuel tank armor kit, thus reducing the threat of fire from a ruptured fuel tank.

Along with his initial seven M1078 LSAC gun trucks, SFC Funk's platoon received three more M1088 LSAC trucks. These trucks had a fifth wheel to haul an M872 trailer. Due to the LSAC cab's weight, these trucks had an inherent tendency to roll over. SFC Funk identified the fault and worked on counterweight beds. He designed and built three beds that weighed approximately three tons each, eliminating the threat of a rollover accident on the M1088 trucks. These trucks now can serve as gun-trucks, creating an additional three convoy-escort platforms for the battery.

After representatives from Aberdeen Proving Ground, Maryland, saw SFC Funk's design, they immediately adopted it and began implementing it on other M1088 LSACs throughout the Iraqi theater.

SFC Funk also developed a "crow's-nest"-type turret for the LSAC. His plans expanded upon the turret for the M1114 up-armored high-mobility, multipurpose wheeled vehicle (HMMWV) by adding additional armor plating and storage boxes for ammunition. His turret designs for the LSACs also have been adopted as the preferred standard across theater.

SFC Funk's modifications went beyond the M1078 and M1088 vehicles. He developed beds for maintenance "bob-tails" to increase the amount of tires and parts they can carry while on a convoy. His design used a large amount of previously unused space and had the added benefit of quick removal in the event the bob-tail needed to couple up with a trailer.

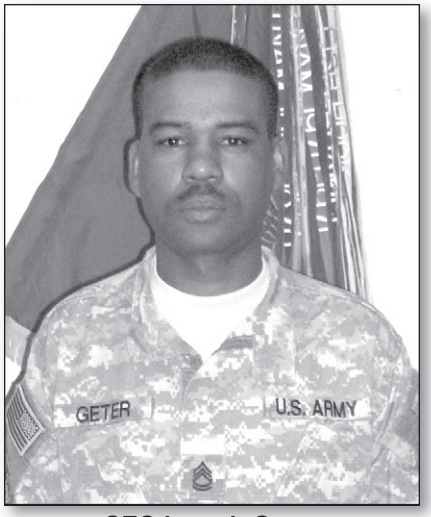
SFC Funk used his metal-working knowledge to increase the effectiveness of the M1114. He designed bolt-on storage boxes for the turrets for additional ammunition. Before he implemented these boxes, ammunition storage was severely limited on the turret. After his design, a gunner could store an additional 500 rounds in the turret for quick access.

SFC Funk also created a tow-bar adapter from the Ibis-Tek tow-bar system. The original head on the tow bar was designed for the towing pintle of an M1114. However, battery convoys consisted mainly of M915s whose towing pintles are too large to fit the tow-bar head. SFC Funk's adapter fit over the head of an Ibis-Tek tow bar and had an attached larger head for M915 pintles. His design was implemented throughout the 37th and 336th Transportation Groups.

SFC Funk's vast knowledge of metal work contributed to the final design of the HMMWV egress assistance trainer (HEAT). The original design for the trainer was very large and required an M915 or larger vehicle as its prime mover. He modified the design to fold into itself, creating a more compact, air-loadable trainer that now is being mass-produced for use throughout theater.

SFC Funk's ingenuity and desire to protect Soldiers make him a Pentathlete worthy of the 2006 Gruber Award. His excellence and professionalism set him apart from his peers in the Redleg community.

SFC Geter, A/2-20 FA. SFC Ivan J. Geter, an MOS 13M, served as the Operations NCO for A/2-20 at Camp Fallujah. He oversaw the MLRS qualification live-fire exercise in Kuwait that completed the battery's required certification and qualification to deliver kinetic fires in theater. This highly successful exercise contributed to the battery's selection by the Multi-National Corps-Iraq (MNC-I) as the sole provider of rocket and missile artillery fires in theater.



SFC Ivan J. Geter

Upon the battery's arrival at Combat Outpost (COP) Wolf, a remote camp located more than 60 miles from the nearest friendly base, SFC Geter developed tactics, techniques and procedures (TTPs) that were new to the fires brigade and the FA community as a whole. He set up a stand-alone battery operations center (BOC) using a mobile expandable command center (MECC) that set a new standard for detached operations. A completely self-sustaining unit, his BOC had voice and digital communications with the II Marine Expeditionary Force (MEF), Regimental Combat Team-7 (RCT-7) and his own higher echelons from the battalion to division levels. He used both the small extension node (SEN) and the command post node (CPN) satellite receivers to provide redundant communications in the event of a malfunction of voice or digital commo.

While at COP Wolf, SFC Geter oversaw a validation live fire of guided MLRS (GMLRS) unitary—the FA's first precision guided rocket—the primary weapon system the battery used in theater. The battery fired one round each from all six launchers in less than 20 minutes, easily surpassing the 30-minute Army training and evaluation program (ARTEP) time standard.

Remarkably, the battery was able to fire in a degraded mode when digital communications went down. The BOC responded to the issue admirably and restored digital communications to the final launcher, a testament to SFC Geter's rigorous training program, and completed the live-fire validation.

SFC Geter directed the BOC during several joint operations in the A1 Anbar Province, including Operations Mother of All Generators (MOAG), Lion, Azteca and Montgomery. The battery's role in Operation MOAG was to provide GMLRS unitary and Army tactical missile system-unitary (ATACMS-U) coverage along the travel route of a large generator that was to be used to provide essential electricity for the civilian population and Iraqi workforce.

SFC Geter oversaw the month-long preparations, including rehearsals with RCT-2 and the II MEF, which had MNC-I visibility. SFC Geter conducted dry missions from inside the GMLRS unitary's minimum range throughout the range fan and ensured all units were familiar with the route. He coordinated the rehearsals based on the MLRS release authority with on-scene commanders up to MNC-I.

Operations Lion, Azteca and Montgomery were more offensive in nature. SFC Geter prepared the BOC to fire in support of the I MEF (IMEF), coupled with Iraqi Army attachments, as they combatted A1 Qaeda in Iraq in the Hit-Haditha Triad. These operations resulted in disrupting the anti-Iraqi forces (AIF) in Baghdad and the surrounding area and the Coalition Forces' establishing firm bases.

Success in these operations was possible because of the sheer volume of rehearsals and planning SFC Geter conducted for each. Troops on the ground became fully aware of the precise missile fires they had available.

SFC Geter conducted more than 300 dry fire missions while at COP Wolf, maintaining an excellent response time of 90 seconds or less—a testament to his perseverance and dedication to duty.

Moreover, SFC Geter pioneered the battery's use of My Internet Relay Chat (MIRC)—a chat program similar to those used with civilian programs, such as America Online and Yahoo Instant Messengers. Through MIRC, SFC Geter gathered intelligence and received mission data on a laptop computer. He used MIRC to verify airspace clearance, send fire mission data and receive the command to fire.

He also used the effects management tool (EMT) to allow the battery operations officer to see everything that was going on in his advanced FA tactical data system (AFATDS). The operations officer could command and clear fire missions far easier than before. SFC Geter transformed his BOC into a fully-integrated digital command cell.

Soon after the IMEF took over its battlespace, IMEF moved A/2-20 FA to Camp Fallujah to better use its firing capabilities. SFC Geter was instrumental in relocating the battery. Through SFC Geter's leadership and attention to detail, the MECC was emplaced, voice and digital communications were established, and the battery was in position, ready-to-fire less than 48 hours after "boots hit the ground"—a full nine days ahead of schedule.

On 27 April 2006, D/1-506 IN came under machine gun fire from a compound in Ramadi. After ground and air forces were unable to silence the AIF, A/2-20 FA was called upon to deliver GMLRS unitary. SFC Geter received the fire mission and directed the launcher to lay on the target. After the on-scene commander refined the grid, SFC Geter waited for airspace clearance to avoid a mid-air collision with the rocket barrage. As soon as aircraft were free of the rocket's flight path, the brigade commander authorized the use of GMLRS unitary.

The BOC received the digital fire command and launched one GMLRS unitary at the target, achieving a direct hit. The enemy's fighting position was shattered, and all AIF inside were killed while surrounding buildings remained intact. This was the first successful GMLRS unitary strike in support of troops-in-contact (TIC) in the history of the Field Artillery.

SFC Geter directed more than 30 missions firing more than 50 rockets in support of the Ramadi Offensive. Every round was observed as a direct hit. Not only did this accuracy provide unprecedented effects against the enemy, but also GMLRS unitary's precision was a key element of the Coalition Forces' information operations (IO) campaign. The minimal collateral damage and loss of zero civilian lives helped to bring the Ramadi population to the side of the Coalition Forces.

SFC Geter's diligence and attention to detail were responsible for the battery's spotless record, contributed to changing the face of the battlefield in western Iraq and changed the military's overall approach to the use of MLRS.

Through his combat achievements in the past year, his use of digital communications to keep the battery in the joint fight and his development of a BOC that will propel the Field Artillery deep into the 21st century, SFC Geter has made a positive and lasting impact on the Field Artillery and on the Army as a whole.

2006 Hamilton Award Winner:
A/2-222 FA, UTARNG

A Battery, 2nd Battalion, 222nd Field Artillery (A/2-222 FA) of Cedar City, Utah Army National Guard (UTARNG), part of I Corp Artillery, has won the Hamilton Best ARNG Battery Award for 2006. The battery was deployed to Iraq from July 2005 to June 2006. Captain Shawn M. Fuellenbach commands the battery with NCO leader First Sergeant Michael M. Miller.

Named for Alexander Hamilton, a Revolutionary War Artilleryman and American statesman, the Hamilton Award was established in 2002. It annually recognizes a high-performing ARNG battery based on specific criteria and a narrative.

A/2-222 FA deployed to Ar Ramadi, Iraq, in support of Operation Iraqi Freedom (OIF) in July 2005. Ar Ramadi is the capital of the volatile Al Anbar Province located in the seething heart of the Sunni insurgency.

The battery had three primary missions during its deployment. It manned three observation points (OPs) along three main and alternate supply routes, provided counterfire and direct support (DS) fires for the 2-28th Brigade Combat Team (BCT) and conducted base defense for Camp Ramadi.

A/2-222 FA deployed to Iraq with 104 Soldiers. Of those Soldiers, 54 received combat action badges (CABs), and seven Soldiers received purple hearts for wounds sustained during combat operations. The battery redeployed all Soldiers and suffered no accidental or combat deaths during the deployment.

1SG Michael Miller and CPT Shawn Fuellenbach of A Battery, 2nd Battalion, 222nd Field Artillery (A/2-222 FA) of Cedar City, Utah Army National Guard (UTARNG).

During A/2-222 FA's nonstandard OP and patrol mission, the battery manned the three OPs in the 2-28th BCT area of operations (AO). The battery conducted 110 combat patrols and drove more than 88,000 kilometers (54,600 miles) during a three and one-half month period in the late summer and fall of 2005. There were 12 improvised explosive device (IED) attacks and one land mine attack on the patrols. The patrols also found three IEDs and a land mine.

During this time, the supply routes were able to remain open and be traveled by Coalition Forces, Iraqi forces and Iraqi civilians with minimal interruptions.

A/2-222 FA then transitioned back to its "roots" in November 2005. The battery was assigned the Artillery mission for the 2-28th BCT. The battery was split into two platoons and located on two forward operating bases (FOBs). This allowed A/2-222 FA to range the entire brigade AO.

During a three and one-half month period, the battery processed 236 fire missions and fired 1,464 rounds in support of combat operations. Several mortar teams were destroyed, and more than 15 insurgents were confirmed killed in action (KIA) from the battery's fires.

The accuracy of Artillery fires improved during this period. Special emphasis was placed on meeting the five requirements for accurate, predicted fires. The battery calibrated all powder lots, and crews practiced drills constantly to improve the consistency and timing of the fires.

The efforts paid off. The accuracy of the fires improved, and maneuver units began using more Artillery while they were troops-in-contact (TIC). Among other missions, they used Artillery fires to destroy enemy sniper positions or fix the enemy and keep Coalition Forces out of harm's way.

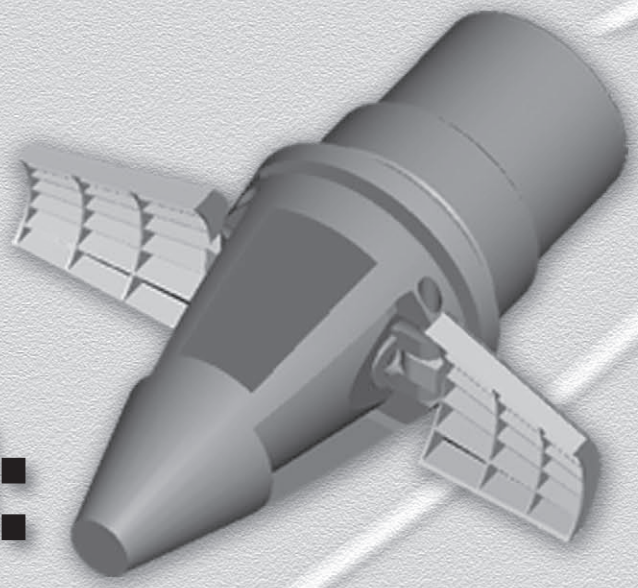
For the last three months of A Battery's time in Ar Ramadi, the unit transitioned to base defense for Camp Ramadi. This included manning the two entry control points (ECPs) into Camp Ramadi and seven towers located on the perimeter. The unit also oversaw the reconstruction of the main ECP. During this time, enemy combatants did not breech the camp's perimeter.

While deployed, 33 members of A Battery reenlisted in the National Guard. The unit had only 12 percent attrition after coming off stop-loss. All but 12 eligible members of A Battery took advantage of the large tax-free bonuses available and reenlisted.

A/2-222 FA redeployed to Camp Shelby, Mississippi, in June 2006, arriving in Utah on 22 June. The unit redeployed with no accidents and no loss of any sensitive items. A/2-222 FA currently is reconstituting and resetting in preparation for the next mission the Army assigns it.

A/2-222 FA won the Hamilton Best ARNG Battery Award for 2006. The battery was deployed to Iraq from July 2005 to June 2006. (Photos by MAJ Sterling McMurrin, 2-222 FA Executive Officer)

Precision Guidance Kits (PGKs):



Improving the Accuracy of Conventional Cannon Rounds

By Major John S. Moorhead, AC

The near future holds technology that will improve the accuracy of conventional cannon projectiles, or "dumb" rounds, significantly without the high cost required of precision-guided munitions (PGMs), such as Excalibur unitary and others under development for cannon artillery. PGKs employ this technology to improve the accuracy of 155-mm and, eventually, 105-mm conventional cannon rounds. PGK uses a fuze-like global positioning system (GPS) capability to improve the rounds' accuracy down to 50 meters or less circular error probable (CEP) at all ranges. Increment 1 155-mm PGK is projected for fielding in FY09.

This article explains the PGK requirement, benefits and employment; discusses its complementary role to other munitions; and provides a summary of on-going activities.

Why make dumb rounds smarter? Some may question why we need to make dumb rounds more accurate. The answer: Making some of our conventional cannon projectiles more accurate with PGK gives the ground force commander an additional fire support option that, for many targets, is the most efficient and effective option.

Conventional cannon artillery is an area-fire weapon system with a specified role of providing accurate, responsive fires in support of maneuver. It also may be used to create psychological effects on enemy combatants through volume and concussion. In that case, the more rounds the better. The goal for all artillery missions is to achieve the commander's desired effects.

Although FA cannon units are experts at providing indirect fires, errors exist inherently in the delivery processes that affect the rounds' accuracy. As a result of these errors, units can experience a large dispersion of rounds around a target. To compensate for this dispersion, FA units must fire many rounds or volleys to increase the probability of attaining the desired lethal effects on the target.

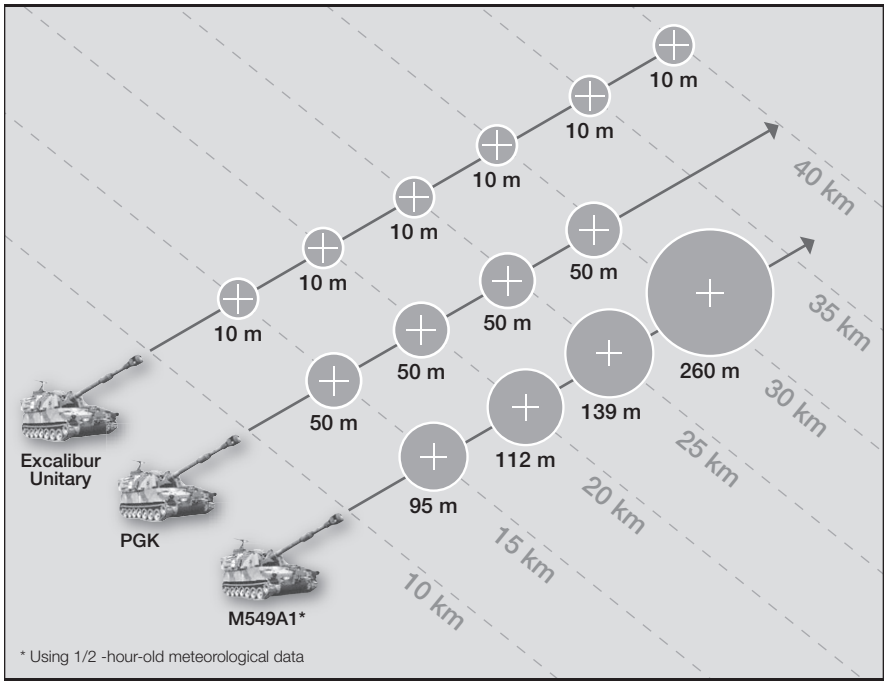
In most cases, the increased volume required to attack a target is an effort to compensate for the inherent inaccuracies of any given indirect fire weapon system.[1] This is a function of accuracy, lethality and sheafing rules in the advanced FA tactical data system (AFATDS). The logic built into AFATDS determines the number of rounds for each mission and is based on attack guidance for each target type as established by the Joint Munitions Effectiveness Manual (JMEM). The harder the target, the more rounds required.

Conventional cannon fires *can* create the desired effects, but the downside is the large expenditure of munitions required to accomplish the mission. Firing more rounds with larger dispersion can result in less than satisfactory effects and increase the potential for unwanted collateral damage, such as noncombatant casualties. The risk of these unintended consequences often restricts the use of area cannon munitions in many operational environments, such as Iraq. Firing a larger number of rounds also places a larger demand on the supply and transportation systems and forces units to fire for longer periods, increasing their chances of being detected by the enemy and receiving counterfire.

Today, units achieve somewhat greater accuracy with dumb rounds by meeting the five requirements for accurate, predicted fire: accurate target location and size, accurate firing unit location, correct weapon and ammo information, current meteorological (Met) data and correct computational procedures. When units meet these requirements, they can provide relatively accurate FA fires.

Why PGK? PGK increases the accuracy of conventional cannon rounds, thereby, decreasing miss distances (or dispersion). This is the distance between "should hit" and "did hit" locations. The longer the range, the larger the miss distance.[2] With larger miss distances, fewer rounds impact the target inside the bursting radius of a 155-mm projectile, decreasing lethality and effectiveness.

Miss distances occur in both range and deflection and are due to inherent errors (things we cannot always compensate for in corrections). These errors result from variations in Met data, projectile weight and shape, different gun environments, and even the texture of paint on the projectile. Unfortunately, these errors occur to some degree, even when units



This figure compares 155-mm circular error probable (CEP) and range for a conventional "dumb" round (M549A1, a high-explosive rocket-assisted, or HERA, projectile), a round with a precision guidance kit (PGK) and Excalibur Unitary. Note that the conventional 155-mm round's CEP gets larger as the range increases.

meet all five requirements for accurate, predicted fires.

PGK will correct for these unknown errors and make dumb rounds more accurate by means of GPS guidance. Without PGK, the CEP for conventional projectiles is a function of range. An M549A1 high-explosive rocket assisted (HERA) projectile fired at 30 kilometers has a 260-meter CEP. Rounds fired at shorter ranges usually have a CEP of 50 meters or less. (See the figure.)

In short, PGK rounds fired at the mid-to-max ranges will be as accurate at 30 kilometers as rounds without PGK are when fired at five and 10 kilometers. CEP with PGK is no longer a function of range. In terms of the example M549A1, if it had PGK, its 260-meter CEP at 30 kilometers would shrink to 50 meters.

In essence, PGK will shrink the miss distance, improve accuracy and result in better overall effectiveness and efficiency. It will ensure rounds impact on a target within their lethal radius, making conventional cannon artillery accurate at all ranges.

What exactly is PGK? Under the current concept, PGK will be a guidance kit that replaces the standard HE burster fuze. It will compensate for probable error in range (PE_r) and PE in deflection (PE_d). It will be a cost-effective way to improve the accuracy of the conventional cannon ammunition inventory without having to modify the projectiles.

The PGK program has three increments. Increment 1's design will consist of a fuze-like kit that contains GPS guidance, power supply, control surfaces, electronic circuitry and the fuze function modes of point-detonating and proximity. The Increment 1 objective is to achieve a 50-meter or better CEP. In addition, the new M777A2 lightweight 155-mm howitzer and the M109A6 Paladin must be able to fire the PGK-equipped rounds. PGK also must be compatible with all 155-mm HE projectiles (M107, M795 and M549/A1) and the M203A1 and M232 modular artillery charge system (MACS).

The two follow-on increments will provide additional capabilities. Increment 2 will minimize GPS interference and jamming, improve delivery accuracy to 30 meters, add delay and GPS time-fuze functions, and address the entire 155-mm family of platforms, munitions and propellants.

Increment 3 adds the 105-mm family of platforms, munitions and propellants into the previous design.[3] The reason for delaying the 105-mm variant is to synchronize it with the planned M119A2 howitzer digitization program.

When do fire supporters choose PGK for projectiles? Fire supporters must consider capabilities when deciding whether or not to employ PGK: it is simply not cost-effective to use PGK on short-range missions because it provides very little benefit. This is especially true when units do well at the five requirements for accurate, predicted fires. Also, PGK requires more time for the GPS to acquire and adjust the trajectory than is available during the time-of-flight of short-range missions.

The PGK selection criteria, most likely, will be more complex than for normal fuzes because of its capabilities and limited quantities in unit basic loads (UBLs). Forward observers (FOs) will be able to request PGMs as an option in future versions of the FO software (FOS) with new entries for target descriptions and target areas to help them determine the type of PGM for the mission. What PGK adds to PGMs is scalable precision.

FOs will select PGK only when the mission dictates and circumstances meet the selection criteria established by the fire support cell (FSC). FOs and FSC Soldiers will require training to understand when to choose PGK over conventional fuzes on the battlefield.

Selection criteria will be based on the commander's guidance and mission, enemy, terrain, troops and time (METT-T) considerations. It may include factors such as maximum allowable target location error (TLE), target type, commander's intent, munitions availability, minimum acceptable range, conservation of UBL, operational environment, rules of engagement (ROE) or limitation on collateral damage.

TLE is a measure of the accuracy with which a sensor can locate a target and is the difference between the actual and predicted target location.[4] TLE can be extremely important to the effectiveness of a PGK fire mission. As with any conventional munition or PGM (Excalibur unitary or an M549A1 with PGK), the projectile will miss the target when given a "bad grid" as a result of poor target location.

Because there is a relationship between CEP and TLE, there is an optimal TLE of between 30 and 100 meters for employing PGK to maximize lethality and reduce collateral damage risks. Fire supporters will have to *optimize* target location equipment and use experienced, trained observers to ensure the devices render the smallest possible TLE.

Sensor systems in the field today that can provide accurate target location to 10 meters or less are the second generation forward-looking infrared radar (FLIR) and fire support sensor system (FS^3). Sensors that have target location errors larger

than 10 meters are the ground-vehicular laser locator designator (G/VLLD), first generation FLIR Bradley eyesafe laser rangefinder (BELRF) and lightweight laser designator rangefinder (LLDR).

How does PGK operate and function? Handling and storing PGK will differ very little from other fuzes; PGK will have the same dimensions as a standard NATO fuze. The only exception is it may require special handling if the wing-like control surfaces are exposed and fixed in the final solution.

Upon receipt of a fire mission requesting PGK, Cannoneers mate PGK to the projectile in a similar manner as with current fuzes. Using the enhanced portable inductive artillery fuze setter (EPIAFS), Cannoneers set/load (program) the PGK the same as any inductively set fuze, transferring all mission-essential data (fuze mode, howitzer and target location) necessary for PGK to function reliably. It takes less than 10 seconds to pass all the fuze mode and GPS mission data to PGK.

Once fired, the PGK-equipped projectile acquires GPS during flight and follows a normal ballistic trajectory to apogee (top of flight path) where the processor begins calculating the estimated miss distance to determine when to deploy the control surfaces (brakes or canards). At the optimal time during the descending leg of the trajectory, the control surfaces deploy and begin correcting the flight path.

Control surface deployment time is critical. The processor estimates the miss distance and uses the surfaces to make small corrections to the trajectory, guiding it to the intended aim point.

What is unknown at this time is how much control authority (maneuverability) PGK will provide because it guides the projectile to the aim point instead of gliding like Excalibur unitary does. This will be determined through testing. What is certain from analysis is that PGK will make conventional cannon artillery more effective and efficient in performing its mission.

How does PGK complement other munitions on the battlefield? PGK will fit into the ammunition spectrum between unguided dumb rounds used in area-fire missions and the more precise option of Excalibur unitary.

PGK will be considered an "area precision munition," meaning it is an area-fired munition that is more precise than conventional rounds. Target sets are the same as for any HE projectile. Some targets may be better suited for use with PGK, such as linear targets (bridges, roads and convoys, troops in the open, etc.) or high pay-off targets (HPTs), such as tactical operations centers (TOCs) and command posts (CPs). The targets engaged with PGK, ultimately, will depend on the commander's intent and the mission type.

The conventional unguided dumb rounds will continue to play a key role in the FA arsenal when mission dictates. This is especially true when commanders require the massing of fires to create havoc and destruction and there is little concern with collateral damage.

At the same time, PGK will provide commanders the option of scalable precision to more closely match the round to the task. Instead of firing large numbers of projectiles to attack a target as specified today in AFATDS, the commander will be able to choose PGK to "tighten up the shot group" and achieve the desired effects with fewer rounds. Using PGKs, units will be able to service more targets in the same span of time, resulting in a better overall efficiency and use of UBLs. Firing fewer rounds also will decrease the crews' susceptibility to counterbattery fires, increasing their survivability.

Commanders will be able to select PGK as the munition of choice when mitigation of collateral damage is a concern at extended ranges and precision munitions are neither available nor feasible.[5] In addition, improved accuracy with PGK could lessen the logistics resupply burden. Depending on the mission, units could sustain fires longer without ammo resupply. This would free transportation assets for other missions on the battlefield.

When will PGK be fielded? The Program Executive Officer, Ammunition (PEO-AMMO) approved the PGK program in December 2005. The Army Requirements Oversight Council (AROC) has approved the PGK requirements document that currently is in the joint staffing process.

Charged with developing PGK, the Project Manager, Combat Ammunition Systems (PM CAS) solicited industry for possible PGK Increment 1 designs that can provide a near-term solution. In the spirit of competition, PM CAS awarded two six-month technology contracts, one to BAE Systems and one to Alliant Techsystems (ATK), for PGK development with a "shoot-off" at Yuma Proving Ground, Arizona, in early spring 2007. PM CAS plans to award the winner of the shoot-off with a contract for Increment 1. The PM anticipates fielding of Increment 1 sometime in FY09.

PGK's acquisition strategy will follow an incremental developmental approach to prove the concept. Once the program achieves a 50-meter CEP, production will begin for limited quantities of Increment 1 for fielding while development begins on Increment 2.

A long-range goal for Increment 3 is to leverage the 155-mm PGK technologies for PGK use with 105-mm projectiles. The initial version of PGK may be robust enough to meet the 105-mm howitzer requirements, but only time and testing will determine its compatibility.

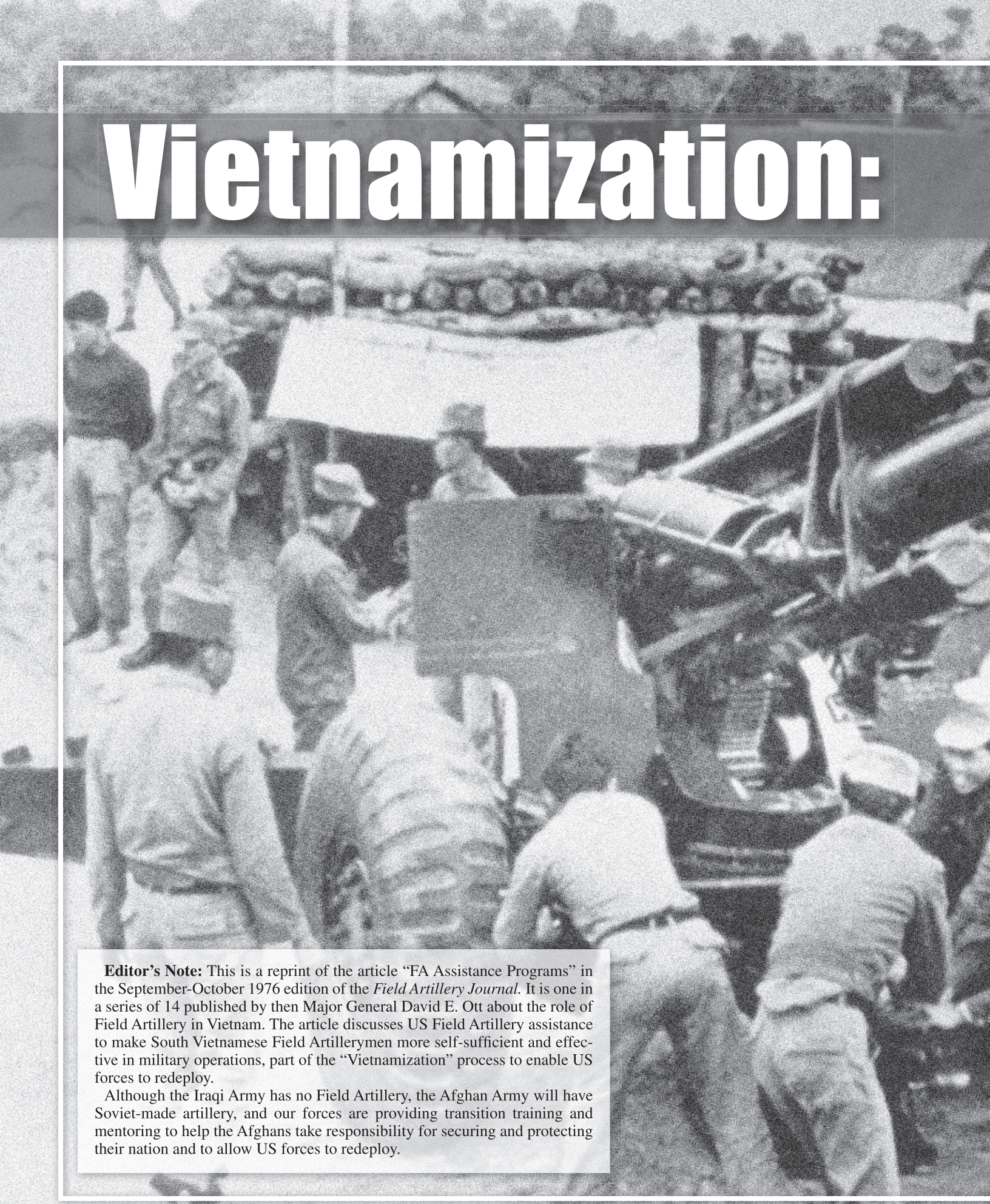
Today's technology can help achieve area precision effects with fewer rounds. The PGK Team is working to make this capability a reality for Soldiers. As PGK evolves, it will fill a distinct precision gap between conventional cannon rounds and Excalibur unitary, providing commanders the option of scalable precision in combat operations.

Endnotes:

1. Colonels Gary S. Kinne, John A. Tanzi and Jeffrey W. Yaeger, "FA PGMs—Revolutionizing Fires for the Ground Force Commander," *Field Artillery*, May-June 2006, 16-21.
2. Initial Draft, "PGK Tactics, Techniques, and Procedures (TTPs)," Training and Doctrine Command (TRADOC) Capability Manager-Cannon (TCM Cannon), August 2006, 10.
3. "Precision Guidance Kit (PGK) Capabilities Development Document (CDD)," PGK Integrated Product Team, Version 1.3, Para 5 – "Program Summary," 15 November 2006, 7.
4. Initial Draft, PGK TTPs, 17.
5. Ibid., 18.

Major John S. Moorhead, Acquisition Corps (AC), is the Munitions Branch Chief for the Training and Doctrine Command (TRADOC) Capability Manager, Cannon (TCM-C) and the User Representative for the Precision Guidance Kit (PGK), the Advanced Cannon Artillery Ammunition Program (ACA²P) and all currently fielded cannon artillery ammunition. His previous assignments include serving as the Assistant Project Manager (PM) in the office of the PM Aviation Mission Equipment, Redstone Arsenal, Alabama; Deputy and later Chief of the Division Materiel Management Center (DMMC), S3 Plans Officer, and Support Operations Officer for the 10th Division Support Command (DISCOM), all in the 10th Mountain Division at Fort Drum, New York; and DISCOM S4 for the 2nd Infantry Division in Korea. He commanded B Company, 101st Forward Support Battalion, 1st Infantry Division, at Fort Riley, Kansas. His Field Artillery experience includes serving as a Company Fire Support Officer, Battery Fire Direction Officer, Firing Battery Platoon Leader and Battalion Fire Support Officer in 5-29 FA, Fort Carson, Colorado.

Vietnamization:



Editor's Note: This is a reprint of the article "FA Assistance Programs" in the September-October 1976 edition of the *Field Artillery Journal*. It is one in a series of 14 published by then Major General David E. Ott about the role of Field Artillery in Vietnam. The article discusses US Field Artillery assistance to make South Vietnamese Field Artillerymen more self-sufficient and effective in military operations, part of the "Vietnamization" process to enable US forces to redeploy.

Although the Iraqi Army has no Field Artillery, the Afghan Army will have Soviet-made artillery, and our forces are providing transition training and mentoring to help the Afghans take responsibility for securing and protecting their nation and to allow US forces to redeploy.

FA Assistance Programs

By Major General David E. Ott,
Commandant of the
Field Artillery School, 1973 -1976

General Ott's Introduction to the Series. *This monograph illuminates some of the more important activities—with attendant problems, shortcomings and achievements—of the US Army Field Artillery in Vietnam. The wide variations in terrain, supported forces, density of cannons, friendly population and enemy activity that prevailed throughout South Vietnam tend to make every action and every locale singular.*

Although based largely upon documents of a historical nature and organized in a generally chronological manner, this study does not purport to provide the precise details of history. Its purpose is to present an objective review of the near past in order to assure current awareness of the lessons we should have learned and to foster the positive consideration of those lessons in the formulation of appropriate operational concepts. My hope is that this monograph will give the reader an insight into the immense complexity of our operations in Vietnam. I believe it cannot help but also reflect the unsurpassed professionalism of the junior officers and NCOs of the Field Artillery and the outstanding morale and esprit de corps *of the young citizen-soldiers with whom they served.*

An artillery unit with the Army of Vietnam readies a 155-mm M114A1 howitzer for firing near the Kontum Province.

In November 1969, then President Richard M. Nixon officially established the goal of the American effort in the Vietnam conflict: enable the South Vietnamese forces to assume full responsibility for the security of their country. Although "Vietnamization" was a new word, the concept was, in fact, a return to an earlier policy—one that had all but disappeared in the feverish escalation from aid and advice to combat support to active participation.

As early as the summer of 1967, the first tentative steps toward Vietnamization were being taken. Concerned about the effectiveness of the Army of Vietnam (ARVN), Regional Forces (RF) and Popular Forces (PF) units, General William C. Westmoreland [Commander of the Military Assistance Command, Vietnam, known as MACV] directed that a conference be held to air views, consider proposals and make recommendations through which assistance could be provided the Vietnamese military in order to mold it into an aggressive and responsible fighting force.

FA Assistance Programs. Senior American commanders met at Pleiku on 12 August 1967, and on the basis of their conclusions, the Commanding General, I Field Force (IFF), Vietnam, directed that the Commanding General, IFF Artillery, "…establish liaison with Vietnamese units and…isolate problems to be alleviated through US training support."

The IFF Artillery immediately assigned a liaison officer to II Corps (Vietnamese) Artillery to "provide a channel for the request of supporting US artillery for ARVN operations in II CTZ [Corps Tactical Zone]." This officer was recalled when the necessary procedures had been established, and his duties were assumed by the Artillery officer of II Corps Advisory Group. To provide further assistance, an "on-call" liaison officer from the 52nd Artillery Group was designated.

Even as this coordination was being established, a decentralized assistance program was developing. On 28 September 1967, Brigadier General William O. Quirey directed that all field force Artillery battalions establish forward observer (FO) teams specifically to train RF and PF units in the techniques of fire adjustment. Further, battalions were to provide any assistance necessary to help ARVN Artillery units to achieve maximum technical proficiency.

This guidance, however, proved to be too general. Field force battalions provided only sporadic aid in the II Corps area, and effectiveness depended on the willingness of the Vietnamese participants in the program and the ability of the US units to do the job.

Four-Month Study. Meanwhile, the IFF Artillery had initiated a four-month study of ARVN Artillery operations to evaluate the effectiveness of their support. Total assets in II Corps were 103 105-mm howitzers and 42 155-mm howitzers. Of these, six 155-mm and 15 105-mm tubes were committed to support training centers. Although all school support weapons had the secondary mission of local area support, their primary function of school support prevented their effective utilization in support of operations. In addition 18 105-mm pieces were positioned in platoons at Special Forces and Civilian Irregular Defense Group (CIDG) camps.

The remaining guns—55 105-mm and 30 155-mm pieces—had primary responsibility for supporting ARVN, RF and PF maneuver elements. Because this artillery also had to provide fire support for road security and the various political headquarters throughout II Corps, platoon and split-battery configurations were the prevalent formations. The size of II CTZ, some 30,000 square miles, and the magnitude of the mission proved the artillery incapable of providing even marginal fire support to maneuver forces during offensive operations.

Figure 1: South Vietnam with Kontum Province Inset

The study examined 10 long-term operations and 72 short-term operations. Long-term operations were defined as those performed within the framework of the normal mission of the maneuver force and short-term operations as those in response to specific and immediate needs, such as those based on special intelligence. Findings showed that Artillery supported slightly less than half of the short-term operations. Of those operations listed as being supported by Artillery, each maneuver battalion was shown to have received Artillery support which averaged slightly more than one platoon (two guns). The average support was less than one platoon of Artillery per battalion when all short-term operations were taken into consideration.

The study also showed that, although ARVN Artillery units were thoroughly grounded in the fundamentals of gunnery, they were severely hampered by poor maintenance practices, slipshod repair parts support and inadequate communications equipment. Further problem areas were encountered in the meteorological (Met) support and survey capabilities of the Vietnamese.

Based on this study, specific programs were initiated to upgrade the ability of the ARVN Artillery to support maneuver forces in the field. This aid was aimed at increasing the responsiveness of the firing units in answering calls-for-fire and the ability of the ground soldier to request and adjust fire. Because the mission of Vietnamese batteries continued to be security of roads and strategic installations, no attempts were made to increase the fire-massing capacity of these units.

Remedies. To remedy the problems exposed by the study, American Artillery units in early 1968 initiated four assistance programs. Task Force *Dai Bac* I (Task Force Cannon I) was formed by the 1st Battalion, 92nd Artillery (1-92 Arty) to assist Vietnamese Artillery units in the Kontum area. This program was short-term, lasting only 23-27 February 1968. Its primary mission was to ascertain the condition of the Vietnamese weapons and demonstrate the responsiveness of Vietnamese and US Artillery to calls-for-fire from ARVN, RF, PF and US units in

the Kontum area.

To accomplish this mission, the 1-92 Arty established a fire direction center (FDC), collocated with the Vietnamese 221 Artillery Battalion at Kontum, that could control all Artillery fire in the area. The objective was to create a working Vietnamese FDC.

Another team with interests in logistics and maintenance was to examine and correct hardware deficiencies. Additional teams were designated to assist in firing battery operations, communications and survey. Because of the short duration of the program, specific objectives were established for each day to ensure that all areas were examined and upgraded.

The program revealed that significant shortcomings in FDC procedures were caused primarily by a lack of logistical support and by poor understanding of sophisticated gunnery procedures. Firing battery deficiencies were closely tied to logistical or maintenance support. Tubes ranged in age from 13 to 27 years and averaged 10,000 rounds per tube.

The task force provided the necessary logistical support to upgrade the weapons and instructed the Vietnamese in advanced FDC procedures. The task force also pointed out that the remaining problem areas were founded in the weak ARVN logistical system and recommended that Artillery advisers spend more time with their units and actively establish liaison with neighboring American units so that assistance could be made more readily available.

At the same time that Task Force *Dai Bac* I was being established, another program began to provide assistance to CIDG and Special Forces Artillery platoons. Responsibility for the program was given to the major Artillery commands in II Corps. These commands provided technical assistance to the CIDG Artillery platoons. Classes were conducted in fire direction, firing battery operations and maintenance. Initial success resulted in the continuation of the program on a regular basis.

Perhaps the most important of the four projects was the IFF and ARVN Associate Battery Program that began on 14 March 1968. The program was to augment the existing advisory effort, improve the effectiveness of Vietnamese forces and open channels for better coordination of fire support and mutual understanding. Under this concept, US Artillery units sponsored selected Vietnamese battalions in their locale and provided them with a responsive American headquarters from which to request technical, maintenance and training assistance.

Finally, IFF Artillery developed a program of instruction to train Vietnamese Artillerymen in the use of antipersonnel (Beehive) ammunition in preparation for the time when Vietnamese firing units would be issued the special rounds. This program, however, never became functional because the Vietnamese Joint General Staff had not authorized their units to obtain and employ the ammunition.

Success. The initial success of these programs, coupled with the disastrous defeat suffered by the Communist forces during their ill-fated Tet offensive earlier in the year, allowed the embryonic Vietnamization program to grow. During the fall of 1968, military leaders in Vietnam studied after-action reports (AARs), intelligence estimates and staff studies pertinent to the Tet campaign and its immediate aftermath. From these evaluations a parallel course—one that would merge with President Nixon's some eight months later—began to germinate.

On the basis of an overall evaluation of the ARVN, it became evident to these leaders that if Vietnamese forces eventually were to assume the burden of the ground war, a test of their ability to operate semi-independently would be necessary. The emphasis on "semi-independence" rather than complete autonomy was in recognition of the inherent weakness of these forces in fire support and air assets.

To this end, a suitable testing ground had to be found. The area had to be secure enough to allow for unhampered transfer of forces before Vietnamese units became actively engaged but, at the same time, had to have potentially significant enemy activity to provide the Vietnamese with a viable test. Further, the testing ground had to be in an area of minimal danger to the pacification program. An ideal area was found in northern Kontum Province with its sparse population, potential enemy threat from Laos and Cambodia and relative isolation from the psychologically important population centers of the country. (See the map in Figure 1.)

Agreement Signed. Preliminary discussions between American and Vietnamese leaders began in late 1968, and a verbal agreement was reached in January 1969 between Lieutenant General William R. Peers, Commanding General, IFF, and Major General Lu Mong Lan, Commander, II Corps. However, this agreement was not written, and the designated Vietnamese force, the 42nd Regiment, and its command headquarters, the 24th Special Tactical Zone (STZ), failed to assume responsibility for the area by 1 February 1969, as had been agreed.

Further, negotiations were hampered by the natural confusion of a change of command at IFF, and it was not until 12 April 1969 that General Lu Lan indicated general agreement with a new proposal. A draft memorandum of agreement was drawn up and signed by American and Vietnamese officials on 24 April 1969. On the same day, the exchange of forces neared completion and the ARVN assumed responsibility for northern Kontum Province.

In deference to the weakness of the Vietnamese Artillery (six 105-mm howitzers and six 155-mm howitzers), the agreement specifically provided that 4th Infantry Division Artillery units would assume artillery coverage of National Highway 14, the major north-south artery in the highlands, and that the Commanding General, IFF Artillery, would provide general support Artillery as required; support operations within the 24th STZ with a minimum of two light or medium Artillery batteries; and maintain the fire support coordination center to coordinate all fire support means available, including operation of air advisory stations.

The IFF was assigned the mission of providing the specified support to the 52nd Artillery Group headquarters in Pleiku. The 52nd immediately provided six light, 12 medium and five heavy Artillery pieces to the 24th STZ to augment organic Vietnamese batteries. Battery C, 4th Battalion, 42nd Artillery, a 4th Division Artillery unit, provided road coverage. Automatic weapons were allocated from Battery B, 4th Battalion, 60th Artillery.

Dan Quyen. With the assumption of responsibility for northern Kontum Province by the 24th STZ, the first major Vietnamese ground operation began. Dubbed "*Dan Quyen*" (People's Rights) by the Vietnamese, it grew out of special agent reports indicating a major buildup of enemy units southwest of the Ben Het CIDG camp, which sat precariously at the convergence of the Laotian, Cambodian and Vietnamese borders.

To head off Communist plans to execute a strong offensive effort in the highlands, the 24th STZ was tasked to conduct operations to spoil the plans, protect

Ben Het and compel enemy forces to retire to their Cambodian sanctuaries. The operation was conducted in three phases: Phase I (5-15 May) involved forces of three Vietnamese and two mobile strike force battalions screening the tri-border area west of Ben Het; Phase II (16 May-3 June), based on intelligence produced during the initial phase, was a six-battalion (plus) offensive operation conducted southeast of Ben Het and targeted against elements of the North Vietnamese 66th Infantry, 28th Infantry and 40th Artillery Regiments; and, Phase III (3-5 June) consisted primarily of bomb damage assessments by multi-battalion Vietnamese forces and the establishment of a defensive screen around the Dak To, Tan Canh and Ben Het areas.

By the end of the operation, the South Vietnamese had succeeded in mauling the Communist forces and establishing a favorable 7-to-1 kill ratio. In support of the operation, the 52nd Artillery Group provided 29 tubes of Artillery—12 105-mm howitzers, 12 155-mm howitzers, one 8-inch howitzer and four 175-mm guns—and assigned the 1-92 Arty to establish the forward command post for US support forces. This command post was later expanded into a fire support coordination center for all American Artillery in the area. From their own assets, Vietnamese forces utilized eight 155-mm and six 105-mm howitzers in support of the operation.

A total of 73,016 rounds was expended by friendly firing units. Enemy soldiers captured during the campaign expressed a fear of first-round volley fire employed by both South Vietnamese and US units in the form of random time-on-target missions.

Although the operation was deemed a success, a number of weaknesses became apparent. The magnitude and complexity of coordinating, integrating and controlling available fire support means virtually overwhelmed the 24th STZ staff at the Dak To tactical operations center (TOC). Some of the blame for this failure was attributable to an inexperienced staff and the inadequate manning structure of the headquarters, but specific shortcomings were apparent as well.

When the 1-92 Arty established the US fire support coordination center at Dak To, ARVN commanders were encouraged to send representatives, but only one did so. Fire support activities, thus, were not coordinated properly, so flexibility was lost, resources were wasted, efforts were duplicated and, frequently, targets were not attacked with the appropriate means at the proper time.

This problem originated with the failure of the force commanders, while organizing for combat, to understand or appreciate the need to integrate maneuver plans and fire support plans closely and to collocate the tactical operations and fire support coordination centers. The problem finally was rectified two weeks after the operation started when the commander of the 1-92 Arty was tasked to establish an integrated fire support coordination center. This agency quickly matured into an effective organization capable of providing timely and accurate fire support.

Additional problems were encountered in fire clearances, coordination of fire support assets at the company level and requests for, and adjustment of Artillery fire. It became apparent that these deficiencies were a result of the dependence of the South Vietnamese commanders on American advisers.

These weaknesses were not corrected satisfactorily, and it was clear that additional stress in training would be required to upgrade the fire support coordination of Vietnamese units.

Despite the weaknesses noted during the campaign, the performance of the Vietnamese forces proved that they could plan and execute semi-independent ground operations successfully against Communist main force units. The significance of this fact would not be apparent for another five months when the policy of Vietnamization became the stated objective of the American command in Vietnam.

Phase II. By 1968, MACV had submitted its plans for Phase II of the Republic of Vietnam Armed Forces (RVNAF Improvement and Modernization Plan. Phase II planning was based on assumptions that North Vietnamese intervention would increase and that the missions of the allied forces would remain substantially unchanged from those that had been stated for fiscal year 1968; that is, US and allied forces were assigned to destroy Viet Cong and North Vietnamese Army forces and base areas, and South Vietnamese Army RF and PF units were to support the pacification program.

Because of these assumptions, the improvement plan was rather methodical and cautious. The proposal was submitted to the Secretary of Defense who disapproved and returned it to the Saigon planners for substantial revision.

In early 1969, the plan was resubmitted as Phase IIa, which assumed the same basic premises as those of the initial plan but substantially increased the speed and scope of the modernization. On 28 April 1969, the Deputy Secretary of Defense gave final approval to the MACV program as modified by the Joint Chiefs of Staff and, in his approving memo stated, "Vietnamizing the war should have the highest priority. Providing needed equipment for the RVNAF is, therefore, of greatest importance. To assure that equipment turned over to the RVNAF can be used effectively, it must be supported by (1) training and (2) logistic support."

Phase IIa of the Improvement and Modernization Plan recognized that major shortfalls existed in the firepower capabilities of the Vietnamese forces, and a substantial portion of the plan was devoted to rectifying this weakness. The equipment ceilings established by the plan were intended to increase the Artillery capability of the Vietnamese substantially.

These proposed figures were further modified when Presidents Nixon and Thieu met at Midway in June 1969. President Thieu presented the requirements as seen by the Vietnamese to President Nixon, who, in turn, gave them to General Creighton W. Abrams [new Commander, MACV] for study, comment and possible inclusion in the program.

Item	Phase I Accelerated FY 1969	Phase II FY 1970	Approved FY 1970	MACV Revised Nov, 1970	Total Shipped as of 31 Dec 1969
M101A1 105-mm Howitzer	602	776	731	731	730
M102 105-mm Howitzer	60	61	0	60	60
M114A1 155-mm Howitzer,	701	274	290	289	294

Figure 2: Vietnamization FA Equipment Delivery Status

One of the requirements, as seen by the Vietnamese, was heavy Artillery in the form of four eight-inch Field Artillery battalions. After this proposal was scrutinized by MACV, only portions of requests were approved. Three additional battalions of Artillery—two 105-mm and one 155-mm—were added to the fiscal year 1970 activation schedule. By the end of 1969, the Artillery improvement plan had undergone a number of revisions but delivery of Field Artillery weapons was being accomplished smoothly and ahead of schedule. The equipment delivery status is shown in Figure 2.

At the same time the master plan for Vietnamization was taking shape, the required training base to prepare the ARVN to assume a more appropriate share of the action immediately, as well as the entire combat role in the future, was receiving careful consideration from the appropriate American commands throughout the country. IFF Artillery, which had a substantial jump on the other headquarters in establishing a training assistance program for Vietnamese forces, reviewed its existing programs, found them to be valid. On the basis of additional studies, it added two plans through which it intended to improve the capabilities of RF and PF units to call for and adjust Artillery fire. In addition, basic fire planning was taught to RF units so they could support their own operations.

Based on this program, a comprehensive defensive target list was developed throughout II Corps and, if a target fell within range of an Artillery unit, fire was adjusted onto it. This program increased hamlet and village security. Before initiation of the plan, only 684 of the existing 4,208 defensive targets planned at various times during the war had been fired on. By August 1969, with the emphasis applied by IFF Artillery, each of the 52 districts in II Corps had a fire plan, 5,869 targets had been developed and 32 percent of the targets had been fired on. The effectiveness of the program was demonstrated during the week of 11 August 1969 when eight friendly hamlets drove off Viet Cong attacks by simply calling for previously fired-in defensive targets.

Coordinated Assistance. In III CTZ, IIFF Artillery was also examining the Vietnamization of Artillery support. Until the summer of 1969, assistance to Vietnamese Artillery had been limited to small contact teams concerned primarily with assisting the Vietnamese to solve maintenance and logistics problems by making American supply channels available for immediate, pressing needs. However, during the summer of 1969, through the efforts of the commanders of IIFF Artillery and III Corps Artillery, the need for a coordinated assistance program was examined. Such a program would complement the IIFF and III Corps Operation *Dong Tien* (Forward Together). A combined working committee was formed to develop a plan for the program, define its concepts and establish policies and procedures for coordinating all mutual support projects. This would increase the capabilities and effectiveness of the combined Artillery team in III Corps.

1. Exchange visits of battery personnel.
2. Combine fire support coordination centers.
3. Develop procedures and coordination requirements for planning combined fire support.
4. Standardize operational readiness evaluations.
5. Combine unit refresher training programs.
6. Standardize tube calibration procedures.
7. Standardize a registration policy.
8. Combine meteorological data.
9. Combine survey control.

Figure 3: Nine Mutual Support Projects

The objectives of the program, as seen by the committee, were to improve coordination and mutual understanding between allied Artillery units; to improve fire support effectiveness by combining planning and coordination of fire support, standardizing techniques and improving the quality of training; and to increase artillery firing capabilities. To accomplish the program objectives, the planning committee developed nine mutual support projects as shown in Figure 3.

The proposed projects were translated into concrete programs and initiated in a low-key manner through the associate battery concept. Key personnel from both US and Vietnamese units visited their "sister" battery to gain a better understanding of each other's problems, observe battery operations and exchange views.

This exchange of ideas led naturally to establishing the standardized operational readiness evaluations (OREs). A checklist was developed to measure the effectiveness of Artillery units. The checklist was particularly effective because it matched performance against an established standard rather than against another unit, minimizing the possibility of embarrassment or loss of face—an important consideration with the Vietnamese.

To prepare units for OREs, unit refresher training was initiated. Mobile training teams (MTTs) were created and dispatched to isolated areas to give instruction. Classes were kept small so that thorough instruction could be given to key personnel and specialists. On-the-job training was conducted whenever possible.

To standardize procedures and improve the accuracy of Vietnamese Artillery fires, the committee developed a plan to ensure that all weapons were calibrated annually. Second, a standardized registration policy was adopted throughout III Corps and emphasis was placed on persuading Vietnamese units to accept American registration practices.

To refine Artillery accuracy further, teams provided assistance to Vietnamese units to develop the capability to use Met data. All US Met stations in III Corps began to conduct dual-language broadcasts four times daily. Finally, a combined effort was initiated to extend survey control to all Artillery units in III Corps.

By May 1970, the *Dong Tien* program was well underway and had scored a number of successes. More than 88 percent of the howitzers employed by Vietnamese Artillery in III Corps were calibrated; survey was established at 67 of the 122 Vietnamese firing positions (an increase of 55 percent in six months); Met data were employed by a majority of the Vietnamese units; and, a substantial number of ARVN Artillery units were using American registration techniques.

With the refinement and improvement of Vietnamese fire support, the necessity to control these fires became apparent. Combined fire support coordination centers were created in various provinces throughout III Corps. These centers included Vietnamese, US and other allied forces' Artillery representatives, US Air Force representatives and, where necessary, US Navy personnel. In addition to planning fire support and clearing fires, they provided a readily accessible means for the interchange of fire requests between ARVN and US units. These agencies significantly increased mutual support and reduced reliance on US Artillery.

In addition to *Dong Tien*, three other

1971	1972	1973
Medium Artillery	Medium Artillery	Medium Artillery
Heavy Artillery	Heavy Artillery	
Long-Range Artillery		

Figure 4: Firepower Weaknesses

significant programs were initiated. The CIDG Artillery School was opened at Trang Sup on 1 September 1969. It was created to train CIDG Artillerymen to assume fire support responsibility for seven Special Forces camps.

The school was staffed and operated by the 23rd Artillery Group, which designed a compact but thorough 10-week course. The school conducted three sessions during which 186 CIDG Artillerymen were trained and deployed to designated camps. With the irregulars assuming Artillery duties at these outposts, Vietnamese Army Artillerymen were relieved to return to their regular force structures.

In September 1969, III Corps Artillery began training ARVN Artillery batteries in air movement techniques and jungle operations. Training was completed in December 1969, and the first battery assumed direct support of the 3rd Mobile Strike Force, a mission that had been the responsibility of the US Jungle Battery, a composite battery of three 105-mm and three 155-mm howitzers. This III Corps training program enabled six guns to be returned to force Artillery assets.

Finally, the Fire Direction Officer's School, conducted by FF Artillery for its own officers, was made available to Vietnamese personnel. This week-long course helped standardize Artillery procedures in III Corps by providing comprehensive instruction in the latest gunnery techniques used by the US Artillery. By May of 1970, 56 Vietnamese officers had been graduated from this school.

At the same time, considerations for Vietnamization were being examined in Military Region I. With the impending redeployment of the 3rd US Marine Division, the Vietnamese role would increase significantly. From November 1969 until 9 March 1970, the primary exchange of ideas and programs took place between XXIV Corps Artillery and Vietnamese 1st Division Artillery because, until its redeployment in March 1970, the III Marine Amphibious Force was the principal American headquarters in the northern provinces. This interplay between the Americans and Vietnamese consisted of decentralized programs initiated at all levels through personal contact and coordination established by the US commanders.

In early 1970, XXIV Corps Artillery, in anticipation of the impending departure of the Marines, began to study the feasibility of a more intensive and centralized Vietnamization program. A XXIV Corps regulation was prepared by corps Artillery to outline the minimum requirements for ensuring effective coordination of US and Vietnamese fires. The regulation included provisions for establishing liaison between supporting Artillery elements and territorial force headquarters down to the sub-sector level.

At the same time, work was initiated to revamp the Artillery and air strike warning system as a dual system existed within the Vietnamese and US chains of command. As American withdrawals continued, inordinate difficulties might be experienced by both US and Vietnamese pilots unless the system was effectively Vietnamized. After careful study, the collocation of the respective warning agencies was adopted as the most practical solution—one that would allow for the most orderly eventual transfer of responsibility to the Vietnamese when US strength in Military Region I no longer justified the combined effort.

During March 1970, the XXIV Corps Artillery initiated an Artillery instructor training program in support of the Vietnamese Artillery refresher training project. Representatives of all Artillery battalions in the Vietnamese 1st Division and the Quan Da Special Zone underwent three weeks of instruction to prepare them to conduct training in their own organizations. Separate courses were presented in fire direction procedures, firing battery operations and maintenance. After completing the instructor training phase, each battalion formed an MTT which was augmented by one US officer and one US NCO. These teams then moved to the field to conduct refresher training at battery locations.

One month later, a team of officers from XXIV Corps Artillery and I Corps Artillery (Vietnamese) conducted a survey to determine the proficiency of RF and PF personnel in Artillery adjustment procedures and the desirability of conducting training in the subject. The team interviewed Vietnamese officials and US advisers in all five provinces. All agreed on the necessity for FO training and agreed to support a combined US and Vietnamese program to provide such training.

Two programs were instituted, one for RF and one for PF. XXIV Corps directed that the 23rd Infantry (Americal) Division incorporate the RF training into its RF and PF leadership and orientation course. The goal of the course was to train observers from sector headquarters, sub-sector headquarters, battalion headquarters, company group headquarters and company. The first class started on 10 June 1970 and 889 RF officers were scheduled to undergo training.

Training for the PF was assigned to I Corps Artillery which designed a comprehensive three-day course stressing basic essentials and live firing. A total of 3,138 PF leaders was scheduled to learn adjustment procedures in an eight-week period beginning 15 June 1970.

Further, agencies responsible for existing programs that had been established to support American units were directed to shift their emphasis to Vietnamese Artillery batteries. In February 1970, the corps Artillery firing battery inspection team began providing technical assistance to Vietnamese units. Detailed technical checks of fire direction procedures, firing battery operations, maintenance and safety were made at each battery visited. On-the-spot critiques were given during the inspections, and formal reports were submitted to I Corps Artillery.

Logistical support was limited primarily to technical assistance and emergency aid to ensure that the Vietnamese supply system was exercised. Whenever emergency assistance was given in the form of supplies or repair parts, one of the contingencies under which it was granted was that the Vietnamese unit would initiate parallel supply action in its logistics channels to ensure that the demand was recorded.

Even as these programs were being initiated, MACV was finalizing the RVNAF Improvement and Modernization Plan

for fiscal year 1971. An analysis of Vietnamese combat capability conducted as part of this plan revealed that a primary shortfall existed in Artillery. The study projected weaknesses in firepower for the coming three fiscal years in the areas shown in Figure 4.

In addition, the rapid expansion of RVNAF cut drastically into their experienced manpower pool and, in turn, diluted the leadership and technical base of newly created Artillery units. To offset this problem, MACV emphasized the improvement of instruction at the Vietnamese Artillery School and approved its expansion.

During 1970, the Artillery School enrolled 2,327 students, well above the 1,715 initially planned for the year. Instruction was improved and new programs were prepared. A copy of the program for the US Artillery Officer Advanced Course was obtained from Fort Sill, Oklahoma, edited to emphasize essential portions and provided to the director of instruction for updating the battalion commanders' course. Several new gun emplacements with concrete ammunition and personnel bunkers were built into the school demonstration area.

In June 1970, the most significant training improvement occurred when the school began to coordinate service practice, fire direction and gun crew training during live-fire exercises. This arrangement saved ammunition and training time and released support-troop gun crews to perform maintenance. The training improved noticeably after the commandant directed that classes be inspected daily and written reports be submitted.

RVNAF Program. In consonance with the American Vietnamization plan, the RVNAF Artillery Command implemented a new training program titled the "Reorganization Technique Plan." The program was to operate in an 11-month timeframe and was to raise the technical proficiency of all Vietnamese Artillery units.

During Phase I (January and February 1970), the Artillery Command developed the concepts and disseminated instructions and lesson plans to the Artillery units, which in turn formed mobile instruction teams. In Phase II (March 1970), the various division Artillery and corps Artillery headquarters consolidated the MTTs, issued instructions and conducted instructor training. In Phase III (April through November 1970), two-week training programs were presented at all firing positions and a proficiency test was administered. To ensure the adequacy of the training, the corps or division Artillery headquarters administered a unit test 30 days after the MTTs had completed the training and individual testing of all firing elements.

Once MACV had established the added emphasis necessary to create a strong training base, it examined the problems of the projected artillery shortfalls. It became apparent that the fragmented positioning of Artillery, as practiced by South Vietnamese Army units to secure lines of communication and strategic centers of population, detracted from the Artillery's support of offensive operations. Even with the activation of new Artillery battalions, the ratio of Artillery tubes to maneuver battalions did not increase significantly.

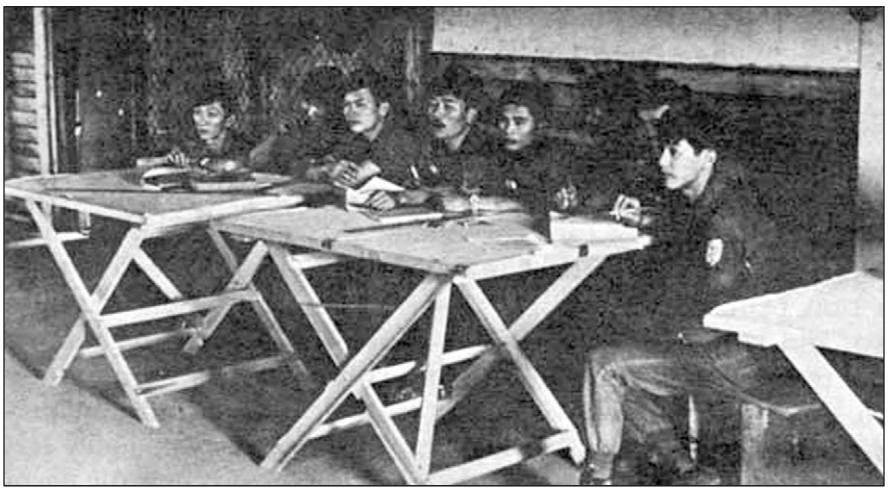
Further, the requirement to man Artillery platoons in static locations cut into the manpower pool of Vietnamese forces and created difficulties during new unit activations. To offset this weakness, MACV approved the addition of 176 two-gun fire support platoons to replace Vietnamese Artillery in fixed sites. Each platoon was authorized 29 spaces to be provided from RF assets. By year's end, 100 of the 176 platoons were activated and, of these, 53 were deployed throughout Vietnam.

Training of the territorial Artillerymen varied among military regions. In Military Region I, contingency plans, which had been formulated by the XXIV Corps Artillery to train these forces, were activated. In Military Region II, training was accomplished at the Artillery School and the Vietnamese division training centers. IIFF Artillery reoriented the CIDG Artillery School. In Military Region IV, the Vietnamese Corps Artillery established a training center for the RF Artillerymen.

With at least part of the light artillery problem solved, planners in Saigon attacked the Vietnamese long-range firepower weakness. After thorough investigation, Project Enhance was promulgated. This plan authorized the activation and deployment of five 175-mm gun battalions. Three of these battalions were scheduled for deployment in Military Region I. Two of these battalions were to be trained, equipped and deployed along the demilitarized zone in 1971 to replace withdrawing American units. The remaining two battalions were projected for Regions II and III.

Editor's Note: The entire 14-article series published from January-February 1975 until March-April 1977 is online at Sill-www.army.mil/famag/index.asp.

Major General David E. Ott was the Commandant of the Field Artillery School, Chief of Field Artillery and Commanding General of Fort Sill, Oklahoma, from 1973 until 1976. At that time, he was promoted to Lieutenant General and became the Commanding General of VII Corps in Germany, retiring in 1978. During his career, he was the Director of the Vietnam Task Force for the Secretary of Defense, Washington, DC; Commanding General of the US Army in Thailand; Field and Air Defense Artillery Branch Chief and then Field Artillery Branch Chief, Washington DC; Commander of the 25th Infantry Division Artillery in Vietnam, the same division in which he served as a Battalion Executive Officer and S3 during the Korean War; and Commander of an 8-inch howitzer battalion in V Corps Artillery, Germany. General Ott is the author of the book *Field Artillery, 1954-1974*. He died 21 June 2004 from Legionnaire's disease at the age of 81.



Army of Vietnam (ARVN) soldiers attend a fire direction class.

First to Fire—

4th Battalion, 2nd Brigade, 203rd Corps, Afghanistan National Army

In October 2005, the 4th Battalion, 2nd Brigade, 203rd Corps Afghanistan National Army (4/2/203 ANA) graduated from Kabul Military Training Center (KMTC). In October 2006, this battalion's FA battery became the first Afghan FA unit to shoot indirect fires in combat.

The *Kandak* (battalion) is a combat support battalion with a company each of reconnaissance, engineer and Field Artillery personnel plus a headquarters and headquarters company (HHC). The officers in the *Kandak* FA battery have been in the armies of Afghanistan for from 10 to 30 years. Most were trained by the Soviets.

The Afghan's basic FA training focused on basic Military Occupational Skill (MOS) 13B1O Cannoneer Crewmember tasks for direct fire. The training culminated with a direct-fire shoot. However, when the *Kandak* was stationed in the Regional Corps Advisory Group-East's (RCAG-E's) area of operations, it conducted infantry tasks because it had no FA equipment. Even after the battery was fielded two Russian D-30 122-mm howitzers in March 2006, it still conducted infantry maneuver tasks in part of the *Kandak's* battlespace.

In June 2006, a team of two US FA advisors, a captain and sergeant first class (SFC), were embedded in the Afghan battery and started focusing it on Artillery tasks with the new howitzers. In July, the battery successfully conducted a direct-fire mission on suspected enemy caves. However, the 203rd ANA Corps and the Ministry of Defense wanted the ANA to be able to provide indirect fires

In support of Operation Mountain Fury, the US advisors and 15 ANA Soldiers moved to a forward operating base (FOB) near the Pakistani border where the anti-Coalition military (ACM) was active. After four days of maintenance, emplacement and crew drills, the ANA crew was ready to fire its first indirect fire mission.

An Afghanistan National Army soldier rams the round into a Russion D-30 122-mm howitzer during training for the unit's first live fire. In October 2006, the 4th Battalion, 2nd Brigade, 203rd Corps Afghanistan National Army (4/2/203 ANA) FA battery became the first Afghan FA unit to shoot indirect fires in combat.

A US FA unit stationed on the FOB, part of the 10th Mountain Division, oversaw the ANA soldiers' laying the guns and the methods of gunnery computation. The Coalition maneuver unit assigned a priority target on a historical rocket point of origin (POO) site and tasked the ANA Artillery to conduct harassment and interdiction fires.

The ANA FA platoon leader, Lieutenant Najeebalah, worked with the US officer advisor in the maneuver tactical operations center (TOC) while ANA SFC Mirwis, the Section Chief, and his gun crew worked with the US NCO advisor. Lieutenant Najeebalah plotted the priority target on his POU-9Y plotting board and determined the range, vertical interval and the angle of displacement of the distant aiming point (DAP) and radioed the fire mission for the Russian D-30 to SFC Mirwis.

SFC Mirwis had his soldiers line up and counted off their positions. Each ANA soldier ran to his assigned position, and the gun was ready to fire. All the gun data was verified by the US NCO advisor, who acted as a safety NCO.

The first round, which is the first combat indirect Field Artillery mission in Afghanistan, was fired by a 50-foot lanyard at 191059ZOCT2006. The round was observed by the US joint land-attack cruise missile elevated netted sensor (JLENS) that was approximately 15,000 meters away; the round landed slightly over the intended target.

Lieutenant Najeebalah gave the command to repeat, and the impact was verified. Within the TOC, the US advisor gave a correction grid (no ANA observers available) to Lieutenant Najeebalah, and he computed the correction data. The lieutenant called the corrections to SFC Mirwis. The corrections were placed on the howitzer, and the round was observed within 100 meters of the intended target.

Lieutenant Najeebalah then ordered a three-round repeat on this target because of his effects on target. This ANA Field Artillery battery proudly earned the right to be referred to as *First to Fire!*

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S1 ..... 5813/3592
S3 ..... 6600/4717
S4 ..... 4287/1530
FAX 4744
Chaplain 5189
Reenlistment NCO: 4673
Commo (S6) 6143
HHS 2825/3188
A Btry 4812/2984
B Btry 6047/6223

1-30 FA (Officer Instruction)
Commander 4768

XO 5337
CSM 2009
FAX 7613
Staff Duty NCO 3513/1141
S1 ..... 5898/5139
S3 ..... 6194/6415
S4 5104
FAX 7613
Chaplain 4557
Reenlistment NCO 4660
Commo (S6) 3763
HSB 5621/3283
A Co (BOLC II) 5315/3455
B Co (BOLC II) 3677/3681
C Co (BOLC II) 8963/8961
D Co (BOLC II) 8317/8338
E Btry (BOLC III-OBC) 6852/5009
F Btry (CCC) 0989/0987
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Gunnery Department 3000
Fire Support Branch 1668
MLRS Fire Direction/13P 4964/5151
WOBC/WOAC 131A 5045/64865
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1-78 FA (Enlisted Instruction)
Commander 5818

XO 5818
CSM 5818/6272
FAX 7600
S1 4413
S3 2094
S4 4469
Chaplain 4722
HHB 2196/2475
A Btry 2111/4823
B Btry 5673/6002
C Btry 4289/5114
USMC Btry 5615
GUARDFIST 3888/8524
Stryker Chief Instr 5044/6588
BFIST Chief Instr 6803
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Meteorology/13W 3867
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Deputy 8728
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SGM 3702
FAX 7216
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https://counterstrike.army.smil.mil
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Director 5989

Deputy 5919
FAX 5908

USMC LNO 8787

Future Force Integration and Concepts
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Division/Corps 6520
Armies 6520
Stryker 8126
FCS 6695

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ARNG Force Structure
TOEs
BOIPs

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FAX 4300

Deputy 2552
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ATACMS Penetrator
LCMR, MMR
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STOW

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Scenario Building
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RAMS Team
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TRADOC Reliability and Maintainability Engineering Branch 5401

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Fire Support Sensor System (FS3) 8784
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LLDR 6501
Soldier as a System (SaaS) 8764
M7 BFIST 8760
Stryker Fire Support Vehicle 8773
M3A3 BFIST 8760

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IPADS 8762
Profiler 8762
Met 8762
MMS 8762
Q-36/Q-37 Firefinder Radar 3652
LCMR 3652
Phoenix Radar 3652
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GLPS 8762

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Deputy 4451
FAX 7792
NLOS Cannon 3716
M109A6/M198/M119/M102 3803
Lightweight 155-mm Howitzer 6178
Munitions 6634
Excalibur 1885
Training 3454

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picatinny.liaisonftsill@us.army.mil
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FAX 7008

TRADOC Capability Manager Rockets and Missiles
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Deputy 8771/8749
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M270A1/HIMARS 8739/8754
Rockets 4896/8481
ATACMS 2588/2587
NLOS-Launch System 5205/8897

TRADOC Capability Manager FSC³
www.army.mil/tcm_fatds
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Deputy 6837
FAX 2915

Software Engineering 6838
Fielding 6839
Testing 2875
Joint Interoperability 5788

Software
Chief 5607
AFATDS 6838
Cannons 4867
Rockets/Missiles 6418
Forward Observers 6865
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C⁴I Architecture 5719
ABCS 3567

Training Developments 4197

AFATDS CECOM NETT 6362/4461
FAX 5612

Field Artillery Training Center (FATC)

sill-www.army.mil/atc

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FAX ..... (580) 581-1267

1-19 FA (BCT)
Commander 1401
XO 1404
CSM 1403
FAX 7601

1-22 FA (13B AIT)
Commander 1888
XO 3057
CSM 4457
FAX 7117

1-40 FA (BCT)
Commander 1200
XO 1203
CSM 1202
FAX 7120

1-79 FA (BCT)
Commander 1301
XO 1303
CSM 1302
FAX 7121

95th AG (Reception)
Commander 2523
XO 2981
CSM 4576
FAX 7974

NCO Academy

sill-www.army.mil/usancoa

Commandant: CSM Robert L. White
robert.l.white@us.army.mil 2417/3141

Deputy Commandant 2417/3141
FAX 8290
Adjutant/S1 ..... 2886/3466
Staff Duty NCO 2417/3141
Battle Staff NCOC (BSNCOC) 1740
Warrior Leaders Course (WLC)...4241/3562
BNCOC 2097/8480
ANCOC 2619/6970
FA Master Gunner Course (MGC) .. 1879
FAX 5724

Marine Corps Detachment

sill-www.army.mil/usmc/index.htm

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SgtMaj 3873/4204
FAX 5127
Personnel Officer/Adjutant ... 4204/3979
Training/Education (Courses) 2307
Marine Personnel Locator 6188/6187
Btry Cdr/1stSgt/GySgt 5615/2467
Enlisted Instruction Br 5084/1877
Officer Instruction Br 1565/1690/3000
HIMARS 3654/5573
M777 NETT.....4418
AFATDS NETT 2501/5811

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Director 2687/2002
Accreditations.....4138/4902/2745

6-52 ADA, 31st ADA Brigade

Commander 8592/8936
XO 8935
CSM 8924
FAX 7375

Advice for Joint Warfighters

"It generally is inadvisable to eject directly over the area you just bombed." US Air Force Manual

"If you see a bomb technician running, follow him." US Air Force Troop

"Five-second fuzes only last three seconds." *Infantry Journal*

"Any ship can be a minesweeper…once." Anon

Field Artillery
(USPS 309-010)
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New M777 Fielded in 2-11 Fires, 25th ID—First in the Army

At Pohakuloa Training Area on the Big Island of Hawaii, PFC Robert Nobles, a Cannoneer with the 2nd Battalion, 11th Fires (2-11 Fires), 2nd Brigade Combat Team, 25th Infantry Division (25th ID), pulls the lanyard on the Army's newest howitzer, the lightweight M777. 2-11 Fires is the Army's first battalion to field the new howitzer. In several weeks of training in October 2006, the battalion fired more than 1,000 M777 rounds. The new howitzer weighs just under 10,000 pounds and is 6,000 pounds lighter than the M198 howitzer it is replacing.

(Photo by SPC David Scott, Headquarters and Service Battery, 2-11 Fires)

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