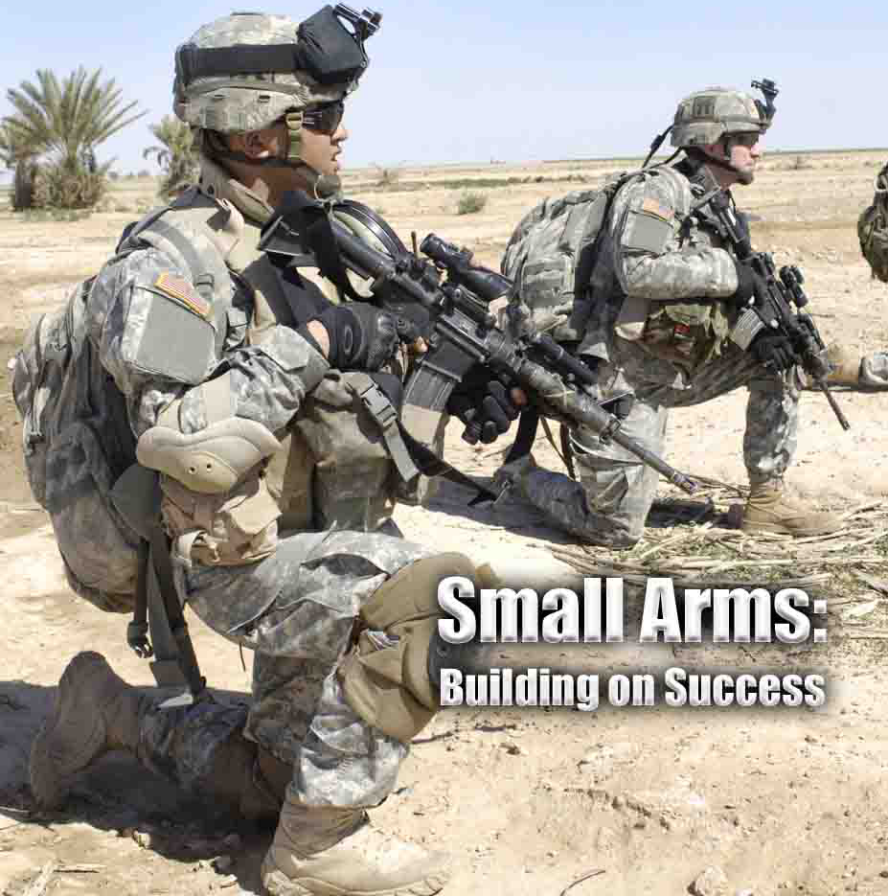
PB 7-06-3

Infantry

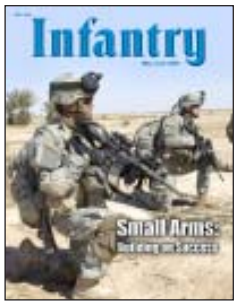
May-June 2006



Small Arms:
Building on Success

PB 7-06-3

FRONT COVER:



Soldiers from the 3rd Battalion, 187th Infantry Regiment, 101st Airborne Division, participate in Operation Swarmer in March 2006 near Samarra, Iraq. (Photo by Petty Officer 1st Class Jeremy L. Wood, USN)

BACK COVER:

A soldier from the Iraqi army's 1st Brigade provides perimeter security during an operation in Iraq June 26. (Photo by Staff Sgt. Jacob N. Bailey, USAF)

This medium is approved for official dissemination of material designed to keep individuals within the Army knowledgeable of current and emerging developments within their areas of expertise for the purpose of enhancing their professional development.

By Order of the Secretary of the Army:

Peter J. Schoomaker
General, United States Army
Chief of Staff

Official:

Joyce E. Morrow

JOYCE E. MORROW
Administrative Assistant to the
Secretary of the Army
0617305

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Infantry

MAY-JUNE 2006 **Volume 95, Number 3**

FEATURES

DEPARTMENTS

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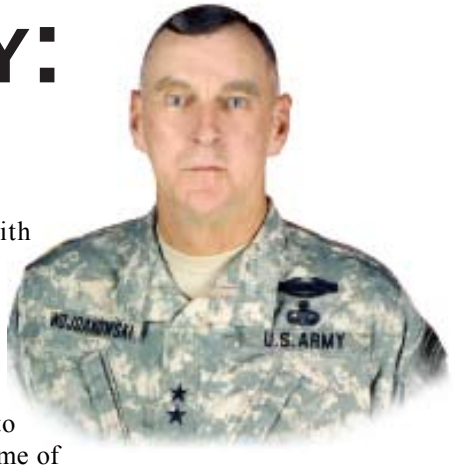
Commandant's Note

MAJOR GENERAL WALTER WOJDAKOWSKI

Small Arms Strategy:

Training and Modernization



In January, the Army's Vice Chief of Staff approved a new small arms strategy which lays out our goals for the near, mid, and far term concerning weapon systems 40mm and below. The strategy emphasizes training, sustainment, and modernization.

The most important aspect of our new strategy is training. We recognize that every Soldier is a rifleman, and we have increased the frequency of weapons qualification to twice a year. To increase realism, TRADOC now requires all Soldiers to qualify wearing body armor and to shoot from a kneeling firing position when qualifying. At the Infantry Center we constantly update rifle marksmanship training doctrine, reflected in Field Manual (FM) 3-22.9. This FM was updated in 2003, and now includes detailed advanced rifle marksmanship information. Change 4 to the FM will be published this year with new qualification standards and other advanced topics. We are also updating training aids to more accurately reflect the way Soldiers fight, and we will specifically focus on updating the Engagement Skills Trainer (EST 2000).

You have told us that most of the weapons you currently have perform well and do not need replacing. Therefore, the second part of the small arms strategy will focus on sustaining our current fleet to ensure its continued performance; the M249 SAW will be the top priority. Contributing to the sustainment effort, the Army Materiel Command has developed an aggressive refurbishment plan to enable units to rapidly refit their weapons on return from deployment. AMC will pick up M249s from units, overhaul and return them, or replacement weapons, within two weeks. This is in addition to small arms inspection and repair teams that are available to assist commanders in assessing and improving small arms readiness.

Soldiers continue to hold the M4 in high regard. Army units want more M4s and we are increasing our efforts to meet this desire. In fact, the Army recently made a decision to pure fleet deploying Brigade Combat Teams with M4s in "next to deploy" order. Additional M4s will be provided to theater as "theater provided equipment" for non-BCT units. Our current M4s will also receive some product improvements. These improvements include sights and accessories such as the 4x rifle combat optic (ACOG) and improved PEQ-2. Other systems will continue to be product improved as part of the sustainment strategy. This includes the development of a lightweight M240 and product improvement of the M2 .50 caliber machine gun to a fixed headspace and timing variant. These sustainment efforts will be the focus of effort over the next two years, with product improved systems such as the improved .50 caliber beginning fielding during that time.

The Army will use emerging technology to modernize the force. Some of these efforts are currently underway. A new modular grenade launcher (with an improved sight), a modular shotgun, and a semi-automatic 7.62mm sniper rifle are all in testing. These weapons could begin fielding in the next 12 to 18 months if testing is successful.

Our modernization efforts will emphasize key capabilities. We will focus on the light machine gun capability with product improvement of the M249 SAW and an improved personal defense weapon (PDW) capability.

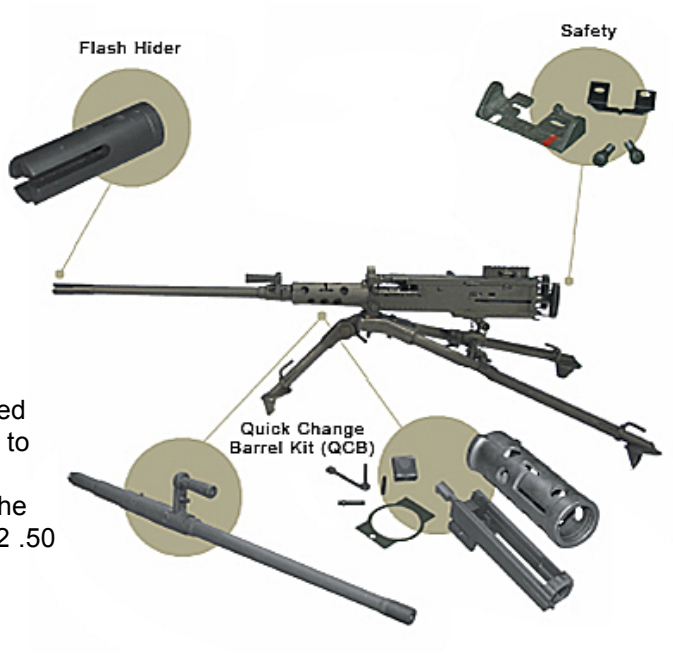
This improved PDW capability includes focus in two areas – compact carbines and pistols. The compact carbine will be a weapon with longer range and greater lethality than a pistol. It will also be shorter and more maneuverable than either a rifle or a carbine. This weapon is intended specifically for vehicle drivers, aircrews, armored vehicle crews, engineers, construction teams, and other Soldiers whose primary duties require them to fight within smaller spaces, replacing the pistols or M16s these Soldiers carry. The M4 serves in this capacity now for some Soldiers, though the ultimate goal is for a more portable weapon than even the M4. Pistols will remain in the force, and part of modernization will include improvement in capability for those Soldiers still carrying pistols. The Future Handgun System (FHS) is an ongoing Soldier Enhancement Program initiative that is intended to improve lethality, ergonomics, and reliability over the current M9 pistol.

For the future, we will develop lighter, more lethal and more supportable systems. These systems will employ emerging developments in airburst and counter-defilade munitions, nonlethal technology, and caseless ammunition. We are excited about the potential this emerging technology has to dramatically reduce the Soldier's load while making Soldiers more lethal. We will continue to keep the force informed of developments in this area.

The new small arms strategy is designed to ensure our Soldiers remain the best trained, best supported, and most lethal force on the battlefield.

Follow me!

Examples of Current Small Arms Projects



The Enhanced M2 machine gun (or E.50) will feature fixed headspace and timing, a quick change barrel (average time to change = 7 seconds vs. 56 seconds in previous version), a manual safety switch, and a "flash hider" to reduce flash. The weapon will maintain the same capabilities of the current M2 .50 caliber machine gun.

The new 240B will feature a weight reduction of between four and seven pounds. The weapon will maintain the same capabilities of the current M240B but with greater durability. It will maintain the same form and function thus eliminating the need for retraining on its use.

The Semi Automatic Sniper System (SASS) is a sniper rifle that features rapid fire/rapid reload capabilities. It is also lighter than the current M24 sniper rifle. It includes an enhanced spotting scope for greater accuracy and a detachable weapon suppressor. The weapon will have a barrel life of over 5,000 rounds.

The new M249 Squad Automatic Weapon (SAW) will have a weight reduction of around four pounds, a reduced length of greater than seven inches and improved durability. The weapon will also feature improved target acquisition through optics [Advanced Combat Optic-Ground (ACOG)] and a fluted barrel for improved accuracy. The Army Material Command (AMC) will pick up 249s from units and return or replace them with the new specifications within two weeks. This is part of an aggressive overhaul/replacement program to better serve the warfighter.

Information provided by the Small Arms Division, Directorate of Combat Developments, U.S. Army Infantry Center, Fort Benning, Ga.

Infantry News

Military Evals to be Prepared Online

JAN SWICORD

The U.S. Army Human Resources Command Evaluation Systems Office is about to announce an effective date for a new regulation and pamphlet covering Military Evaluation Systems: Army Regulation 623-3 and Pamphlet 623-3.

These references update policy, procedure and specific forms used in officer, noncommissioned officer and academic evaluation reporting systems. A recent MILPER message (#06-119) laid out an implementation timeline for revised forms and highlighted specific policy changes within each system.

As a major change, the revised regulation allows individuals to electronically prepare evaluation forms using an AKO My Forms site and route them between rating officials with digital signatures, then forward to Headquarters, Department of Army for final processing. The site and forms, currently being tested, are expected to be available mid-June. Features and functions of the site will change administrative processes at the lowest unit levels.

Users will be able to route individual or multiple forms in a specifically named folder with just a few steps. The AKO site will also offer easy tracking of forms, the option to add administrative comments to a form or folder of forms, and the history of any form or folder of forms with data on who has seen or acted on it.

More information and training slides are available at the Evaluation Systems Office Web site, or by calling (703) 325-9660, DSN: 221, or e-mail: tapcmse@hoffman.army.mil.

(Jan Swicord is chief of the Evaluation Systems Office, Management Support Division, Human Resources Command.)

Army Streamlines Service Uniforms

Army service uniforms will be streamlined to one blue Army Service Uniform, the Army announced June 5.

"World-class Soldiers deserve a simplified, quality uniform. The blue Army Service Uniform is a traditional uniform that is consistent with the Army's most honored traditions," said Sgt. Maj. of the Army Kenneth O. Preston.

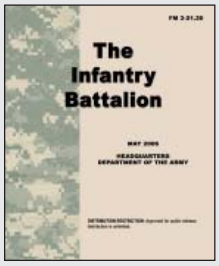
Many Soldiers already own an Army blue uniform (now to be called the Army Service Uniform) and may continue to wear it. Improvements will be made to the fabric and fit.

"What we want to do is design the uniform so it's tailored to the Soldier, so it fits his or her physique better," said Preston.

The new uniform will also be wrinkle-free.

Introduction in the Army Military Clothing Sales Stores should begin in fourth quarter of fiscal year 2007. Introduction in the Clothing Bag should begin first quarter 2009. The Mandatory Possession Date is expected to be fourth quarter fiscal year 2011. A wear-out date for the Army Green Class A and White dress uniforms will be determined at a later date. Information about the blue Army Service Uniform and its composition is available at www.army.mil/symbols/uniforms. *(Adapted from an Army News Service release.)*

Doctrine Corner



FM 3-21.20 (7-20), *The Infantry Battalion*, is approved and can now be found on the Army Knowledge Online (AKO) Web site (www.us.army.mil.)

Once logged in, go to: AKO Files/US Army Organizations/TRADOC/Schools/Infantry/DOT,G-3/Infantry Publications/Approved Final Draft.

Change 1 to **FM 3-21.5**, *Drill and Ceremonies*, has been published with a date of 12 April 2006. It is now available on the Reimer Digital Library.

Change 1 to FM 3-21.5 clarifies the proper distances between units and provides more definitive guidance on the actions of the commander of troops and the subordinate unit commanders when in mass formation.

The most significant change made to the existing publication, however, is the revision of Chapter 14 which covers military funerals and funeral services.

In this time of war, we have the solemn duty and responsibility to honor the fallen with ceremonies that are both traditional and appropriate. This change provides detailed guidance for the conduct of military funerals and aligns this guidance with newly revised Army regulations and administrative rules on the responsibilities of the Casualty Assistance Center and individual members of the funeral party.

For more information, contact the **U.S. Army Infantry School's Combined Arms and Tactics Directorate** at: DSN: 835-7114, COMM: (706) 545-7114, or e-mail: doctrine@benning.army.mil.

2006 Doughboy Award Recipients Named

Retired Gen. John A. Wickham, Jr., and Retired Sgt. Maj. of the Army Richard A. Kidd are the 2006 recipients of the Doughboy Award.

The two were chosen in recognition of their many contributions to the Infantry and will receive the award during a ceremony Sept. 12 at Fort Benning, Ga.

General Wickham retired from the Army in 1987 after 37 years of service. He is a 1950 graduate of the U.S. Military Academy. His assignments included serving as the deputy chief of staff, Military Assistance Command-Vietnam and commanding the 101st Airborne Division, United Nations Command, U.S. Forces Command, and Eighth Army. In 1983, he was appointed Chief of Staff of the Army and served in that position until his retirement. As CSA, he implemented an Army concept for a new light division structure, supervised a corollary increase in force structure from 16 to 18 regular divisions and eight to 10 reserve divisions with attendant stationing arrangements, and stressed measures to care for Army families.

Wickham

Kidd

SMA Kidd served as the ninth Sergeant Major of the Army from July 1991 until June 1995. His assignments include two combat tours in Vietnam (1966-67 & 1970-71) and multiple tours in Korea and Europe. Other assignments include serving as the command sergeant major of I Corps and Fort Lewis, Wash., 4th Battalion, 23rd Infantry Regiment; 3rd Brigade, 9th Infantry Division (Motorized); and 9th Infantry Division.

FTaB Updates Firing Tables Online

The Firing Tables and Ballistics Division (FTaB) has completed populating the artillery and mortar electronic tabular firing table (ETFT) AKO Web sites and has created a site for the small arms ETFTs. The next phase will implement the armor ETFT Web site in the near future.

Remember ETFTs found on other Web sites CANNOT be guaranteed current.

The response to the Web site since its launch in July 2005 has been excellent, serving Soldiers and Marines around the world. As a result, a number of suggestions to make the site more user friendly have been implemented.

First, locating the ETFT Web sites has been made easier. Once logged into AKO, use the search feature on the left and search for TFT on AKO sites (See figure).

Second, the subscription process has been simplified; however, FTaB will not automatically approve any subscription request. This has been implemented to protect the Soldier and Marine from unauthorized individuals receiving the information.

SUBSCRIPTION PROCESS

1. Click on the register item on the menu bar at the top of the profile window of the desired TFT Web site that opens.

2. A subscription request will be sent to the FTaB publications team.

3. Upon receipt, the FTaB publications team will send an e-mail requesting additional information to determine if mission needs warrant access to the ETFTs.

4. The subscriber must respond to the requested information from their AKO e-mail address.

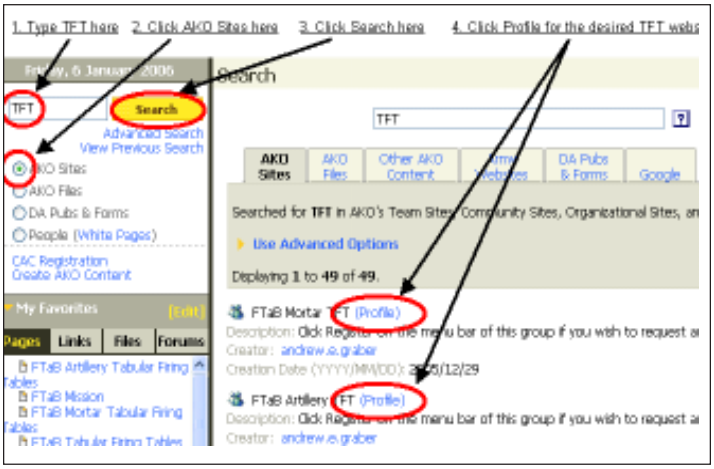
5. Upon receipt of the additional information FTaB publication team will review the information and either approve or disapprove access based on the information provided.

6. Once access is granted, the subscriber has access to the ETFTs from around the globe 24 hours a day for the remainder of the calendar year.

At the end of the calendar year, FTaB will query the subscriber base requesting confirmation that access for the next year is required. If a subscriber does not respond, their subscription will be terminated. If this occurs, submission for a new subscription is required if further access is needed.

When new or updated TFTs are available, announcements will be sent using the AKO Army Wide Announcement system and the respective branch journal publication. Further, the site is set up so that if a new document is added, an update notification is automatically sent to the subscriber.

(Article provided by Andrew E. Graber, Firing Tables and Ballistics Division, Aberdeen Proving Ground Maryland.)



2006 Infantry Warfighting Conference

The 2006 Infantry Warfighting Conference will be held Sept. 11-14 at Fort Benning, Ga. The theme for this year's conference is "Infantry in Battle ... Soldiers Training and Fighting to Win the Global War on Terrorism."

Attendance is open to active military and Department of Defense civilians. The tentative agenda includes sessions on warfighting lessons learned from Infantry, Heavy, and Stryker Brigade Combat Teams as well presentations from the Training and Doctrine Command and Forces Command.

For a more detailed agenda and other conference information, go to https://www.benning.army.mil.

Staff Sergeant Russell L. Klika

Command Sgt. Maj. Gregory Patton and another 101st Airborne Division Soldier walk through a bombed out building after a firefight with insurgents in Salah Ad Din Province, Iraq.

News Briefs

USAMU continues SDM, CQM training — The U.S. Army Marksmanship Unit (USAMU) continues to offer Squad Designated Marksman (SDM) and Close Quarter Marksman (CQM) train-the-trainer classes to help Soldiers improve their warfighting skills.

To be eligible for the classes, a Soldier must be an E5 or above or an E4 in a leadership position.

An information sheet with specific dates for courses and other requirements can be found on USAMU's Web site at http://www.usarec.army.mil/hq/amu.

For more information, contact Clarence Fedrick, USAMU S3 training specialist, at (706)545-5279 or clarence.fedrick@usaac.army.mil.

Benning to host combatives tournament in November — Fort Benning will host an all-Army combatives tournament Nov. 3-6.

Modern Combatives is a functional mixed martial art form combining Brazilian jiu-jitsu, boxing, clinch hitting, takedowns and groundfighting techniques. Combatives also employs techniques borrowed from judo, kick boxing and Greco-roman wrestling.

All matches will be conducted at the Lawson Army Airfield passenger terminal. Preliminary matches will start at 8 a.m. Nov. 4, final matches will be conducted the afternoon of Nov. 5.

Belts will be awarded to all first place finishers. Second and third place winners will be presented trophies.

The competition will be followed by a Combatives Symposium on Nov. 6 in Infantry Hall from 9 a.m. to 5 p.m. Topics will include safety, trends, and training. The symposium is directed to level 4 and installation combatives instructors.

For more information, visit the Combatives School Web site at www.benning.army.mil/combatives/ or call (706)545-3512.

Some Soldiers eligible for MGIB benefits transfer — The Army announced July 21 the implementation of a pilot program allowing Soldiers in critical skills who reenlist the ability to transfer Montgomery GI Bill benefits to their spouse.

Enlisted Soldiers who have completed at least six years of service, reenlist for a minimum of four years, qualify for a Selective Reenlistment Bonus (SRB), and are entitled to a Zone B or Zone C bonus will have the option to transfer up to 18 of 36 months of their MGIB entitlement. Soldiers can choose between a full SRB or a slightly reduced SRB plus the ability to transfer more than $18,000 in benefits.

The fiscal 2006 basic MGIB monthly benefit for fulltime training is currently $1,034. This benefit is also available but prorated for part-time enrollment.

Soldiers who elected the Army College Fund (ACF) as an enlistment option and/or have enrolled and paid toward the $600 MGIB Additional Opportunity can include their expanded benefit (MGIB, ACF and MGIB Additional Opportunity) in the transferability program.

TSM Stryker/Bradley Corner

XML: A Vehicle to Update Army Doctrine

MAJOR RICKY A. KINNEY

How do we ensure Army doctrine remains relevant?

The current TRADOC doctrine review and rewrite process is hard pressed to keep pace with operational lessons learned and organizational changes. We need to explore new and innovative ways to streamline the process so that doctrine remains current and relevant and can be clearly understood. Extensible Markup Language (XML) is one means that can assist proponents in management of posted information.

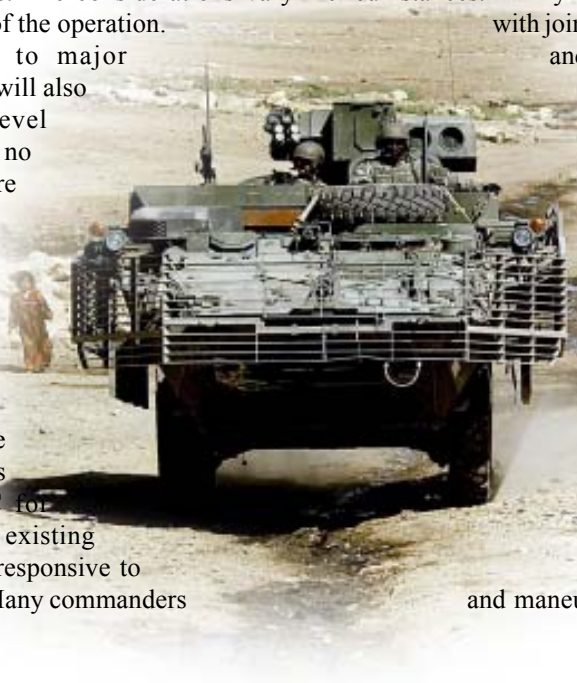
Put yourself in the brigade S3's shoes…

Major Flores, a Stryker Brigade Combat Team operations officer, is refining the long range training plan for his unit. His focus is on offensive urban operations. He has reviewed Joint Readiness Training and National Training SBCT Executive Summary Reports, SBCT initial impressions reports, and Center for Army lessons learned data. One of his references is FM 3-06, Chapter 6, *Urban Operations Considerations*.

FM 3-06 (1 June 2003) states:

"The urban operational framework (assess, shape, dominate, and transition) provides a structure for developing considerations unique to urban offensive operations. The considerations vary depending on the situation and scale of the operation. Some considerations applicable to major operations that include an urban area will also be considerations at the tactical level focused in the urban area. However, no set rules exist. All urban operations are unique."

He understands that tactics, techniques, and procedures (TTPs) for offensive urban operations are continuing to evolve based on operations in Iraq and Afghanistan. How does the field benefit from the lessons learned in theater? What are the mechanisms available to units to pass on recommendations to TRADOC for changes in doctrine? And, are the existing procedures for feedback submission responsive to the requirements of deployed units? Many commanders believe that the doctrine process is not responsive enough for doctrine to remain relevant, given our fast-paced contemporary operating environment.



Why doctrine?

Doctrine exists as a common language between organizations. This "language" allows communication between formations, from joint forces to squads. Maintaining an up-to-date doctrinal database is crucial to mission success. Ensuring operational units have access to current doctrine, tactics, techniques and procedures, and incorporating theater lessons learned are proponent METL (mission essential task list) tasks.

Joint Publication 1-02 defines joint doctrine as "Fundamental principles that guide the employment of U.S. military forces in coordinated action toward common objectives." Army doctrine contained in field manuals also consists of principles, terms, and TTPs. Doctrine applies across the range of operations and the spectrum of conflict. It focuses on how (not what) to think about operations and what to train. It provides an authoritative guide for leaders and Soldiers, while allowing freedom to adapt to circumstances. Army doctrine should follow and be consistent with joint doctrine. If conflicts arise between Army and joint doctrine, follow joint doctrine.

Fundamental principles provide the philosophical underpinning for initiatives and are designed to help leaders be adaptive, creative problem-solvers that military actions demand. They provide a basis for the Army to incorporate new ideas, technologies, and organizational designs. However, principles alone are not enough to guide operations. TTPs support and implement principles, linking them with associated applications. The "how to" of a TTP includes both descriptive and prescriptive methods and actions. Tactics include the ordered arrangement and maneuver of units in relation to each other, the

terrain, and the enemy to translate their potential into effective combat power. Current tactical conditions in theater are effecting how commanders conduct planning, task organize formations, and employ units to achieve mission success. These variables greatly impact how we write doctrine and apply tactics.

A system does exist as a means for units to provide doctrine refinement feedback to proponents. It basically involves e-mailing the doctrine branch with specific recommendations with justifications; however, this system is labor intensive and time consuming. Extensible markup language (XML) provides a possible solution that vehicle commanders or proponents can utilize to update doctrine in a more timely and useful manner.

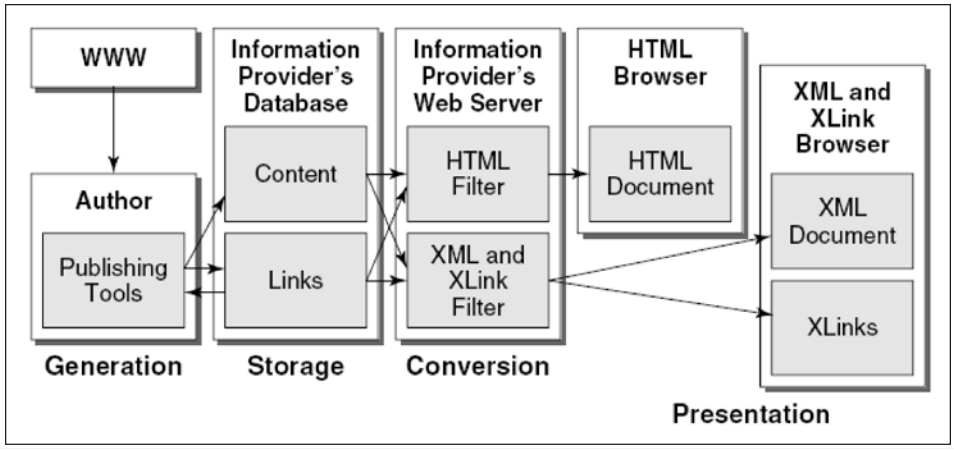
A Possible Solution

So what is XML anyway?

Extensible markup language is a flexible way to create standard information formats and share both the format and the data on the World Wide Web. It improves the functionality of the Web by letting you identify your information in a more accurate, flexible, and adaptable way.

Where did it come from?

Development of XML began in 1996; the technology isn't new. Before XML, there was SGML (Standard Generalized Markup Language), which was developed in the early '80s and widely used for large documentation projects. The development of HTML (Hyper Text Markup Language) started in 1990. The designers of XML simply took the best parts of SGML, guided by the experience with HTML, and produced something that is no less powerful than SGML; however, it is vastly more regular and simpler to use. It must be said that SGML is mostly used for technical documentation and much less for other kinds of data; with XML, it is exactly the opposite. XML is a pared-down version of SGML, designed especially for Web documents. It allows designers to create customized TAGS (a special word inserted in a document that specifies how the document, or a portion of the document, should be formatted), enabling the definition, transmission, validation, and interpretation of data between applications and organizations.



Four Stages of Web Assembly

This web is assembled in four stages:

Generation. Authoring tools normally are content-centric — in other words, they concentrate on the task of creating content. However, when creating content (such as writing articles), authors usually use other interlinked resources (such as Web pages), and authoring tools could be specifically designed to support authors in capturing these interrelationships in the form of links.

Storage. Authoring tools that support capturing link information would require that we not only store the content generated by authors but also store the linking information. On a conceptual level, it is not important exactly how content and links are being stored — whether they use XML-based formats, databases, or other means of storage. The important issue is that we store links separately from content while also ensuring that the content model and the link data model are integrated.

Conversion. While the content is stored in a database or a content management system, the links are kept in a separate linkbase. When we create this information, it is necessary to convert the information to a form that can be utilized by appropriate presentation tools.

Presentation. Presentation can be based on very different technologies; but since our focus is highly interlinked information, we assume the use of various Web-based technologies, such as HTML or XML/XLink. (See diagram above.)

How do I use it?

To do something useful with XML data, we need to be able to programmatically process the XML file. The World Wide Web Consortium (W3C) defines the term XML processor as a software module capable of reading XML documents and providing access to their content and structure.

The advantage of adopting XML as the Army standard for updating doctrine is that any processor provides the user the functionality needed to accomplish this goal. Developers should rarely (if ever) need to write their own XML processors. In theory, developers should be able to leverage the best processor on the market for their particular environments while avoiding compatibility issues.

With a standard XML processor, doctrine readers can programmatically read any XML document and access any element name, body, or attribute. Even if doctrine writers produced the XML document on a Windows-based system, doctrine readers could easily ship it off to a mainframe system and use the mainframe's XML processor to interact with the same data. This illustrates the true functionally of XML. It is an open and effective mechanism for exchanging structured data between proponents and doctrine readers.

Conceptually, the solution is quite simple. If core content in FM 3-06, *Urban Operations*, could be created once and then directly referenced by all units that need it, users could be assured they are viewing the "trusted source" no matter the context in which they view it. In terms of man hours, a single source of content requires a fraction of the development, resource, and maintenance costs.

Technical evolutions such as XML, Web services, SCORM (Sharable Content

Object Reference Model), aim to provide the specifications necessary to enable content developers with the ability to produce content that is sharable, reusable, and most importantly interoperable, have provided the underpinnings to turn the concept into a reality. With these standards, it is now possible to develop content once and reuse it across multiple delivery modalities, including Web courses and printed documentation. Information identification, information storage, information structure, publishing, and data transfer are a few positive potential applications of XML.

Information identification

Information identification is the capability to find, retrieve, report, change, or delete specific data without ambiguity. This applies especially with information stored in databases.

Information storage and provisional authorization

XML is portable and nonproprietary; it can be used to store textual information across any platform. Because it is backed by an international standard, it will remain accessible and processable as a data format. This affords the author several options in posting information, such as portals, internet, and shared drives.

Authorization systems have assumed the following model: "A user makes an access request of a system in some context, and the system either authorizes the access request or denies it." By using provisional authorization the user request will be authorized provided he (and/or the system) takes certain security actions such as signing his statement prior to authorization of his request.

Information structure

XML can therefore be used to store and identify information structures, especially for complex document sets or data sources, making it ideal for an information-management to serving the Web. This is its most common Web application, with a transformation system to serve it as HTML until such time as browsers are able to handle XML consistently.

Publishing

The original goal of XML to combine the three topics (identity, storage, structure) as a means to get all the benefits of document management, control and publishing to the Web (as HTML) as well as to paper as portable document format (PDF). PDF is a self-contained cross platform document, in other words, a file that will look the same on the screen and in print. PDF allows reproduction of published material on several different platforms. However, PDF can never be a stand alone system used to update data. One critical shortfall is that PDF files do not encode information that is specific to the application software, hardware, or operating system used to create or view the document. It does not adapt to the window size nor the reader's preferred font size and font family, moreover, Adobe Reader, a standard PDF viewer, has historically been slow to start and caused browser instability, particularly when run alongside other browser plug-ins.

Data transfer

XML can be used for enclosing or encapsulating information in order to pass it between different computing systems which would otherwise be unable to communicate.

Proponents' role in collecting, analyzing, and publishing emerging doctrine

Proponents play a critical role in collecting, analyzing and publishing emerging doctrine. Comments from various units participating in CTC rotations and SBCT Lessons Learned conferences suggest that doctrinal feedback and refinements are slow to post in field manuals. The current system at the Infantry School for submission of doctrinal feedback relies on the unit sending comments via e-mail to doctrine@benning.army.mil or on a DA form 2028. How can TRADOC shorten the review and rewrite time between comments from units to FM publication? TRADOC would need to establish a secure homepage which would have links managed and maintained by proponents. Field manuals, theater lessons learned, and CTC trends would be posted by proponents and available for review. XML would be the system used by TRADOC by which units would provide feedback on doctrinal topics. Moreover, by using XML as our system, recommended changes can be posted directly to the draft and approved manuals. Security and provisional authorization would be maintained by ensuring that the site is password protected. The proponent chief of doctrine would be responsible for conducting a periodic review of all recommended doctrinal refinements. Each recommended refinement would be reviewed, staffed, and posted, if the specified criteria are met.

Maintaining doctrinal relevance

In conclusion, as SBCT units continue to reset and unit lifecycles start to take shape, there are a variety of training gates and milestones that units must undergo. The successful implementation and integration of innovative concepts to assist a commander in training his formation are paramount. Execution of training plans must be based on proven best practices and nested within existing doctrine.

Recommendation — To receive, staff and publish emerging doctrine, our system must keep pace with the needs of units preparing for combat. The receipt of data is the first critical step of this detailed process. By adopting XML, as a means to update data, receive feedback, and post documents proponents will substantially quicken this process. Further review of internal staffing protocols for doctrinal should be consistent between all proponent organizations in order to reduce publication time. Presently the Combined Arms and Tactics Directorate (CATD) and the SBCT Transformation Team (STT) are drafting new field manuals for the SBCT squad, platoon, and company. The STT and CATD are exploring the possibility of implementing XML technology to enhance document production efficiency. To ensure Army doctrine remains relevant, we must remain responsive to the concerns of our commanders. XML is only one of several formats available to TRADOC to efficiently update military documents.

Major Ricky A. Kinney currently serves as the Stryker Brigade Combat Team Transformation Team deputy chief of Training and Organization at Fort Benning, Ga.

XM395 120MM PGMM PROGRAM

The New Hip-Pocket Precision Munition

PETER J. BURKE AND JEFFREY DEAN LANE

What is the XM395 PGMM?

A precision guided mortar munition (PGMM) is a multipurpose laser-guided 120mm precision mortar round that will defeat personnel under protective cover (earth and timber bunkers, masonry walls, and lightly armored vehicles) in two rounds or less. It will be the battalion or task force commander's hip-pocket precision munition. The range requirement for PGMM Increment I is 7.2km (threshold); 10km (objective).

It will be compatible with all current and future 120mm mortar systems such as the 120mm Battalion Mortar System (BMS), the Stryker Brigade Combat Team (SBCT) Mortar Carrier and the Future Combat System (FCS) Non-Line-of-Sight Mortar (NLOS-M) 120mm mortar system. Its high accuracy will reduce collateral damage and decrease the logistics burden. It is fired much like any standard mortar cartridge after programming the fuze with time of flight, target type, and laser code of the day. The laser sensor can acquire targets with an angle-t of approximately 1400 mils (80 degrees), and requires 8-10 seconds of designation from a forward observer. The current PGMM (Increment 1) engages stationary targets but future increments will include moving targets and a longer range (12-15km). The PGMM program is being managed by the Office of the Product Manager for Mortar Systems at Picatinny Arsenal, N.J., under the Program Executive Officer (PEO) for Ammunition. PGMM is scheduled to begin production in late 2008.

Physical Description

PGMM is a multipurpose 120mm Semi-Active Laser (SAL) guided mortar ammunition capable of maneuvering to its intended target by using advanced guidance, navigation, and control (GNC) processors and a control thrust mechanism. This munition requires a man-in-the-loop to designate the target. PGMM incorporates a blast fragmenting warhead with a variable delay fuze to provide high lethality against the intended target set (troops protected by earth and timber bunkers, masonry walls, or stationary lightly armored vehicles).

Cartridge Length: 40 inches

Cartridge Weight: 35 pounds

Maximum Range: 7,200 meters (Threshold; 10km Objective)

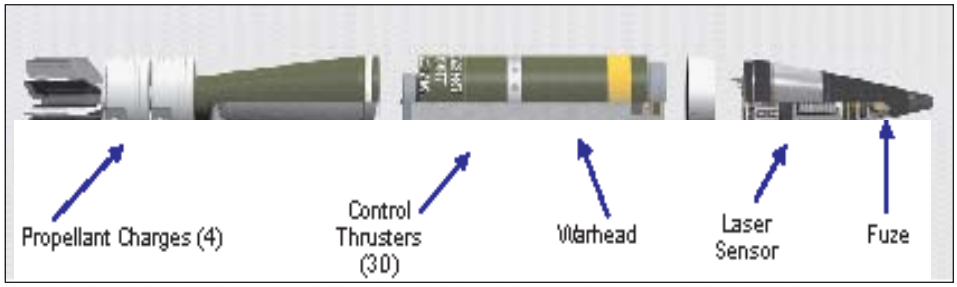
Minimum Range: 500 meters

The PGMM consists of three major assemblies (nose, mid-body, and tail) and their associated subassemblies as shown in Figure 1 below.

120mm Family of Ammunition

The current 120mm family of ammunition includes High Explosive (HE), Illumination (includes both white & infrared), smoke and training cartridges (Figure 2). It is highly effective at performing suppression, illumination, or obscuration missions for the maneuver commander. XM395 is not being designed to replace any of the current ammunition or their missions. XM395 PGMM is a new multipurpose tool that will allow the 120mm mortar to go after high payoff, point targets with low collateral damage. Conventional HE is not feasible to go defeat point targets due to ammunition constraints and resulting collateral damage. XM395 PGMM can and will accomplish this requirement by defeating the target with two rounds or less. This capability for the 120mm mortar will give the maneuver task force/

Figure 1 - PGMM Increment I Round with Major Assemblies



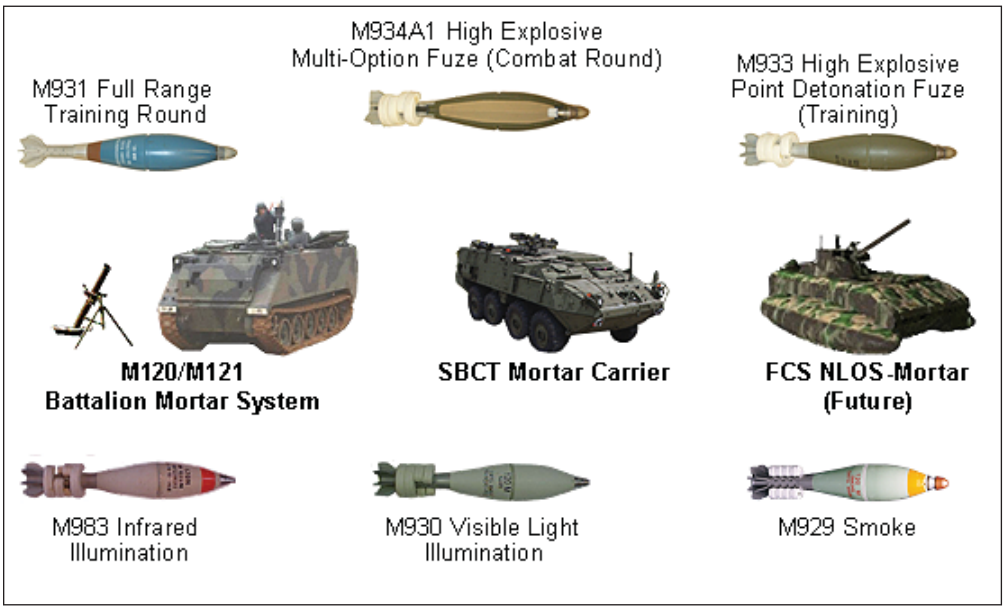


Figure 2 - 120mm Mortar Systems and Conventional Ammunition

battalion commander a tool that he has never had available before.

Threat Environment of 2015

Why is there a need for a new tool such as XM395 PGMM or for that matter any precision weapon system? The truth in this lies in the threat contemporary operating environment (COE) and the need for precision as emphasized in the following paragraphs. This threat environment can be seen each time our Soldiers/Sailors/Airmen and Marines take the battlefield or we turn on our televisions to watch the news. Some of the key points were adapted from "Future Operational Threat Environment: A View of the World in 2015," a document developed by the Deputy Chief of Staff for Intelligence and published Oct. 1, 2000. Keep in mind that this was published pre-9/11 and all the combat operations that have occurred since that time. Key points are as follows:

- Population will increase from 6 to 7.5 billion over next 10 years;
- Population increase will lead to increased demand for resources:
  - ·Water (212%) increase,
  - ·Fossil fuel (48%) increase, and
  - ·Food demands that not all nations can meet;
- Key powers in regional/global context;
- 30 of 192 nation states have potential for failure;
- 60 percent of the world population will live in urban environment;
- Threat perception of U.S. weaknesses and principles for engaging;
- Avoid U.S. type operations in which U.S. forces are optimized;
- Constant adaptation of strategies;
- Adopt asymmetrical means;
- Operate from complex/urban terrain; and
- Sanctuary operations using population as shields and cover.

(Future Operational Threat Environment: A View of the World in 2015. Deputy Chief of Staff for Intelligence, U.S. Army Training and Doctrine Command, Fort Monroe Va., Oct. 1, 2000.)

Need for Precision

In an article in the July-August 1999 issue of *Military Review*, Retired Lt. Col. Lester Grau and Jacob Kipp emphasized that urban combat is increasingly lethal and manpower intensive. Due to the concerns about collateral damage and restrictive rules of engagement, U.S. forces may find themselves unable to use the suppressive and destructive effects of their indirect fires. This jeopardizes the survivability of U.S. forces.

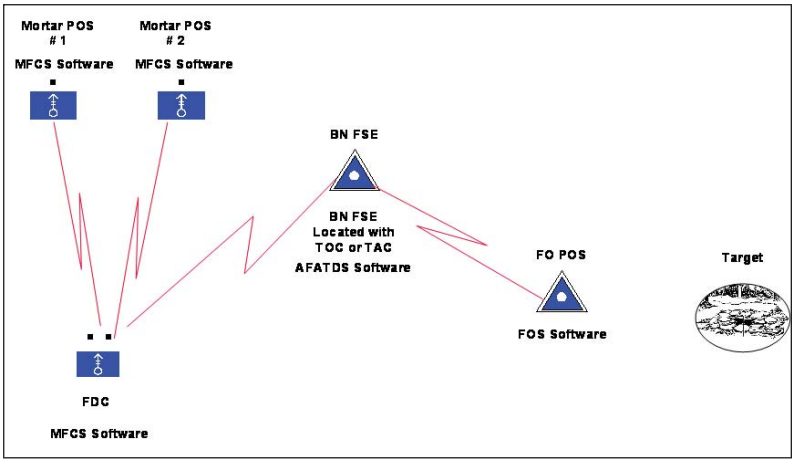
Target Set for XM395 PGMM

The target set for PGMM includes personnel protected by earth and timber bunkers, lightly armored vehicles and masonry structures. These target sets were selected after detailed intelligence analysis and threat reports, and accurately reflects what is happening in the world today. The threat environment includes using population as shields operating in complex/urban terrain, which limits the use of indirect fires due to collateral damage. Without the use of indirect fires, this jeopardizes the survivability of U.S. forces who are then forced to rely on direct fire weapons. Hence the need for precision and the need for PGMM, the battalion/task force commanders' hip-pocket precision indirect fire munition.

Operational Description

PGMM provides the maneuver battalion with an organic precision strike capability to defeat high payoff targets in two rounds or less. The 120mm mortars are under the direct control of the battalion commander, allowing him to direct their activity wherever it is needed by his forces. They are relatively light in weight (compared with tube artillery), enabling early entry forces to quickly maneuver them into position and put them into action.

Figure 3 - PGMM Fire Support Thread



They deliver a high rate of fire and a high angle of attack (suitable for enemies in defilade and beyond the range of direct fire weapons). Guided projectiles, such as the PGMM, enable the battalion to precisely attack a specific target of critical importance. When employing a mortar with a guided projectile capability, the battalion commander can ensure a precision attack and destruction of threatening enemy weapons systems while minimizing collateral damage and the number of rounds required for engagement.

Courtesy photo

A Soldier prepares to fire a PGMM in an M121 Mortar System.

The following describes a typical PGMM fire mission. A scout or forward observer (FO) with a laser designator (ground, vehicle, or air mounted) spots a target and decides that a PGMM is needed. The FO initiates a call for fire request for a PGMM to the battalion fire support element (FSE). If approved, the mission is sent to a mortar unit's fire direction center (FDC). The FDC performs the tactical and technical fire direction required to select the best platform for firing and will send a fire order to that platform.

The preceding series of events can be communicated through the secure tactical radio system by voice or digitally. If digitally, the message passes through the Advanced Field Artillery Tactical Data System (AFATDS) from the originating device, through the network, to the mortar unit. The mortar unit's FDC will select the unit best suited to accomplish the mission and calculates the ballistic solution and time of flight with its M95 Mortar Fire Control System (MFCS) (preferred system if available) or paper map and firing tables (backup system).

The M95 MFCS is being fielded to all mounted 120mm weapons. It is a collection of advanced hardware and software that allows a mortar crew to be ready to drop rounds within one minute of receiving a fire mission. Crews no longer have to dismount their vehicles, because of the on-board position/pointing system, the driver rough lays the vehicle using his display, and the gunner makes any final adjustments on the tube. Effects on the target are dramatically increased because of the speed of emplacement and increased accuracy of the mission. The M95 MFCS has been successfully battle proven in Iraq.

Once a call for fire is received, the PGMM round is programmed with the laser code of the day, fuze delay mode, and time of flight (TOF). This information may be set using a proximity inductive fuse setter or by the manual set select button located on the nose of the round. The round's propellant charges and mortar tube's azimuth and elevations are also adjusted based on the output from the firing table's calculations. At this point in the mission, a direct communication link between the firing unit and observer has been established. This is essential in order to coordinate when the round needs to be fired (method of control), and when the observer must begin illuminating the target with his laser designator (last 10 seconds of the round's time of flight).

After the round has been prepared for firing, the gun crew will hang and fire the round according to the fire command's requirements for method of control (immediate, timed, or at the observer's command). The PGMM is dropped, tail end first, into a 120mm mortar cannon muzzle. A firing pin at the bottom of the gun tube initiates the propellant igniter which then ignites the charge system propellant. Expanding gas from the burning propellant propels the round out of the tube. Following the launch of the projectile, the observer is told that the round has been fired. After launch, the PGMM will fly a ballistic trajectory to the target.

A forward observer illuminates the target using a laser designator in the last 10 second's of the round's flight. This is only done in the last 10 seconds in order to minimize the observer's exposure to possible threat laser warning systems and to conserve his battery supply (if dismounted). Laser energy is reflected off the target and detected by the SAL seeker of the incoming projectile. The round acquires the laser energy reflected off of the target, and maneuvers during the final few seconds of flight to hit the illuminated target.

The PGMM concept inherently minimizes collateral damage. Traditional 120mm mortars require numerous rounds to engage and defeat targets since the delivery accuracy is on the order of 75 meter CEP (circular error probable) with MFCS. The PGMM requirement for lethality is to defeat the target and incapacitate personnel in a two round or less engagement. PGMM's precision capability minimizes the delivery error and can reduce it to approximately 1 meter CEP. The reliability and guidance accuracy of PGMM delivers a precision strike capability, while minimizing collateral damage. The system will operate throughout the world and under various operational conditions (flight geometry, meteorological conditions, countermeasures, forward observer geometry, and target reflectivity) without alteration to its aerodynamic and seeker mechanisms.

TTP Demonstration

Studies have proven that the PGMM is a force multiplier. However, it must also pass the "common sense" test for employment. Therefore, the Directorate for Combat Developments sponsored a TTP demonstration, which was executed by the Soldier Battle Lab in February 2006 at the McKenna MOUT site, Fort Benning, Ga. The purpose of the experiment was to evaluate the initial TTPs for this round using live Soldiers and digital fire support command, control and communications equipment. Activities on the ground were kept as realistic as possible using a combination of friendly force (blue forces), opposing force (red forces), inert PGMM rounds for loading, and lights/pyrotechnics that provided simulated indirect fire effects. The PGMM was fired in simulation linked in real time to the live exercise on the ground.

All buildings at the MOUT site were replicated in the simulation to include the real effects of building masking. It was also an opportunity to evaluate the operational impact of using the PGMM in an urban scenario. The material developer (OPM Mortars) also participated in order to understand how the round was going to be actually used so changes in the design could be made while it is still early in development.

The TTP demonstration was executed in three phases.

■ Phase 1: 3-day train-up time period for the Soldiers and establishment of the baseline.

■ Phase 2: 5-day TTP demonstration where Soldiers performed "Real-World" fire missions and verified the TTPs and training.

■ Phase 3: 2-day execution of a "real world" maneuver mission (blue force dismounted attack into the red controlled village) and incorporated XM395 PGMM into their scheme of maneuver.

After action reviews (AARs) were conducted throughout the 10-day execution period with all Soldiers (nearly all were combat veterans of OIF and/or OEF). Their feedback and comments verified existing TTPs or pointed out room for improvement. They generally agreed that this was a capability that they needed to have in OIF/OEF and had no issues with making it work in their existing fire support system.

The summary of this demonstration:

☐ PGMM provided increased operational effectiveness within the urban environment; its high angle of attack was able to successfully pick up laser designated targets even in the most extreme cases of tall buildings/narrow streets.

☐ Soldiers had increased confidence attacking buildings in urban terrain, knowing that a precision strike round was less than a minute out when encountering an obstacle or sniper.

☐ Successfully demonstrated capability for PGMM to work within the digital fire support system Forward Observer System (FOS) and MFCS.

☐ Completed TTP development, implemented the recommended changes and validated the them for the forward observer, fire direction center and mortar squad.

☐ Identified training issues which will be corrected and tested in subsequent operational assessments and included in the final training plan.

☐ Successfully demonstrated how PGMM can be implemented into maneuver forces to increase force protection and increase OPTEMPO.

XM395 PGMM Path Forward

The XM395 PGMM will go through a series of guided flight and live fire tests in 2006. The next major milestone includes a logistics demonstration that will occur in 2nd Quarter of FY07 and then scheduled to go to limited user's test (LUT) the 3rd Quarter of FY08 with a production decision in the 4th Quarter of FY08. It will still be several months before the round is in Soldiers' hands, but the requirements are in place, the technology is sound, the program is funded and Soldiers will see the XM395 PGMM used against future enemy targets on the battlefield.

Conclusion

The XM395 PGMM is a new multipurpose 120mm mortar munition, organic to the combined arms battalion, that provides a precision indirect fire capability for the close fight and stability operations. PGMM is designed to defeat those targets being currently encountered on the battlefield. It will fly to the target ballistically with laser guidance in the final phase. With the digitized fire support network, it will not be cumbersome or require great amounts of time or preparation to employ.

Peter J. Burke is a civilian member of the Army Acquisition Corps, working within PEO Ammunition at Picatinny Arsenal, N.J. He is currently serving as the chief of the Precision Effects Branch for the Office of the Product Manager for Mortar Systems.

Jeffrey Dean Lane is a retired Infantry officer with 27 years of service. He has previously served as the chief of the Directorate of Combat Developments's Firepower Division, which was responsible for writing the requirements for Mortar Systems. Lane is now employed as a contractor for PM Mortars/Precision Effects Branch where he serves as the Training and MANPRINT lead for the XM395 Precision Guided Mortar Munition.

Figure 4 — Bunker (pre-firing)

Figure 5 — Bunker (post-firing)

Figure It Out:

An Infantry Support Platoon and an Airfield in Afghanistan

CAPTAIN MIKE BASKIN

TF Bobcat Support Platoon personnel manage three CH-47s and a C-130 on the ground simultaneously at FOB Ripley.
Capt. Ryan Beltramini

The purpose of this article is to describe one infantry support platoon's challenges to operating an efficient landing zone/pick-up zone and flight landing strip (FLS) while deployed as part of Operation Enduring Freedom in Afghanistan.

Task Force Bobcat (2nd Battalion, 5th Infantry Regiment, 3rd Brigade Combat Team, 25th Infantry Division, out of Schofield Barracks, Hawaii) deployed to Ghazni, Afghanistan, in late April 2004. Ghazni, which is about 200 miles south of Bagram, allowed for ground resupply from Bagram via local national line haulers. The local national line haulers could bring all classes of supply to the battalion forward operating base (FOB), or separately to three individual company FOBs located within 10 miles of the battalion FOB. At that time, my infantry support platoon, which normally worked for the battalion S4 to provide the physical manpower to push logistics from the battalion or forward support battalion to the company level, was attached to a rifle company as a mounted maneuver platoon. Aerial flights were used for mail delivery and the transportation of a handful of Soldiers to and from Bagram. In effect, the ground route accessibility of Ghazni and the developed Bagram system of working with national line haulers had rendered us out of our traditional job. My platoon could not have been happier.

In June, TF Bobcat received orders to execute a no-notice move to Uruzgan province and its capital, Tarin Kowt, and work for the 22nd Marine Expeditionary Unit (22nd MEU). It was understood that the MEU would leave in July, and TF Bobcat would replace it. Upon arriving at our new FOB, the task force commander, Lt. Col. Terry Sellers, directed that my platoon move back under the S4 as a battalion asset. My platoon sergeant and I split the platoon into two equal parts, with my platoon sergeant repositioning to push logistics out of Kandahar (roughly a field trains command post), and my section receiving, distributing/pushing logistics from FOB Ripley (the combat trains command post [CTCP]) to forward units. We put away our anti-tank platoon/company and heavy weapon manuals and began to review FM 3-21.38, *Pathfinder Operations*, and FM 3-450-3/4/5, which covers external load procedures. The battalion immediately executed operations as an additional maneuver battalion under the MEU. At the same time, my platoon worked shoulder to shoulder with the MEU's landing support detachment (LSD), which had similar critical tasks, including sling-loading (external loads) and convoy escort and had also split into equal sections between Kandahar and FOB Ripley. At FOB Ripley, the MEU had reopened a former Soviet dirt FLS and put down large amounts of rock and mobi-mats, dust abatement mats spiked into the earth to reduce brownout when rotary wing assets landed. The LSD configured external loads to resupply units in the field, as well as to receive KC-130 sorties.

In mid-July, the MEU redeployed back to their home station, and TF Bobcat moved under its brigade-level headquarters, Combined Task Force Bronco. The MEU took its direct air support center (DASC), air traffic control section, crash fire rescue team, and LSD. My support platoon, with Soldiers trained as infantrymen, had large shoes to fill.

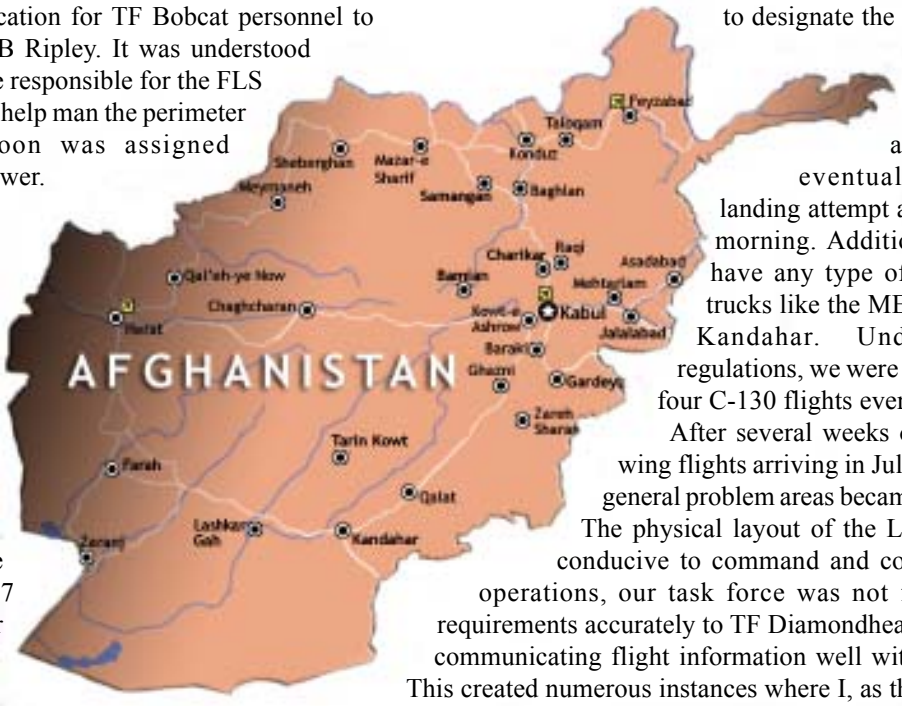
It is important to note several key points here. The MEU operated with its organic Air Combat Element (ACE) including fixed wing aircraft (AV-8s and KC-130s) and rotary wing assets (AH-1, UH-1, CH-53 and CH-46). The sheer number and availability of the MEU's aircraft allowed an organic capability to

move large amounts of personnel and equipment quickly.

As the MEU departed FOB Ripley, TF Diamondhead, the Army aviation task force based in Kandahar, replaced the MEU's forward arming and refueling point (FARP) with its own. While the MEU had used four refueling points at its FARP on the western side of the FLS, TF Diamondhead chose to position a two fuel point FARP on the eastern side, where the MEU had positioned its CH-46 casevac aircraft. Note the MEU had placed large river rocks, from 6 to 12 inches in diameter, on both sides of the FLS to prevent brownout from FOB Ripley's three-inch top layer of "moondust" sand. Moving the fuel point to the eastern side of the FLS allowed Soldiers access to rotary wing helicopters if the FLS was also in use. Additionally, USAF personnel and the CTF Bronco air officer immediately flew into FOB Ripley to administer Landing Zone Safety Officer (LZSO) certification for TF Bobcat personnel to advise C-130s arriving at FOB Ripley. It was understood that my platoon and I would be responsible for the FLS and the LZ/PZ area. Finally, to help man the perimeter of FOB Ripley, my platoon was assigned responsibility for one guard tower.

RUNNING THE FLS

TF Bobcat's support platoon adapted quickly to running the FLS. A section of the 528th Engineer Battalion from the Alabama National Guard maintained the dirt runway and graded it whenever C-130 wheels began to produce large ruts. We ensured that the endzones were clearly marked with VS-17 panels in the prescribed manner and that no vehicles, animals, or personnel were on the FLS when aircraft arrived. The S3 and battle captain would ensure I knew a C-130 was arriving the night before based on the air tasking order (ATO). Due to the length and set up of the FLS, an aircraft could land from either direction. After trial and error, we determined that the best place to off-load and on-load C-130s was at the very end of the runway, and mandated that aircraft fly in only one way to facilitate operations while on the ground. Aircraft would land, taxi to the very end, complete a u-turn, offload and then upload equipment and passengers, and then depart. This minimized the amount of time the aircraft stayed on the ground and allowed us to pre-stage a forklift and vehicles. A slight downhill grade of the FLS made it easy to upload pallets from that end as well.



As the platoon leader and OIC, I was responsible for giving the C-130 the advisory of the state of the airfield, wind, how we wanted the aircraft to approach and taxi, and the approval to land at the pilot's discretion. Most of my platoon had attended the LZSO class, and after the first few arrivals, we began to rotate through administering the fixed wing advisory, which proved the point that even a junior Soldier can advise a C-130 with a little practice. Later, it occurred to me that a C-130 scheduled by the Air Force could arrive at exactly the same time as rotary wing aircraft scheduled by TF Diamondhead. After the first time that happened, and simply asking the CH-47s to go around while the C-130 took off, it became apparent that de-conflicting fixed and rotary wing aircraft was actually quite simple. If the C-130 could land first, we wanted it to land first, as rotary wing aircraft could fly over the C-130 to land at the FARP.

One situation did occur when rotary wing assets were grounded in Kandahar due to dust storms, and a C-130 arrived to evacuate an injured local national just as limited visibility crept in. The flight landing strip was not rated for limited visibility flights, and we were not equipped with landing lights or infrared beacons. We attempted to use lightstick bundles and eventually vehicle lights to designate the landing strip. After returning again later that evening and making pass after pass, the C-130 eventually called off the landing attempt and landed the next morning. Additionally, we did not have any type of crash fire rescue trucks like the MEU or the airfield at Kandahar. Under Air Force regulations, we were therefore limited to four C-130 flights every 14 days.

After several weeks of rotary and fixed wing flights arriving in July and August, three general problem areas became quickly apparent. The physical layout of the LZ/PZ area was not conducive to command and control and efficient operations, our task force was not forecasting its air requirements accurately to TF Diamondhead, and we were not communicating flight information well within our task force. This created numerous instances where I, as the OIC of the flight line area, was asking aircraft to take significant passengers and equipment that had not been scheduled or approved by the air unit.

The physical layout of the LZ/PZ area created significant difficulties for my platoon and I. First, TF Bobcat immediately became customers of two TF Diamondhead "ring flights." These missions, often involving three aircraft, left from Kandahar and dropped off and picked up cargo and passengers at several different scheduled stops before returning to Kandahar. With these aircraft arriving at FOB Ripley, I would attempt to orchestrate "aircraft ballet" to allow equipment and passengers to be downloaded, aircraft to refuel, and passengers and equipment to be uploaded. Due to the significant amount of equipment arriving at FOB Ripley, the area immediately next to the refueling hoses would become littered with downloaded equipment. This would also hamper our ability to upload pallets of equipment destined for our forward company FOBs, as our attached forklift could not access the rear of the CH-47s because of downloaded equipment. If I directed a third aircraft to land on the western side of the FLS on a landing pad, I would soon have Soldiers scattering in every direction,

making it difficult for the S1 to track who had, in fact, arrived at FOB Ripley. Departing Soldiers had to be directed to specific aircraft in accordance with the submitted requirements that the ring flight was planned upon. The significant size of the FARP and the western side of the FLS was compounded by having only six Soldiers, who also had to complete the hookups of any external (fuel blivets, cargo nets, vehicles) loads as well. All of these factors would combine to create controlled chaos when aircraft arrived.

After several weeks of frustration, culminating with three CH-47s remaining on the ground for over an hour, I knew we had to improve. We needed to control the aircraft in a standard manner, control arriving Soldiers, download arriving equipment, allow the aircraft to refuel, upload departing equipment and Soldiers, and do it all much more quickly. With suggestions from a variety of officers and NCOs at FOB Ripley, I created a presentation to change the layout of the airfield for the S4, and with his approval, took it to the battalion executive officer (XO). With the battalion XOs approval in hand, we made significant modifications to the flight line. First, we created a tent staging area with chairs for Soldiers departing. This waiting area corralled Soldiers and prevented them from wandering all over the LZ/PZ and FARP area. We placed barbed wire on the eastern side of the FARP with a narrow lane snaking out to the western side of the FARP (bordering the flightline). This prevented Soldiers from stepping on the FARP's hoses and from running up to or in between aircraft. The wire allowed us to control Soldiers, but we still had problems managing equipment.

Our main problem with equipment centered on forcing our forklift to upload pallets on aircraft on the western side of the FLS. First, after conferring with TF Diamondhead crews, we began to maximize use of external 5k and 10k cargo nets. As our task force was using ring flights to supplement ground resupply of small company FOBs, we would put most Class I (food and water) in nets instead of pallets. Pallets worked well for aircraft in Kandahar. With the engines off, crew chiefs and forklift operators could clearly communicate with each other. Loading pallets onto aircraft with their engines on and rotor blades turning at FOB Ripley took significant time because of slow communication due mainly to engine noise. External nets reduced our number of pallets but did not eliminate them altogether. We still encountered instances where the forklift would travel across the FLS to upload pallets on the western side (to aircraft that had repositioned away from the FARP). In short, we needed to keep the forklift, the pallets, and the aircraft in a small area so that we did not waste time uploading the aircraft.

At this same time, TF Diamondhead chose to add a third refueling point. With that third point open, I could land all three aircraft at the same time at the FARP. The FARP could then serve as the small space we needed to use the forklift and upload pallets efficiently. However, the large river rocks put down by the MEU caused significant bouncing of the forklift to the point that pallets would be torn in half on the forklifts prongs. With help from the TF engineers, we created specific pathways from the western side of the FARP to each refueling hose. To reduce brownout, we covered these pathways in Envirotac II, a dust abatement sealant also known as "rhino snot" left over from the MEU. Because downloaded pallets and equipment caused a logjam at the rear of the aircraft, we extended the pathways in the aircraft direction of approach. These pathways allowed an aircraft to land 20 feet short of the fuel hose, download equipment, and then drive forward to the fuel point, refuel, and then upload equipment and Soldiers. Pilots also noted that landing at our company FOBs was extremely dangerous to brownout conditions. We pulled up some of the mobi-mats at FOB Ripley and flew them to the company FOBs to reduce the brownout conditions. Combined with rock bought on the local economy, the FOB landing zones (LZs) became much safer for the aircrews.

Without sufficient planning and dissemination of information on air operations throughout the task force, as well as miscommunication with TF Diamondhead, the airfield became the final ground truth to, in effect, "two units passing in the night." Several points warrant attention here. During our mission readiness exercise on Oahu, TF Diamondhead had placed an aviation LNO with our battalion staff to assist in planning. Due to significant requirements while in country, TF Diamondhead did not attach an aviation liaison officer (LNO) to our

A CH-47 lands as part of a ring flight at a company FOB in Afghanistan. Getting personnel and equipment off and on the aircraft quickly remained a challenge throughout the deployment.

Capt. Mike Baskin

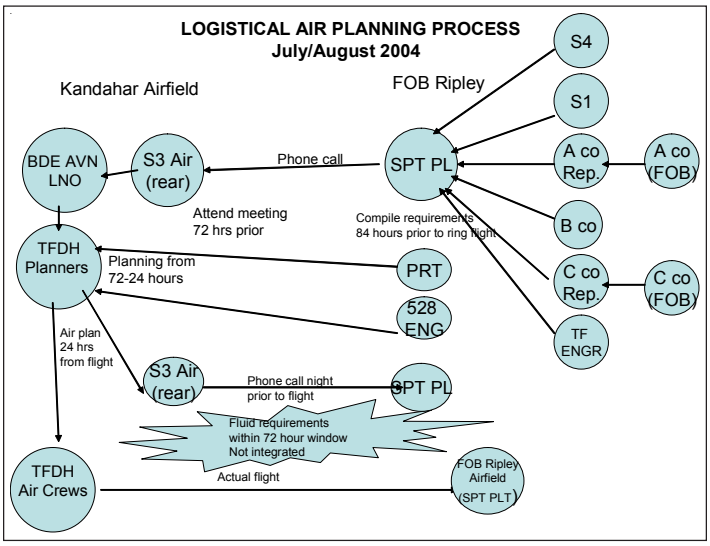


Figure 1

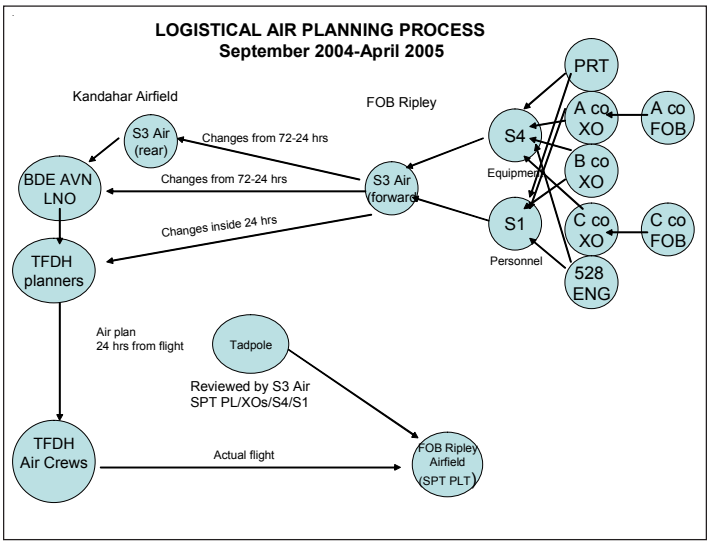


Figure 2

battalion when the MEU departed. Additionally, our battalion had primarily used ground resupply while in Ghazni, and then had become somewhat "spoiled" by the daily flights between FOB Ripley and Kandahar under the MEU.

For ring flight planning, TF Diamondhead held an air planning brief 72 hours prior to a ring flight. Our S3 air officer (rear), located in Kandahar, was designated the task force point of contact (POC) for all logistical air, and would personally attend these meetings and submit TF Bobcat's requests for space. The S3 air (forward), located at FOB Ripley, was responsible for air assault aircraft mission planning and other A/S3 planning duties. In July and August, as the flightline OIC, I would receive all requests at the evening Battle Update Brief (BUB) the night prior to the 72-hour window and relay them to the S3 air (rear) in Kandahar via phone. The S3 air (rear) would attend the meeting in Kandahar and then would relay the flight information to me 24 hours before the flight. However, in that 72-hour window, the task force air requirements often changed significantly, including numbers of arriving and departing Soldiers, and CL I, III and IX requirements. There were enough links in the planning chain to occasionally lose information between our S3 air (rear), the brigade aviation LNO, and TF Diamondhead's planners. As only one ring flight serviced our new company FOBs, and the ring flights flew on an irregular pattern that could be generalized as weekly, the next scheduled flight could be 10 days from when the company initially submitted its request from the near-term flight.

Additionally, I did not have detailed information for rigging external loads. For example, if two fuel blivets were scheduled to go to a company FOB, did they need to be rigged as two blivets on one apex or on two apexes for different aircraft? I will admit that I did not ask the right questions of the S3 Air. In those first few weeks, I asked for time of arrival, number of aircraft, and "what are they bringing in and what are they taking out?" I would receive answers to those questions — for our task force. However, co-located units, such as the Provincial Reconstruction Team (PRT) and 528th Engineer Battalion, submitted their own separate air requests to TF Diamondhead. At the time of two fuel points, this caused confusion when aircraft arrived, as my attempt to template "aircraft ballet" would involve incorrect information, and I had to direct aircraft to less desirable positions on the vast airfield.

In short, our problems included poor forecasting and planning by both the staff and companies, inadequate organizational structure of our flight planning process (who talked to who, when they talked, and how they talked), and my lack of knowledge, as the airfield OIC, of what else and where else the aircraft were tasked to carry and go.

The battalion commander, S3, and XO decided to reorganize the air planning structure. For all units located on FOB Ripley, the S4 would process all logistical requests, and the S1 controlled personnel movement scheduling out of FOB Ripley for all units located there. Each would turn their requirements into the S3 air (forward). The S3 air (rear) would compile all requirements to leave KAF and send them to the S3 air (forward). The S3 air (forward) would review all requirements and submit them to the S3 air (rear) via SIPR the night before the 72 hour air planning meeting, and the S3 air (rear) would sit on the TF Diamondhead planning meeting. After that, the S3 air (forward) was responsible for communicating any last minute changes to the aviation brigade LNO and, inside 24 hours, straight to TF Diamondhead itself. Last minute changes were inevitable due to the nature of operations at the two company FOBs. The S3 air (forward) was the dominant S3 air and the S3 air (rear) focused more on his battle captain duties. This moved our task force's main situational awareness on air operations from Kandahar to FOB Ripley. In a separate yet related move, LTC Sellers mandated that both outlying companies locate their company XO at FOB Ripley. Previously, each company was required to keep merely a representative at FOB Ripley, often a junior NCO, who attended air planning and other staff meetings. With a company XO at FOB Ripley, the S3 air (forward), as well as the rest of the battalion staff, had a much more effective understanding of each company's requirements (Figures 1 and 2).

The task force staff and companies began to plan and forecast with more maturity. We moved from a mind-set of what does that company need for the next week to how are we going to keep that

company going for the next two months? When planning fuel requirements, the S4 scheduled when he could arrange for ground resupply from Kandahar and when he would have to use fuel blivets. As each company needed large amounts of CL IX for their HMMWV fleets, we forecasted additional space for spare parts. While a company did not need additional parts 96 hours out, sure enough it would need them the day of the flight. Likewise, the S1 posted a movement sign up roster for all units located at FOB Ripley. This included the PRT and 528th Engineers and allowed for temporary visitors — first sergeants visiting attached Soldiers, finance Soldiers administering casual pay, and engineer leaders reviewing the development of our FOB — to sign up for a flight. He also began to forecast several additional Soldiers to each leg of the flight, as someone always popped up needing transportation on flight day.

The final piece that synchronized all of this for my platoon and me at the FARP was the ability to print out, use, and understand a tadpole. Whenever aircraft arrived and I explained the personnel and equipment requirements I had to move, the lead pilot would sometimes reply, "It's not on the tadpole." Initially, I did not know what a tadpole was. I did know that the aircrews were using a detailed cargo plan, and I did not have it in my hands. TF Diamondhead was putting a detailed plan of what each aircraft would pick up and drop off, what it called a tadpole, on the SIPR net the night prior to a flight. Anyone with access to a SIPR terminal could access the tadpole, and our unit's administration and logistics operations center (ALOC) did have a SIPR terminal. I realized that I had been missing crucial information because I was receiving a phone call or even SIPR message of what the air crews were expecting to carry. However, the aircrews would rely on the tadpole, and the tadpole was ground truth for what the aircrews expected to drop off and pick up at each location. The tadpole allowed my platoon to preposition external loads on the western side of the FLS in accordance with the air plan. It also allowed other leaders within the task force such as the S4 and S1 to access the plan and request adjustments to the S3 air (forward). As the flightline OIC, I could identify friction points in the air plan as well, such as a CH-47 carrying too many pallets that would prevent the crew chief from opening the floor hatch to watch an external load hook-up. The combination of mature forecasting, a stronger organizational structure to air planning, and access to the aviation unit's tadpole significantly reduced communication problems when aircraft arrived on flight day. While never perfect, the days of "two units passing in the night" at the airfield had been overcome. TF Bobcat continued to require large amounts of aircraft, especially during the winter. However, the support platoon and the entire task force had matured and adopted a much more effective means of accomplishing its mission with the air unit. Midway through the deployment, 1st Lt. Ryan Beltramini became the support platoon leader and airfield OIC. He continued to refine the air process and concentrated the platoon's actions on unloading and loading the aircraft to ensure the aircrews stayed on schedule.

Capt. Mike Baskin

Task Force Bobcat Support Platoon Soldiers prepare pallets of humanitarian supplies for air insertion into a valley in Uruzgan Province.

SIGNIFICANT CONCLUSIONS

In hindsight, the frustration encountered in those first few months was in some ways inevitable. TF Bobcat was doing something it had never attempted before — operating from two company FOBs and one battalion FOB that had not existed before its arrival. There were bound to be significant growing pains along the way.

Support platoons were often noted to work the longest hours in a battalion and yet usually spent an inversely small amount of time spent actually training while in garrison. The Soldiers in TF Bobcat's support platoon became extremely adept at working with both fixed and rotary wing aircraft crews and external load operations while deployed. At first used in a mounted maneuver platoon role, the support platoon reverted to its standard split-based configuration when the task force moved to a new area of operations.

Recent changes to the TO&E for infantry battalions include the elimination of organic support platoons. Those skills and tasks now reside in the forward support company (FSC) attached to the infantry battalion. Ideally, units that integrate their FSC to near-organic ground truth will be able to duplicate the flexibility and agility a support platoon previously provided.

Captain Mike Baskin served as a rifle platoon leader, support platoon leader, and company/troop executive officer with the 2nd Battalion, 5th Infantry Regiment at Schofield Barracks, Hawaii from May 2003 to December 2005. He currently serves with the 1st Brigade, 1st Cavalry Division at Fort Hood, Texas.

Civil War Sharpshooters

FRED L. RAY

"Why, my man, I am ashamed of you, dodging that way," said Union Major General John Sedgwick, commander of the U.S. Sixth Corps, after seeing one of his men throw himself to the ground to avoid rifle bullets coming in from the enemy position on Laurel Hill, some 500 yards away. "They couldn't hit an elephant at this distance." A moment later a Confederate marksman disputed his estimate by putting a bullet through the general's cheek, killing him almost instantly. By the time of Sedgwick's death on May 9, 1864, the sharpshooter was an established presence on the battlefields of the Civil War and would continue to exact a heavy toll for the duration of the conflict.

The term sharpshooter had a more general meaning in the mid-19th century than it does today. It could mean either a roving precision rifleman like the modern sniper (a term that did not come into use until late in the century) or a light infantryman who specialized in the *petite guerre*: scouting, picketing, and skirmishing. The modern sharpshooter appeared in Central Europe around 1700 (the term comes from the German *Scharfschütze*) where he specialized in harassing the line of battle with rifle fire in an age where most infantrymen carried smoothbore weapons. As such, riflemen exercised a considerable psychological effect: "Destroy the mind," observed one British rifleman, "and bodily strength will avail but little in that courage required in the field of battle." He might have also added that killing or wounding the enemy's chain of command, particularly officers, greatly aided in breaking up his attacks and generally upsetting his plans.

In the United States, the Union army began the Civil War with some very effective light infantry units, thanks to the efforts of Hiram Berdan, a wealthy inventor and businessman with extensive political connections. Berdan, who had a reputation as the best rifle shot in the country, required each volunteer to shoot a satisfactory "string" before being accepted. A born promoter, he moved easily in the circles of official Washington, and on Aug. 2, 1861, he received his commission as colonel of the 1st United States Sharpshooter Regiment. So many marksmen responded to his call, in fact, that another regiment of eight companies, the 2nd U.S.S.S., was formed as well. Berdan established a training camp near Washington D.C. where he regularly staged rifle matches and demonstrations for the press and dignitaries, including President Abraham Lincoln. Turned out in their green uniforms, leather leggings, and kepis with an ostrich feather plume, the sharpshooters cut dashing figures on the parade ground. The

Library of Congress Prints and Photographs Division

Colonel Hiram Berdan

regiment's training proceeded along the lines of European light infantry, including the use of terrain for cover and bugle calls for maneuver.

It soon became obvious that their civilian target rifles (some of which weighed upwards of 50 lbs.) were not suitable for serious campaigning. Berdan procured, over the objections of the chief of ordnance, a custom-made Sharps breech-loading rifle with special sights and a double "set" trigger. Manufacturing these custom arms required time, so the Sharpshooters had to temporarily accept Colt Revolving Rifles instead — something that nearly provoked a mutiny. The 1st U.S.S.S. joined the Army of the Potomac for the 1862 Peninsular campaign, where they dominated the skirmish line, made life miserable for Rebel artillerymen, and prompted urgent calls in the Confederacy for more rifle-armed troops. Berdan, however, was not a man who led from the front. He was usually to be found behind the lines tending to administrative tasks, something that did not prevent him from making exaggerated boasts about his role in various battles and ensuring that he and his men got an inordinate amount of press coverage.

Tactically, Berdan's sharpshooters seldom operated as a unit — in most cases they operated in groups of 15-20 men, engaging high-value targets like officers and artillery batteries with their Sharps rifles, which had an effective range of about 800 yards. To supplement these weapons the sharpshooters kept a few heavy target rifles, which were extremely accurate at extended ranges but stayed in the baggage trains much of the time.

The Confederates, though they had few rifles at this stage of the war, did have the advantage of having many men who had learned to shoot in "that most perfect school, the field and forest." Not until January 1863, however, did Brigadier General Robert Rodes begin organizing and training a specialized sharpshooter battalion for his Alabama brigade. Rodes' new battalion initially levied one man in 12 from across the brigade's five regiments, making it about 100 strong. Having no specialized rifles, his men used standard .577 caliber P53 Enfields, which were quite accurate out to 900 yards. The new battalion commander, Major Eugene Blackford, immediately began intensive marksmanship practice and skirmish drills. Target practice was unusual in the Civil War, and few soldiers got any sort of formal instruction. Unlike Berdan's men, the Confederate sharpshooters were expected to be not only crack shots but to operate as a tactical unit, performing light infantry missions such as picketing, scouting, skirmishing, as well as acting as advance and rear guards. They would be first into battle and the last to leave, and in combat would be expected to close with the enemy position and engage appropriate targets. To show their membership in an elite unit, Blackford allowed them to wear a small red trefoil on their pocket — the precursor of today's specialist badges.

Blackford's sharpshooters got their first test on May 2, 1863, when they acted as a flankers for Stonewall Jackson's famous march around the Union army at Chancellorsville, and as the advance guard for his subsequent attack. After the battle, Rodes, now promoted to major general and division command, doubled the size of the battalion to 200 men. Thus the battalion now had two "corps" of sharpshooters, who could readily be used as picket reliefs or as independent tactical units. Many other brigades formed sharpshooter battalions as well, and that summer each battalion received one or two long-range .451 caliber Whitworth rifles. These extremely accurate English-made weapons, which featured an unusual hexagonal bore, had an effective range of over 1,000 yards. Some models boasted a four power telescopic sight as well, and since they weighed no more than a service musket did not have to be carried in wagons.

Blackford's outfit had proven so successful that in the spring of 1864 General Robert E. Lee ordered all infantry brigades in the Army of Northern Virginia to form a sharpshooter battalion that winter. Rodes continued to innovate by grouping the five sharpshooter battalions in his division into a semi-permanent "demi-brigade," 700-1,000 strong, that could operate on its own. Rodes's *modus operandi* was to back his division sharpshooters with a couple of artillery pieces and feed up reinforcements from his infantry brigades if they ran into trouble. Although a shell burst ended his life at Winchester in September 1864, Rodes' sharpshooter battalions continued to operate until the end of the war.

At Petersburg the sharpshooters proved

Courtesy photo

Major Eugune Blackford, commander of a Confederate sharpshooter battalion, allowed soldiers in his unit to wear a small red trefoil on their pocket — the precursor of today's specialist badges.

especially useful, since with the armies in close contact a nearly constant *petite guerre* went on in between battles. In the trenches around the embattled city they were used for what we would term special operations today: scouting, raiding, and capturing prisoners for information. One Confederate sharpshooter commander, Major Thomas Wooten, came up with an innovative tactic he called "seine-hauling" for capturing whole sections of the Union picket line. Running forward in two parallel columns, Wooten's men would penetrate the enemy picket line, then swing around and bag everyone in their path from behind.

Although they had begun the war with a noticeable advantage in light infantry, the Federals now found themselves at a disadvantage on the skirmish line. Their best sharpshooter units, the 1st and 2nd U.S.S.S., were by now severely understrength, and these two regiments (plus half a dozen independent companies) were just not enough to deal with the Confederate sharpshooter battalions. Thus in June 1864, they formed a hundred-man sharpshooter company for each infantry division, drawn from across the unit. Seventy-five of these men received 7-shot Spencer repeaters and acted as the division commander's assault troops, while another 25 men carried the heavy target rifles and provided long-range precision fire against targets like enemy artillery and officers. Although not particularly accurate at longer ranges, the Spencer (which was, in effect, the assault weapon of its day) was quite well suited to the trench warfare that characterized the last year of the war.

After the end of the war, the sharpshooters disbanded, and the concept fell out of favor in the small postwar army. Although periodically revived during wartime, the twin concepts of sniping and sharpshooting usually went dormant during times of peace. Lately, however, marksmanship has undergone a revival in both the Army and Marines. Campaigns in Iraq, Afghanistan, and elsewhere have once again shown the value of aimed long-range fire, both to demoralize the enemy ("destroy the mind") and to reduce civilian casualties. Both services now run extremely tough sniper schools that produce elite shooters who have seen plenty of action. The irregular nature of recent conflicts has also seen the resurgence of light infantry and an emphasis on small-unit tactics, which in turn has produced the designated marksman, or DM. Like the Civil War sharpshooter, the designated marksman acts as a light infantryman, staying with his unit but supporting them with precision fire against selected targets. If these men were to be grouped together into a unit, it would be very similar to what the Confederates came up with in 1863.

Fred L. Ray is the author of *Shock Troops of the Confederacy* (www.cssharpshooters.com), from which this article is adapted. He is a former soldier who spent most of his time in armored cavalry and served two tours in Vietnam.

A Sharpshooter's Weapons

FRED L. RAY

Since a sharpshooter operated as both a light infantryman and a marksman, he needed a weapon that was light, accurate, reliable, and that had a fairly high rate of fire. Although sharpshooters in the Eastern theater used many weapons, the most common were:

Enfield P53 Rifle

This nine and a half pound, single shot, muzzle loading, .577 caliber rifle was as close to a standard infantry weapon as the Confederacy ever got, and was used in large numbers by Federal forces as well. Sixty grains of black powder pushed a 500-grain Minié ball (about the same weight as eleven copper pennies) down a 39" barrel at about 850-900 feet per second. While the British-made Enfield's flip-up blade sight was graduated (depending on the model) to 900-1100 yards, in practice a good marksman could hit a man-sized target at about half that distance. The Enfield's superior accuracy and ready availability made it the top choice for Confederate sharpshooters, who preferred the shorter "two-band" model (33" barrel) with English-manufactured ammunition when they could get them.

Photos courtesy of the West Point Museum Collections, U.S. Military Academy

Rifle Musket, Enfield, P1853, Type II, LAC-1

U.S. Model 1861 Springfield Rifle-Musket

The standard U.S. infantry arm was functionally nearly identical to the British Enfield except for a fractionally different .58 caliber bore size. Line infantry on both sides used this sturdy rifle in greater numbers than any other, but it lacked the pinpoint accuracy of the Enfield and Whitworth rifles, making it second choice for the skirmish line.

Rifle Musket, US, M1861, Springfield

Whitworth Rifle

Sir Joseph Whitworth, one of the premier inventors of his age, designed and manufactured this singular rifle in Britain. It fired a unique .451 caliber hexagonal-sided bullet (often called a "bolt") with a very long aspect ratio that gave it superior ballistic performance at long ranges. Featuring an optional telescopic sight and a high muzzle velocity (1300 fps), the Whitworth could strike at a thousand yards and beyond. While a soldier could easily carry the 9 lb. 10 oz. weapon around the battlefield, its light weight meant a heavy recoil. Although some of the hard-kicking Whitworth rifle's exploits are probably exaggerated, it was a very effective weapon in the right hands.

Model 1859 Sharps Rifle

This light (8 lbs. 8 oz.), breech loading, single shot .54 caliber rifle combined a high rate of fire with excellent long range accuracy. Pulling down the trigger guard dropped the breech and allowed the soldier to insert a linen cartridge, which the breech then sheared open when it closed. A trained rifleman could put ten 370-grain slugs a minute down the 30-inch barrel in the same time it took a soldier with a muzzle loader to get off three, and the breech-loading feature allowed him to easily reload while prone. Sighted to 800 yards, the Sharps was quite accurate and could reliably hit a man-sized target at about half that range. Overall it was a sturdy and effective design that held up well in the field. The most famous versions were the two thousand made expressly for Berdan's Sharpshooters (shown at right), which sported a double "set" trigger. Pulling the rear trigger would "set" the front one, which would then fire at the slightest touch. As a skirmisher's rifle, the Sharps was hard to beat, and was issued in considerable numbers to Federal light infantry late in the war.

Spencer Model 1860 rifle

The .52 caliber Spencer repeating rifle held seven shots in a tubular magazine the stock. Pulling down the trigger guard rotated the breech block, ejecting the spent case and allowing the magazine spring to push a metallic rimfire cartridge forward. Returning the trigger guard pushed the bullet home. The hammer had to be manually cocked for each shot. To reload, a soldier opened the buttstock, dropped in seven rounds, and replaced the spring-loaded follower. With its modern one-piece metal cartridges, the Spencer was virtually immune to moisture and required no separate primer. If a ready supply of pre-loaded magazines was available, a soldier could fire 15 aimed shots a minute.

Whitworth Rifle

Rifle, Sharps, M1859, Albee, Berdan's Sharpshooters

Rifle, U.S., M1860, Spencer

Rifle, Target, Morgan James

Target Rifles

For sniping duties the Federals fielded a wide variety of civilian target rifles, most of which were heavy and not very mobile. This Morgan James rifle, typical of the breed, belonged to the Corps of Cadets at West Point. While their accuracy was excellent, loading was a slow and cumbersome process. Many of these rifles used a "false muzzle," (shown top right) a protective metal cone that slipped over the muzzle to protect the lands when loading—and rendered the weapon nearly useless if lost. Though quite effective in a static situation, these rifles were unsuitable for a field campaign.

Accuracy

How accurate were these guns? In a modern test conducted in 1971, various rifles fired 15 shots at 400 yards at a 72"x72" wooden target. A US-made Springfield rifle-musket managed only 7 hits while a British Enfield scored 13. By contrast the .69 caliber M1842 smoothbore made *no* hits at that distance. The .45 caliber Whitworth sharpshooter's rifle, however, got 15 hits out of 15 shots.

Street Literature on Usama Bin Laden

A Review of Cheaper Arabic Biographies Found in Arab Alleyways

LIEUTENANT COMMANDER YOUSSEF ABOUL-ENEIN, USN

www.fbi.gov

Books in much of the Arab world are considered a luxury. Although accessible to the public, libraries such as the great new library in Alexandria, Egypt, seem to be the purview of scholars. The vast majority of the Arab public is busy eking out a living and does not have the time and money to travel to the libraries usually located in centralized locations such as Cairo, Kuwait City, or Riyadh. This is the drawback of having one library in a major urban center and not having branches at the community level as you would find in the United States. In addition, young Arab students are not taught how to access the library and how to research and access books. Therefore, many pay attention to the small booklets that permeate corner mosques and markets. These books, which often range in price from 50 cents to $2, offer those with the inclination to read books a chance to explore an issue beyond the satellite television that saturates the Middle East. These cheaper street books represent perhaps the main source of how the majority gain information beyond reading the newspaper. But what makes these small booklets worth looking at is that they represent the street perception of an issue, history, or biography. Although in Arabic, American policy makers and military planners should be aware of the existence of these booklets and make an effort to acquire them. It is the only way to stay inside the decision-making cycle of our adversaries.

This review essay will focus on Abdullah Khalifa's short biography on Usama Bin Laden, entitled, *Usama Bin Laden Bain Al-Jihad wal Irhaab* (Bin Laden between Jihad and Terrorism). The booklet was published in 2001 by Dar Al-Ahdath for Journalism and Media Services in the Dasman district of Kuwait City. Unlike other cheap booklets acquired off the street which are typically printed in poor quality paper, sometimes rag paper, this booklet's pages are made of more durable, higher quality paper which is attainable in Kuwait and Arabian Gulf countries. The booklet has no price, no biography of the author, and no references, but was clearly written months after September 11, 2001, as a means of rationalizing Bin Laden's heinous actions and the troubled history Al-Qaeda has had with the United States. It is worth reading the wild conspiracy theories in this 113-page booklet not only for interesting biographical vignettes of Bin Laden, but to also understand what the United States is up against in countering these false perceptions through the use of public diplomacy. The very title of the book is suggestive of the unacceptable argument that one person's terrorist is another's freedom fighter; the dichotomy between what is moral jihad and terrorism? This subtitle is what attracts a person perusing the books and booklets in a stall or street vendor after Friday prayers.

The booklet's first mistake is the date in which Usama Bin Laden's father, Mohammed Bin Laden, died; the booklet says it was 1970. In reality, he had died in a helicopter crash in 1967 when Usama was 9 or 10 years old. Mistakes like these make street biographies an unreliable source; yet the cheap cost, portability, and number of available copies make these accounts an important part of the Bin Laden lore. The booklet takes readers to 1979 when Usama graduated from King Abdul-Aziz University in Jeddah. There he came under the influence of Sheikh Abdullah Azzam, the Palestinian firebrand cleric who was teaching Islamic courses at the university. Khalifa's booklet is right on the mark as to the influence of Azzam on Usama Bin Laden. The Palestinian militant cleric established *Maktab Al-Khidmat lil Mujahideen* (Services Offices for [Arab] Jihadists) in Peshawar, Pakistan, that would funnel tens of thousands of Arab jihadist volunteers to fight the Soviets in Afghanistan. Pages discuss how from:

1979 to 1982 — Usama supported Azzam's efforts by first developing a system of financing the anti-Soviet jihad through contributions from leading Saudi families, using his family name and connections. This was a time in which many Arab regimes, Egypt in particular, saw the utility of dumping their more troublesome and violent Islamist extremists in the Soviet-Afghan War in the hopes they would not return, but at the same time they would be fighting Soviet communism.

1982 — Usama first enters Afghanistan to directly fight the Soviets. He also brings funds as well as construction assets and expertise to Azzam's group and other Afghan Mujahideen factions. This would include engineers from the Bin Laden Construction Group.

1984 — Usama establishes his own Arab Afghan Organization *Bait Al-Ansar* (The House of the Helpers); *Ansar* is more than just "helpers," it refers to those who aided Prophet Muhammad in the early days of Islam. This organization complemented

Azzam's group, but suffered initially as Bin Laden did not have the experience of the older *Maktab Al-Khadamat* organization of Azzam. Therefore Bin Laden's organization focused on tactical training and the in-processing of Arabs wanting to fight the Soviets. *Maktab Al-Khadamat* focused on recruiting and collections. It is important to understand that when Azzam was killed, Bin Laden became head of both organizations, which became the central core of Al-Qaeda. *Bait Al-Ansar* perfected training techniques to acclimatize Arabs in fighting the Soviets and their Afghan allies unconventionally. Graduates took on a reputation of being zealous shock troops and the lion's share of these Arab volunteers went to Gulbuddin Hekmetyar and Abdul-Rasul Sayyaf.

1986 — In this year, Bin Laden expanded his operation to include six military training camps that were mobile in order to escape Soviet military raids. During this period, a more formalized method of assigning Al-Qaeda talent was developed with the bulk of Arab fighters being high school and university students, but among them were physicians, engineers and retired Arab military personnel both officers and enlisted. Those with combat experience gained from serving in Arab armies would be used as trainers and field commanders. The former Al-Qaeda operations officer (third in command after Bin Laden and Zawahiri) until his death in 2001 was Mohammed Atef, a retired Egyptian police colonel. Another Al-Qaeda operative reputed to be in Iran and considered an operational planner is Saif Al-Adel, a former Egyptian military officer. Since Egypt instituted a mandatory draft for all males, it is safe to assume that Egyptian members of Al-Qaeda have at least three to four years of basic military training. The end of 1986 saw the Battle of Jaji in which Bin Laden and a contingent of Arabs trained in *Bait Al-Ansar* camps held off several assaults by Soviet *Spetznaz* (Special Forces). The assault took several weeks, and the Arab jihadists held the mountain redoubts and used a network of tunnels and caves to elude and surprise Soviet troops.

1986-1989 — These years are considered the apex of the Arab jihadist movement in Afghanistan The booklet discusses not only the Battle of Jaji, but also lists Arab jihadist contingents participating in five battles, dozens of skirmishes and hundreds of ambushes. These 36 months would have been the easiest time to funnel recruits, weapons, and funds from the Middle East to Afghanistan.

The Origin of the Name Al-Qaeda

In 1988, Bin Laden began getting inquires on the status and whereabouts of hundreds of Arab youths from parents wanting to know if they were killed, captured, or missing. He began instituting a bureaucratic system to address these inquiries, and this evolved into an elaborate tracking system on each recruit from training to assignment and finally martyrdom. In *Bait Al-Ansar*, Arab recruits would be received at the airport and then processed and evaluated for skills they can bring to bear in the jihad. From there, they were taken to one of six camps for military training and close order combat tactics. After completing their training, they would be sent to frontline mujahideen units. The booklet claims Al-Qaeda stands for the database. Others think it originated as a nickname for the combined Azzam-Bin Laden organizations from reception to training to martyrdom, which was called *Al-Qaeda Al-Sulba* (The Firm Base).

Department of Defense photo

A frame from a December 2001 videotape released by the Department of Defense shows Usama bin Laden and an associate.

The True Genius of Abdullah Azzam and a Legacy to Bin Laden

Sheikh Abdullah Azzam was born in 1935 in Jenin. He left Palestine after the 1967 Six-Day War and believed the only way to regain Palestine was through violent jihad. The 1967 Six-Day War would discredit Pan-Arabism, and from the ashes of humiliated Arab nations emerged a kind of Islamist counterculture movement known as the *Sahwa* (Islamist reawakening). Bin Laden, Zawahiri, and Azzam would be swept up in this movement which attempted to rationalize Arab defeat by reinterpreting past Islamic grandeur from a purely militaristic vein. The ultimate heyday of the Sahwa movement would occur during the 1979 Islamic revolution that toppled the Shah in Iran. Azzam's genius was to harvest this anger and organize it into groups that would aid the Afghan cause against the Soviets. His model of harvesting young radical Islamists' discontent and channeling it towards challenging regimes would haunt the world beyond his assassination in 1989 and was later replicated by Bin Laden in Somalia (1993), Yemen (1994), Afghanistan and Saudi Arabia.

In the booklet, there is no discussion of Bin Laden's strategic disagreements with Azzam as the Soviet presence was coming to an end. Azzam wanted to perfect the Islamic Amirate in Afghanistan and Bin Laden wanted to return battle-hardened Arab veterans to their respective countries to foment an Islamist Radical revolution. Azzam's assassination in 1989 decided the argument.

The Strategic Bin Laden

Usama's strategic thinking also changed with the times; his hatred towards the United States was renewed by his perceived view that the Saudi royal family was dependent on America for its security against Saddam Hussein. Bin Laden had no overall strategic appreciation for the enemy the Saudis were facing in Saddam Hussein's Republican Guard divisions. Inviting his Arab mujahideen to take an irregular war into Iraq would bring a

whirlwind that Arab governments, primarily the Al-Sauds, knew they could not control. In 1996, Bin Laden's declaration and new movement was *Al-Jihad Lee Ikhraj Al-Kufar min Jazeerah Al-Arab* (The Jihad to Expel the Infidels from the Arabian Peninsula). From 1996 to 1998, the booklet discusses how Bin Laden, the Taliban, and Egyptian Islamic Jihad debated the initial declaration of 1996, adding that it did not have the force of a clerical writ (*fatwa*). As this debate was ongoing, Bin Laden made several strategic decisions as Al-Qaeda leader:

- His alliance with the Taliban became so strong that he broke his agreement to stay neutral among the different Afghan warlords. This was driven by frustration over efforts to peacefully unify the Afghan tribes. Bin Laden provided Arab suicidal shock troops to factions supportive of the Taliban.
- He engineered a fatwa sanctioning the killing of Taliban foe Ahmed Shah Masood.

As the Taliban evolved as the dominant force in Afghanistan in 1998, Bin Laden elicited the support of 40 Pakistani and Afghan clerics to endorse his 1996 declaration to remove the infidel (Americans) from the Arabian Peninsula. Egyptian Islamic Jihad members that composed the strategic leadership of Al-Qaeda, and represented by Ayman Al-Zawahiri, along with jihadist factions in Kashmir urged Bin Laden to expand the fatwa to include killing Americans of fighting age anywhere and anytime along with Jews. These debates led to Bin Laden's 1996 declaration becoming his infamous February 1998 Declaration of the World Islamic Front for the Killing of Crusaders and Jews. It is important to realize that Taliban leader Mullah Omar was unhappy with this publicity and even more angered by the bombing of the embassies in Kenya and Tanzania in August 1998. But Mullah Omar had to balance this with Bin Laden's utility to the Taliban cause. During this time the booklet discusses how 50 fanatical Arab jihadists held off a lightly defended section of Kabul from Ahmed Shah Masood. The Taliban were overstretched and engaged in fighting Shiites and Uzbeks in and around Bamiyan. North of Kabul became an opportunity for Ahmed Shah Masood's forces to exploit and he would have taken the capital had Bin Laden's Arab jihadists not reinforced that approach in 1998. This along with funding, and intermarriage made Bin Laden an inextricable host in the symbiotic relationship with Mullah Omar. It is after the battle for Kabul in 1998 between Bin Laden's Arab contingent and Ahmed Shah Masood, that the two became implacable enemies. Two days before September 11, 2001, Bin Laden operatives posing as journalists with a camera crew detonated a bomb assassinating Ahmed Shah Masood. It is unclear how many times Bin Laden attempted to assassinate the "Lion of Panshir" (a name Masood earned for his tactical prowess against the Soviets) and vice versa.

The Personal Bin Laden

Usama Bin Laden, the booklet recounts, is a pious and practicing Muslim. He shares the hardships of his men (food, clothing, and housing). Usama spends more time with his men than with his own family. Despite the flattering picture, the booklet indicates that Bin Laden is not decisive and prefers to make major decisions with clerics and other allies. This portrayal is debatable since such strategic decisions as 9-11 and declaring war from Afghanistan were all taken by Bin Laden with little discussion or debate, much less consensus. While living in Saudi Arabia, he would spend one day a week with his family and extended relatives usually outside Jeddah in a farm he owned. The booklet also notes that three of Bin Laden's wives have advanced degrees, one a doctorate degree. Finally, the booklet discusses Bin Laden's health, which it claims is excellent and his affinity for honey to cure ailments. On a financial level, the booklet cites two major financial blows to Bin Laden's net worth. The first was the freezing of his Saudi assets after his citizenship was revoked in 1991, and the second was the Sudanese government reneging on projects such as the *Tahedi* Road he built that links Khartoum to Port Sudan. The booklet claims that Bin Laden relies more and more on contributions to sustain him and his cause and less on his personal wealth.

Conclusion

Why note these street biographies and cheaper booklets? For one, it represents the street lore of Bin Laden, a perception of maintaining his image as a Robin Hood-like figure defending the rights of the downtrodden. Although an idealistic portrayal, there are aspects of the booklet to note, which can be of use to military planners fighting this adversary. It highlights Bin Laden's strategic mind; this booklet shows that Bin Laden adjusts his strategy based on external influences (Egyptians, Kashmiri fighters and the global media). The booklet also highlights his uniqueness in the jihadist movement. Despite those who claim that thousands of Bin Laden's can be replicated, the reality is only few persons have his access to funds, connections to contributors built over decades, connections to radical clerics that can deliver *fatwas*, combat experience with the Soviets and then the ensuing Afghan Civil War, as well as his organizational skills. If Bin Laden is captured or killed, it would be a serious tactical degradation of Al-Qaeda, for he brings a lot of strength to the organization. Zawahiri (Bin Laden's deputy) also brings strengths to the organization in the form of long-range strategic planning. Bottom line: this material aids American military leaders in understanding the enemy, and reminds us not to underestimate Bin Laden. This booklet, although slightly flattering of Bin Laden, represents a more restrained biography; there are other booklets that portray a more mythical and outrageous figure. When reading these booklets, it is important to compare them to scholarly work such as Peter Bergin's *The Osama Bin Laden I Know* (Published in 2006 by Free Press, a division of Simon and Schuster) or *Through Our Enemies' Eyes: Osama Bin Laden, Radical Islam & the Future of America* (Edited by Michael Scheurer and published in 2003 by Potomac Books).

Lieutenant Commander Youssef Aboul-Enein is a Navy Medical Service Corps officer specially assigned as Middle East Policy Advisor at the Office of the Secretary of Defense for International Security Affairs. He has highlighted many Arabic books of military interest in the pages of U.S. Army professional journals. Aboul-Enein is co-author of the Army War College monograph *Islamic Rulings on Warfare*, published in 2004. He wishes to thank the Pentagon and Georgetown University librarians for making this booklet available and PS1 (SW/AW) David Tranberg, USN, an undergraduate at the University of Maryland University College, for editing and discussing this work.

Time to Rename King, Queen of Battle?

CAPTAIN GEORGE S. MIDLA

I must begin by stating that I have had my start in this great Army as an infantryman. My birth took place on the training fields of Fort Benning, Ga. I stood on one of those fields during graduation day in the summer heat, proud of my blue infantry cord that now wove around my shoulder. During this baptismal ceremony, I remember the infantry being referred to as the "Queen of Battle." I have to affirm now that I never liked that title. No one wants to be second; no fighting man wishes to be affiliated with feminine overtones. Truly it would be better to be king.

I am not writing this essay to support the artillery or infantry over this argument of who is king or queen. Warfare has changed. ... I have come to realize what I consider to be the truth in this debate. That is the king of battle is surprise and its queen is speed.

I was informed that day that our artillery held this lofty position. Those cannon cockers were the true rulers. They set the stage for the battlefield. Able to change fire 180 degrees, raining their hell in all directions and reaching out miles from their positions. From their firebases they ruled as a king – firm, strong, and heavy-handed, if need be.

Up until recent years, I might have argued these statements concerning our artillery. Land is not owned until the infantry secures it, but I was able to experience the effects of indirect fire firsthand during operations in Afghanistan. Mortars shelled the company I was with for more than four hours; we had a one hour reprieve, and then were shelled for another hour before it subsided. We experienced what was equivalent to our 81mm mortars. Although this is a devastating weapon system, it obviously does not fire an artillery shell. I could not help but think about the human experiences during World War I when men were fired upon by the heaviest guns of the artillery. Theses were steel giants with barrel diameters of 12 to 15 inches that obliterated the battlefields of the Somme, Verdun, and Marne. The French produced one of the largest artillery pieces of this time period. Their railroad-mounted gun fired a 520mm round with a 600 pound explosive. With these types of charges, squads of men were killed and buried in a flash all by the same shell. Truly for them the artillery must have been king.

I am not writing this essay to support the artillery or infantry over this argument of who is king or queen. Warfare has changed. In my studies, I have come to realize what I consider to be the truth in this debate. That is the king of battle is surprise and its queen is speed.

In reviewing past battles from the Napoleonic, Mexican, Spanish American, American Civil and the Second World War, surprise and speed were crucial in the deciding factors in conquest, or their unattainable goal was offered as a reason for why a plan failed. It is the shock, the brilliant unexpected attack that startles and confuses a foe over which a force may get the upper hand in any battle even if greatly outnumbered. And now we consider speed. Speed is achieved when a force descends upon an opponent in lightning moves, to be on its adversary with eagerness at his weak point. The confusion and fear this fosters leads to a poor defense and no offense and ultimately victory. This idea although centuries old was perfected by the German Army during its strikes in Europe in the form of the *Blitzkrieg*.

Our battlefields are still evolving. Technological advances on how we wage war, our equipment, weapon systems, and doctrine have attempted to keep up with the changing faces of our enemy. And with these many changes, surprise and speed are still maintained as the battle cry for our forces. We are attempting to process reliable information at a faster rate so that action can be taken swiftly. Developments in our personal equipment are being made so that they are lighter giving our troops the ability to maneuver quickly while on foot. The use of Stryker vehicles gets us into the fighting without delay with a lethality and maneuverability needed to support the actions of surprise and speed. Within hours we are able to air assault or parachute a battalion into regions not occupied before with murderous effects.

I did not write this manuscript to change history. The artillery and infantry have a long and glorious past both worthy of a mark of dignity. Considering our recent conflicts it now seems necessary to review these phrases as applied to our modern Army and its past history as well. This new use of these titles is to aid in the training of our future leaders, that is those individuals who are now just learning their profession. The importance of surprise and speed cannot be over stressed in our planning and conduct of a mission. In renaming them as king and queen, new leaders may better keep them in their thoughts as constant considerations during all phases of an operation.

With prompt success in battle ultimately comes the conservation of life and equipment. The preservation of our forces is paramount in continuing our attack on current and future opponents of our nation.

Captain George S. Midla first entered military service in 1982 as an 11B. He was commissioned in 1999 after completing the Interservice Physician Assistant Program. His assignments included serving with the 5th Special Forces Group, 3rd Special Forces Group, 2nd Infantry Division, and 101st Airborne Division (Air Assault). CPT Midla currently works at Madigan Army Medical Center as a physician assistant and clinical perfusionist for the Cardiothoracic Surgery Service.

Sgt. 1st Class Allen Leonard scales the 60-foot Prusik tower. (Photo: Bridgett Siter)

BEST OF T

Rangers Square Off

BRC Honors

Twenty-six two-man Ranger teams from around the Army converged on Fort Benning April 21-23 to take part in the 23rd annual Lieutenant General David E. Grange Best Ranger Competition. After 60 hours of physically and mentally challenging events, Spc. Mikhail Venikov and Sgt.1st Class John Sheaffer of the 75th Ranger Regiment earned the top spot.

During the three days of competition, the Ranger teams competed in more than 15 separate events. During the first day alone, the teams completed a Ranger Physical Readiness Assessment, push up and chin up event, pugil stick competition, spot jump, machine gun and stress shoot, litter carry and 20-mile foot march.

It takes "talent, toughness and a call to duty" to step up to the challenge of combat *and* Best Ranger, said Gen. Richard A. Cody, the Army's vice chief of staff, who greeted the winners during an awards ceremony April 24 at the Ranger Memorial.

Sgt. 1st Class John Sheaffer

Spc. Mikhail Venikov

"You've accomplished what to others would seem impossible," he said.

Sheaffer, who placed second in the 2004 competition with Sgt. 1st Class Matthew Wilson, was partnered with Venikov only a week before the competition began after Wilson suffered a back injury. With Wilson out of the race, speculation then centered on the possibility that this year's competition might produce rookie winners, something that hasn't been done since the competition began in 1982.

Venikov's performance put an end to that. The Regiment's dark horse came out strong in the opening events and captured the pugil championship, putting him and Sheaffer in the early lead. The two "felt good" throughout the competition, Sheaffer said, confident they could win but never willing to let up, even after winning night foot march -- even after learning they'd secured an 88-point lead.

"We didn't want to take it easy, even on the last day, even when we knew we were out ahead," Sheaffer said. "It wasn't until we heard our standings prior to the Buddy Run (the final event) that we knew we'd accomplished our mission."

(Adapted from an article by Bridgett Siter that appeared in Fort Benning's Bayonet *newspaper.)*

Rangers drop into Victory Pond during the helocast event. (Photo: David Dismukes)

THE BEST

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Spc. Andrew Wallace and Sgt. Matthew Carey evacuate a casualty during Ranger Stakes. (Photo: David Dismukes)

2006 Best Ranger Results

1st Place - Spc. Mikhail Venikov and Sgt. 1st Class John Sheaffer, 75th Ranger Regiment

2nd Place - Capts. Joshua Eaton and Wesley Davidson, Infantry Captains Career Course, 11th Infantry Regiment

3rd Place - Sgt. 1st Class Brandon Young and Staff Sgt. Jeremiah Pittman, 75th Ranger Regt.

4th Place - Sgts. 1st Class Steven Viands and Travis May, Ranger Training Brigade

5th Place - 2nd Lts. Donovan Duke and John Agnew, Infantry Officers Basic Course, 11th Inf. Regt.

Additional results and information can be found on the Ranger Training Brigade Web site at https://www.benning.army.mil/rtb

A Ranger team descends onto Lee Field on Fort Benning during the spot jump event. (Photo: Bridgett Siler)

Spc. Mikhail Venikov performs pull-ups on day one of the Best Ranger competition. (Photo: David Dismukes)

Small Arms Ammunition for the 21st Century:

High-Performance Alternatives to the 5.56 NATO Round

STANLEY C. CRIST

Editor's Note: *While we are not recommending replacement of the 5.56x45mm round, discussion of current service and developmental rounds and their characteristics can be useful. Revised and updated from the July-August 2004 issue of* Infantry.

It has been four decades since the 7.62mm NATO round was first superseded as the ammunition of choice for U.S. combat rifles when the 5.56x45mm M193 cartridge — and the M16A1 rifle that fired it — proved better suited to the battlefields of Vietnam. When 5.56x45mm ammunition became NATO-standard about 20 years ago, projectile weight was boosted from 55 grains to 62 grains, and the heavier, "green-tip" round was type-classified as M855 Ball in U.S. service.

Accounts from the Vietnam War indicate that M193 ammo was very lethal at the relatively short engagement distances encountered in jungle warfare, and could penetrate the walls of typical bamboo huts with ease. However, circumstances were much different when, many years later, Soldiers were again sent into harm's way in the hostile regions of Somalia, Afghanistan, and Iraq.

In Somalia it became all too apparent that the M855 round was lacking in the ability to punch through the brick walls and other obstacles commonly encountered in urban areas. As Captain John Hodge related in his article, "The M240B Machine Gun" (*Infantry*, March-June 1997, p. 8), it was noted that "…while the M249 provided good firepower, in some situations, they needed greater range and penetration power." Equally disturbing were the reports that when M855 ammo was fired from the M4 carbines employed by special operations personnel, it too often required multiple hits to neutralize an opponent, even though many Somali males were of slight build.

These problems were soon magnified as more individuals were armed with the short-barreled, M4-series weapons. Soldiers of the 82nd Airborne and 101st Air Assault Divisions had their M16A2 rifles replaced by M4 and M4A1 carbines in the years prior to conducting combat operations in Afghanistan and Iraq. Also, in these units and others, like the Stryker brigades, the standard M249 light machine gun (LMG) is being considered for replacement by a paratrooper model with a barrel as short as that of the M4 carbine.

While these alterations do result in a weapon that is lighter and easier to handle in the confined interior spaces of infantry vehicles, utility helicopters and urban buildings, terminal performance suffers. The primary mechanism behind the lethality of 5.56mm ammo is the fragmentation that results when the bullet impacts soft tissue at high speed. The truncated barrels do not create sufficient velocity to produce this effect beyond a short distance, nor do they provide sufficient "reach" to engage enemy personnel at the extended ranges encountered in desert and mountain warfare.

Given the trend to acquire lightweight small arms with abbreviated barrels, combined with the decreased performance of the M855 Ball round out of a short barrel, what can be done to regain the lost capabilities?

Option 1: Create a 5.56mm "heavy ball" load

The simplest approach to improving the combat potential of 5.56mm weapons is to increase bullet weight. This has been done on a limited scale by special operations forces, which have used Mk262 competition ammo in the mountains of Afghanistan. The 77-grain "open tip" match bullet reportedly is effective when used against unprotected enemy personnel, but the open tip design is less capable than a full metal jacket (FMJ) projectile for penetration of barricades, brick walls, vehicles and other "hard" targets.

In the 1960s a German company developed a "heavy ball" load with a steel-jacketed, 77-grain bullet that would be a viable quick-fix to the problem, since long range trajectory and hard target penetration appear to be better than that of the M855 round. The manufacturer was unable to generate any interest at the time, no doubt because the heavy projectile was incompatible with the slow rifling twist used in M16A1 barrels. However, since it would be stabilized by the faster twist that is used in the M16A2 and M249, it could be worthwhile to either resurrect this loading, or create a FMJ version of the 77-grain Mk262 ammo.

Although it performs well in some circumstances, the 5.56x45mm cartridge has been found wanting in others, and lacks the growth potential necessary to meet these demands. While a heavier bullet would certainly boost the performance of 5.56mm NATO, if a substantial improvement is desired it

Figure 1 — Low cost options for improving performance over the 5.56x45mm round (left), are the 6x45mm (center), and 6.5x42mm MPC (right). These cartridges are compatible with 5.56mm magazines and bolts, M27 metallic links, and the M249 feed mechanism.

Figure 2 — Threat small arms ammunition: (l. to r.) Russian 5.45x39mm, Chinese 5.8x42mm, Russian/Chinese 7.62x39mm. The 5.8x42mm is the best combat rifle/LMG round currently in service, and has more "growth potential" than other intermediate cartridges.

Figure 3 —5.56mm projectiles: (l. to r.) 55-grain M193 Ball, 62-grain M855 Ball, 77-grain "heavy ball." The steel jacket of the heavy ball bullet is tougher than the gilding metal jackets of the other two, enabling better penetration of typical battlefield obstacles.

may be necessary to adopt an entirely new caliber. It would be best if any new cartridge were dimensioned so that current and future weapons can be reconfigured to fire it at minimal cost. This limits cartridge overall length to that of the 5.56x45mm round, but allows some flexibility in regards to case diameter.

Option 2: Load a bigger bullet in the 5.56x45mm case

The second easiest way to increase performance is to "neck up" the 5.56x45mm case to accept a 6mm bullet, something that has been done by civilian competition and varmint shooters who wanted more capability than the original round could provide. The result is the "wildcat" 6x45mm cartridge (not to be confused with the 6x45mm XM732 round that was developed in the 1970s), which can be loaded with a 90-grain FMJ bullet to an overall length the same as that of 5.56x45mm. The 6x45mm promises increased range and lethality compared to the M855 round, yet requires little more than a barrel change to be fired in existing 5.56mm weapons.

In order to wrest the greatest possible performance from a cartridge case of such small diameter, it may be necessary to increase bullet diameter even more. This approach was taken in 2004, when a noted civilian gunsmith started work on another "drop-in" solution to the stopping power problem reported with short-barreled 5.56mm weapons. The neck of the 5.56mm NATO case was increased sufficiently to accept a 6.5mm bullet, while case length was shortened slightly to 42mm, just enough to accept projectiles of higher ballistic efficiency than the original length would allow. The result was the 6.5x42mm Multi Purpose Cartridge (MPC), which produces impact energies that are 30-50 percent greater than M855 Ball at normal engagement distances (up to 300 meters). Like the 6x45mm round, the 6.5x42mm cartridge fits in, and feeds from, magazines and metallic links made for 5.56mm NATO ammunition, but delivers greater terminal performance.

Option 3: Use a bigger bullet and a bigger cartridge case

The perceived incapacitation failures of the M855 round during operations in Afghanistan triggered an effort by a few innovative Soldiers to create a more potent cartridge for the M4 carbine. With the approval of their commander, these individuals, with assistance from a major ammunition company, developed the 6.8x43mm Special Purpose Cartridge (SPC). The 6.8mm SPC hits much harder than 5.56mm Ball at all engagement distances, but because the 115-grain bullet has rather modest aerodynamic qualities, trajectory and wind drift show little or no improvement.

The 6.8mm SPC is quite adequate for engagements of point targets to a distance of about 500 meters, but for shots at longer range, greater ballistic efficiency is called for. To achieve this, a competition shooter and a firearms maker collaborated on a cartridge that could give the M16 the capability for precision shots out to 1000 meters, or more. The result was christened the 6.5mm Grendel (it was named after a fabled mythological monster), and this 6.5x38mm round is capable of shooting highly-streamlined bullets with a flatter trajectory and less wind drift than even 7.62mm M80 Ball ammo.

Conversion of 5.56mm rifles and carbines to 6.8mm SPC or 6.5mm Grendel is rather an expensive procedure, requiring not only a change of barrels and bolts, but also replacement of magazines, along with development of caliber-specific stripper clips. Additionally, converting 5.56mm LMGs to either caliber will be considerably more difficult and costly, necessitating the redesign of the belt feed mechanism, together with development of a new series of metallic links.

The Soldier's Load

In addition to cost and complexity of conversion, a major drawback of both the 6.8mm SPC and 6.5mm Grendel is the weight of the ammunition, which is more than 40 percent heavier than that of the 5.56mm NATO cartridge. Also, the 25-round magazines made for the two larger rounds are constructed of steel, so they

5.56x45 — 10 x 30-round magazines = 300 rounds

6x45 & 6.5x42 — 9 x 30-round magazines = 270 rounds

6.5x38 & 6.8x43 — 8 x 25-round magazines = 200 rounds

are heavier than the standard issue aluminum magazines that can be used with the smaller cartridges. Therefore, the number of loaded magazines that can be carried for a given weight differs significantly between the two sets of alternatives. If the rifleman's basic load of ammo is kept at a constant weight, the box above shows how the number of rounds varies per caliber.

This difference can be critical in sustained combat where resupply is not possible, and can be a major factor determining victory or defeat, survival or death. As an example, a veteran of early battles in Vietnam attributed the successful outcome of those actions to the increased amount of 5.56mm ammo that the infantrymen could carry, and is certain that his unit would have been overrun had they been armed with 7.62mm rifles. However, the quantity of ammunition that can be carried must be balanced against terminal effects, penetration capability, weapon controllability, and other factors.

Ballistics Tables

Ballistics tables are useful tools when comparing different cartridges, but in this particular instance, the data contained therein must be evaluated with a bit of caution. This is due to a number of factors, most important of which is that the load development of the candidate rounds is ongoing, with different FMJ bullet designs being created and tested in an effort to achieve optimum combat capability and terminal performance.

Figure 5 — Magazines for the 5.56mm NATO cartridge (left) can be used with the 6.5mm MPC (right), and the 6x45mm round (not shown). Also, 6.5mm MPC and 6x45mm cartridges fit perfectly into 5.56mm stripper clips. For 6.5mm Grendel and 6.8mm SPC, it would be necessary to manufacture new magazines, stripper clips, and clip guides.

Figure 6 — The 6x45mm (not shown) and the 6.5mm MPC, seen here plugged into standard M27 links and positioned on an M249 feed tray, essentially require only a barrel change for conversion of the LMG. However, the 6.8mm SPC and 6.5mm Grendel, need a new series of links designed and manufactured, and the M249 feed mechanism modified.

As of this writing, the 6x45mm and 6.5mm MPC are made solely by and for handloaders, with no commercial off-the-shelf (COTS) FMJ ammunition being available. A 90-grain FMJ bullet is available for the 6x45mm, and use of that projectile is assumed in the accompanying tables. Because there is no COTS 95-grain FMJ bullet for use in the 6.5mm MPC, data for a hunting-type projectile was substituted.

There are two COTS versions of the 6.8mm SPC with a 115-grain FMJ bullet. The manufacturer calls one a "commercial" round, and the other a "combat" load. Since the latter is a high-pressure load that may not be safe in some weapons, the commercial version was selected for inclusion in the tables.

Pre-production 6.5mm Grendel ammunition loaded with a 110-grain FMJ bullet is currently being tested. Specifications are preliminary and subject to revision, but they are used herein because at present there are no other FMJ factory loads in this caliber.

Velocity and energy tables can help the reader in forming an opinion as to which, if any, of these rounds are worthy of further development. Once that decision is reached, better FMJ projectiles can be designed for optimum terminal effectiveness in soft tissue, and penetration of "hard" targets.

Summary

Which is the best cartridge for upgrading the combat capability of 5.56mm infantry weapons depends on just how much improvement is desired. Clearly, a 5.56mm heavy bullet load would be the most economical choice, because no alterations to the weapons are necessary, although expected performance increase is minimal. Opting for the 6x45mm or

6.5mm MPC would provide more significant gains, yet require little more than a barrel change, since these rounds fit existing bolts, magazines, and metallic links.

The 6.8x43mm and 6.5x38mm are the most capable upgrades, but they are also the most expensive. The 6.8mm SPC would provide a substantial improvement in close combat capability, which was its stated design purpose. However, the streamlined projectiles fired by the 6.5mm Grendel deliver vastly superior all-around performance, combining improved terminal effects with greatly enhanced capability to "reach out and touch someone" at long distance.

When it was learned in the early 1990s that the Chinese army was planning to field a new family of small arms, it was widely thought that the new weapons would be chambered for the Russian 5.45x39mm cartridge. To the surprise of experts worldwide, the Chinese instead created a unique 5.8x42mm round that, by any objective standards, must be considered the best assault rifle cartridge currently in service. The U.S. Army should take similarly bold action and adopt a new, more capable rifle cartridge so that Soldiers will be better armed to meet the challenges that they will encounter on the diverse battlefields of the 21st century.

Stanley C. Crist served with the 3rd Battalion, 185th Armor, and has worked as a small arms ammunition consultant. He is the author of numerous articles on small arms testing and evaluation, and his work has appeared in *Infantry*, *Armor* and *Special Weapons for Military & Police* magazines. Mr. Crist would like to extend his sincere thanks and appreciation to Woodin Laboratory for allowing specimens from their extensive collection to be photographed.

Velocity (ft/sec) – 20.0" barrel		Range (yards)						Deflection@1000yds
Cartridge	**Bullet**	**0**	**100**	**300**	**500**	**800**	**1000**	**10 mi/hr crosswind**
5.56x45mm	62gr	3100	2762	2156	1638	1107	947	79 in
5.56x45mm	77gr	2720	2483	2047	1660	1215	1040	64 in
6x45mm	90gr	2650	2417	1989	1612	1185	1024	66 in
6.5x42mm	95gr	2700	2229	2013	1622	1182	1018	67 in
6.8x43mm	115gr	2575	2311	1834	1433	1051	930	80 in
6.5x38mm	110gr	2670	2478	2119	1793	1380	1176	50 in

Energy (ft-lbs) – 20.0" barrel		Range (yards)						Maximum Trajectory
Cartridge	**Bullet**	**0**	**100**	**300**	**500**	**800**	**1000**	**when fired to 1000yds**
5.56x45mm	62gr	1323	1050	640	369	169	124	193 in
5.56x45mm	77gr	1265	1054	716	471	252	185	176 in
6x45mm	90gr	1403	1167	791	519	281	210	186 in
6.5x42mm	95gr	1538	1274	855	555	295	219	185 in
6.8x43mm	115gr	1693	1364	859	524	282	221	235 in
6.5x38mm	110gr	1741	1499	1096	785	465	338	146 in

Velocity (ft/sec) – 14.5" barrel		Range (yards)						Deflection @ 1000yds
Cartridge	**Bullet**	**0**	**100**	**300**	**500**	**800**	**1000**	**10 mi/hr crosswind**
5.56x45mm	62gr	2860	2539	1964	1482	1038	908	86 in
5.56x45mm	77gr	2500	2275	1862	1503	1122	987	70 in
6x45mm	90gr	2550	2322	1905	1540	1143	1000	68 in
6.5x42mm	95gr	2600	2363	1929	1550	1140	995	69 in
6.8x43mm	115gr	2500	2241	1773	1384	1030	917	82 in
6.5x38mm	110gr	2485	2301	1958	1648	1273	1104	55 in

Energy (ft-lbs) – 14.5" barrel		Range (yards)						Maximum Trajectory
Cartridge	**Bullet**	**0**	**100**	**300**	**500**	**800**	**1000**	**when fired to 1000yds**
5.56x45mm	62gr	1126	887	531	302	148	114	228 in
5.56x45mm	77gr	1068	884	592	386	215	167	211 in
6x45mm	90gr	1299	1078	725	474	261	200	202 in
6.5x42mm	95gr	1426	1178	785	507	274	209	201in
6.8x43mm	115gr	1596	1282	803	489	271	215	249 in
6.5x38mm	110gr	1508	1293	936	664	396	297	172 in

Pragmatic and Skilled Leadership:
General George H. Thomas at Stones River

CAPTAIN MARCO J. LYONS

Due to requirements of the on-going Global War on Terrorism, the United States military must continue to learn as much as possible about the nature of combat leadership. The Civil War battle at Stones River was intense and bloody, and the stakes could not have been higher for Union General George H. Thomas and the other commanders present. The student of military leadership can learn a great deal from this particularly desperate and fierce contest — countering an overwhelming assault, stabilizing a defense under constant enemy pressure, and turning the tide of a situation that otherwise looks lost. Perhaps more than any other single idea on this topic, the actions of General Thomas at the decisive point of Stones River demonstrate the importance of shaping the battle in a course necessary to achieve victory despite the odds and despite all appearances that suggest imminent failure.

The Union Army of the Cumberland staved off defeat at Stones River and brought the costly battle to a draw before General Braxton Bragg and the Confederate Army of Tennessee were forced to retreat from Murfreesboro. What part did Thomas play in this dramatic reversal of fortune? Did Thomas effectively command his subordinates during the desperate fight to hold the Union center on the first full day of the battle? In what way did he contribute to, or hinder, the Union effort to not be overrun completely, and to finally reestablish the Union center and continue the fight? This research will evaluate General George Thomas' leadership at the bloody but indecisive Battle of Stones River, where he commanded the key Union center wing, according to a profile drawn from elements of the United States Army's current doctrinal leadership framework. Because the framework is so expansive, and because the events under question are nearly a century and a half old, and considering the limited time available for this research, the focus will be on only a part of the overall model: the seven Army values, mental attributes (initiative and judgment in particular), tactical skills, and the leadership dimension of "influencing" (especially the ability to properly motivate soldiers in combat).

U.S. National Archives and Records Administration
Gen. George H. Thomas

United States Army leadership doctrine is based on a leadership model, or framework, outlined in detail in Field Manual 22-100. The leadership framework is composed of numerous categories and dimensions based on the fundamental concepts of character, competence, and action. At its most basic level, the framework is composed of four core categories: values, attributes, skills, and actions. Each of the categories is further divided into a number of dimensions. Under values are loyalty, duty, respect, selfless service, honor, integrity, and personal courage — all fundamental values that have been observed and demonstrated by successful warriors in the past. Attributes are divided into mental, physical, and emotional dimensions. Skills are divided into interpersonal, conceptual, technical, and tactical. Actions are divided into influencing, operating, and improving. Influencing is further broken down into communicating, decision making, and motivating. The Army's leadership framework is meant to be universal, from private to general, across all occupational specialties and branches of service. Most importantly, it provides a common tool for all Army leaders and offers an institution-wide model for thinking about, discussing, and developing desired leadership attributes in all Army leaders. Due to its broad and universal qualities, the leadership framework can also be of use in evaluating the leadership exercised by individuals in the past.

Even an introductory examination of the records that exist for Thomas will show that he exhibited many of the dimensions of Army leadership. The record on Thomas is particularly well preserved because he was especially organized and an excellent administrator, who took pains in producing and maintaining quality written records of his decisions and orders to subordinates. From the evidence available it is clear that his loyalty to the Union was solid and unquestioned despite his Southern birth. Thomas was a career Army officer who aspired to high command and his sense of military duty guided many of his most important decisions. Honor and integrity were hallmarks of Thomas' dealings with peer commanders and superiors. In the Army's leadership framework, under actions, is the dimension of improving, which the Army defines as — in addition to merely accomplishing the stated mission — improving everything entrusted to the leader: subordinates, equipment, facilities, and resources. Apart from being one of the most successful battlefield commanders of the Civil War, Thomas also used his time and efforts to improve many different aspects of Army operations and organization. His accomplishments in the area of improving his institution—the Army — are many.

On more than one occasion Thomas displayed selfless service and an exceptional sense of duty to the Army and the nation by serving in a capacity that was below his rank and experience. After the disaster at Shiloh, Halleck felt compelled to demote Grant and replaced him with Thomas. This placed Thomas in the uncomfortable position of being over his former department commander, Sherman, and made him a target in an ongoing feud between Halleck and Grant. After only a short time, feeling he was being used as a pawn, Thomas asked to be reinstated to his division command. After Braxton Bragg launched his invasion of Kentucky, and after snatching Chattanooga from Major General Don Carlos Buell's advancing army, Halleck succumbed to Buell's critics and ordered Thomas to assume command of the army on Sept. 23, 1862. Again, Thomas felt like the undeserving target of political in-fighting. According to Peter Cozzens in his book *No Better Place to Die: The Battle of Stones River*, Thomas convinced Halleck to rescind the order because Buell was just about to resume operations against Bragg and such a late change in army command would prove unnecessarily disruptive. Only weeks later after the inconclusive fighting at Perryville (Oct. 8, 1862), Buell was finally relieved and Thomas found himself in an uncomfortable position again. Instead of being offered the command that he had only recently turned down, Thomas found that his replacement superior would be Major General William S. Rosecrans, who Thomas believed to be his junior in date of rank. Thomas had again found himself an unwitting player in a political game. This time the Ohio congressional delegation had gotten their "favorite son" advanced to army command while Thomas had the benefit of no Washington lobby. A backdated promotion resolved the issue of seniority and paved the way for Thomas and Rosecrans to meet and agree to put the good of the army ahead of their own individual careers. Thereafter, until Rosecrans was relieved in the wake of Chickamauga, Thomas served his superior ably and wholeheartedly.

The Early Years

George Henry Thomas was born on July 31, 1816, on a family farm near Newsom's Depot, Southampton County, Virginia, in the heart of slave country. Despite his boyhood surroundings, Thomas exhibited progressive ideas concerning human bondage starting from a young age. As a boy he gave the slaves on his family farm Bible and reading lessons against the wishes of his parents, showing both his independent and rebellious side. As a youth he had natural mechanical aptitude and learned quickly by observation alone. This aptitude and his obvious sharp powers of observation probably contributed to his later demonstration of exceptional terrain sense. Although he would later pay dearly in the loss of family relations as a result of his decision to honor his fidelity to the Constitution and fight for the Union, Thomas remained true to Virginia throughout his life.

At the United States Military Academy at West Point, Thomas showed no special brilliance but did perform well enough to graduate 12th out of a class of 42. Although not recognized as a particularly sharp military mind while still at the academy, Thomas did gain recognition for being both a natural horseman and a dedicated cadet who could always be counted on to maintain a dignified military appearance and to faithfully maintain all of his equipment.

While stationed in Florida during his first assignment, Thomas conducted botanical studies and later while stationed at Fort Yuma he conducted zoological studies which received praise from experts — both showing and continuing to develop his extensive powers of concentration and detailed study. Also while in Florida, Thomas won the first of several brevets during his early career, to first lieutenant for his service against Seminole Indians. While serving in the Mexican War (1846-48), after being attached to Captain Braxton Bragg's light artillery battery in Texas, Thomas earned two more brevets primarily for gallant and meritorious service. He was made brevet captain in connection with his participation in the battles of Monterey. Thomas was promoted to brevet major for his bravery at Buena Vista (Feb. 22-23, 1847), where he solidified his reputation as an unusually knowledgeable and skilled soldier. In particular, he was remembered most as the artillerist holding "the angle" at Buena Vista. In 1851 he was appointed artillery and cavalry instructor at West Point, after which he received permanent promotion to major. Having been wounded by an arrow through the flesh of his chin and into his chest during a skirmish with Comanche Indians in 1860 in Texas (he apparently pulled it out himself and went back to work) served to bolster his credibility among soldiers later during the Civil War.

During a seaborne voyage from Charleston to New York, Thomas had an experience which is symbolic of many significant events in his life. The ship was caught in a violent storm off Cape Hatteras at the same time the captain was utterly drunk and incapable of commanding the ship. The first officer explained the situation to Thomas and added that it would be mutiny for him to disobey the orders of his appointed superior. Thomas investigated the situation and after finding the captain unfit for service, confined him to his state room, telling the captain that he would assume all responsibility for the ship. With the help of the first officer, the ship survived the storm. Thomas never declined overall responsibility nor declined command of any sort due to a lack of trust in his own abilities.

Despite his Southern birth he remained loyal to the Union when Civil War was declared. Characteristically, Thomas gave very little evidence of his motivations except to make it clear that his loyalty was to only one country and one flag, and that his oath to defend it against all enemies was inviolable. This very difficult decision, which had to be made by many career Army officers at the time, was made easier due to Thomas' belief in the sanctity of his original oath of service.

The common portrayal of Thomas is as a "non-politician," an astute student of war who always did his "homework," capable, thoroughly dependable, and a winner of every engagement he entered during the Civil War. He is remembered almost universally as "an able and faithful officer." From early in his life as a Military Academy cadet and junior officer, Thomas was known as dependable, stolid, and fully competent by superiors as well as subordinates. History records that Thomas did not cause others to question his abilities.

Was Thomas ultimately too "apolitical" for the Army high command? Whatever the actual causes, it is clear that at least through the early course of the war, Thomas suffered from widespread suspicions (at least among powerful figures in Washington) concerning his Southern birth. Unusually, following Union victory at Mill Springs, which produced a surge in Northern

morale after the unexpected defeat at Bull Run, the commanding general was not even mentioned in the official order of thanks. To be fair, Thomas could be taciturn and was never especially communicative. He was a modest man even though very popular with his soldiers, and engendered fierce loyalty in those who served under him. Even after the war, when his battles turned to fights with the Grant-Sherman clique in Washington over recognition and position in the postwar Army, his most ardent supporters remained the officers and soldiers who had fought under him.

Thomas was known for taking a genuine interest in the morale and welfare of his soldiers despite the fact that his temperament was generally reserved — with soldiers in particular. (He earned one of his many nicknames — 'Old Pap' — from the near constant consideration he showed his soldiers.) He was constantly preparing his men for the harsh realities of battle by small unit sorties rather than parade ground drills. The soldiers understood and responded positively to Thomas' practice of riding his horse alongside the road and leaving the road itself to the marching troops. The fact that he took great pains to ensure effective medical care — he developed the most efficient military hospital of the war where the use of chloroform was standard — also had to have an influence on the soldiers' respect for their commanding general.

Thomas was a serious student of war without being overly intellectual or pedantic. He helped introduce the use of map coordinates in battle planning and helped develop the first folding, portable pontoon bridges. He had the most highly developed telegraphy service of any army during the war and had the most highly developed mess service which later included full time cooks. In these and numerous other technical developments, Thomas was displaying the fruits of an active military mind and the drive of a pragmatic leader.

Thomas was known for being able to travel over very densely wooded terrain and always find his destination. From very early on in his career he demonstrated a superb sense of terrain analysis. It was surprisingly common for commanders during the Civil War (considering the large numbers of academy graduates and professional soldiers in the highest ranks) to devise battle plans that made good use of offensive maneuver but were completely divorced from the reality of the terrain over which they would have to carried out (the Confederates at Shiloh and Bragg at Stones River are just two examples). Thomas was different. He understood the significance of terrain on operations and was constantly analyzing and reevaluating his plans in light of this.

Stones River

On Dec. 26, 1862, General Rosecrans set out from Nashville at the head of the Army of the Cumberland to attack and defeat Bragg's Army of Tennessee, which was then concentrated about Murfreesboro to the east of Stones River. He was motivated by two facts. First, through the skillful efforts of Thomas, the Louisville-Nashville Railroad had been repaired and thus Union supply

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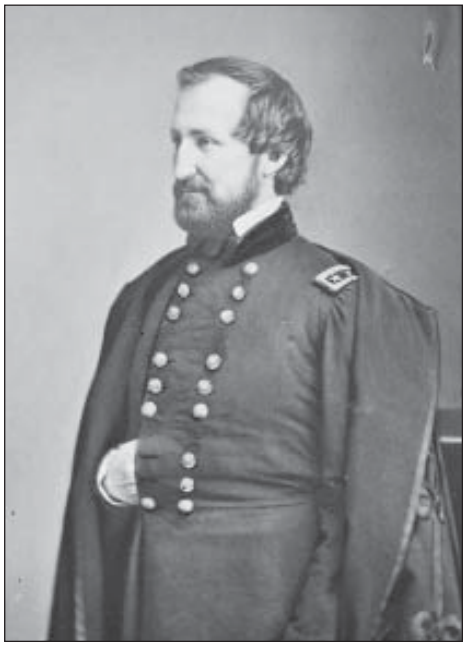
Gen. George Thomas and a group of officers meet near Ringgold, Ga., May 5, 1864.

lines were open again after they had been disrupted by marauding rebel cavalry. Second, Rosecrans had learned that Bragg had just lost an entire division to the Vicksburg area of operations under the direction of Jefferson Davis.

Between Dec. 29 and 30, after discovering that Bragg had not retreated as Rosecrans believed he would, the three Union corps proceeded to occupy their battle positions. Major General McCook's three divisions of the Union "Right Wing" traveled to Stones River by way of Nolensville, then to Triune, skirmishing with Confederate pickets along the way. Brigadier General R. W. Johnson, commanding McCook's Second Division, wrote in his official report: "On the following morning, December 30, General Sheridan's division was ordered to advance in line of battle, covering the Wilkinson pike, while General Davis' division marched in the same order on the right of General Sheridan. My division, being held in reserve, was marched in column on the pike. There being no troops on General Davis' right, and General Sheridan's left being guarded by General Crittenden's left wing, I was ordered to oblique to the right, covering the right of General Davis' division" (taken from *The War of the Rebellion: A Compiliation of the Official Records of the Union and Confederate Armies*). Thus the key Union far right was not anchored on any defensive terrain but essentially hung in the open. Johnson attempted to strengthen his line by refusing his right flank and deploying a robust line of skirmishers toward the enemy. Thomas advanced by way of Brentwood, Nolensville, Stewartsburg, across Stewart's Creek, then to the battlefield along Nashville (also called Murfreesboro) Turnpike. Negley's division, traveling with Major General Thomas L. Crittenden's so-called "Left Wing," arrived at the battlefield and deployed to the right in anticipation of the arrival of the remainder of the "Center Wing." It wasn't until the evening of Dec. 29 that Thomas and Rousseau's division finally arrived behind Crittenden on the Union left (or northern) flank.

Rosecrans was a competent army commander, having graduated fifth in his class at the Military Academy, who was also popular with soldiers and subordinate commanders. Rosecrans planned to assault on his left with Crittenden's corps, dislodge Breckinridge's forces (the Confederate right) and continue the attack south through Murfreesboro and then around to take the force facing McCook (the Union right) in the rear (a plan which was probably overly ambitious given the low state of the troops' experience and quality of junior leadership). In his official report of the battle Rosecrans recorded: "The plan of the battle was to open on the right and engage enemy sufficiently to hold him firmly, and to cross the river with our left, consisting of three divisions, to oppose which they had but two divisions, the country being favorable to an attack from that part of the town."



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Maj. Gen. William S. Rosecrans

At 2100 on Dec. 30 the Union wing commanders met with Rosecrans to receive the plan of battle and final guidance before the upcoming battle. According to Henry M. Cist, author of the valuable *The Army of the Cumberland*, originally published in 1882: "Thomas was instructed to open with skirmishing and engage the enemy's centre with Negley's division of his command and Palmer's of Crittenden's corps, Negley's right resting on Sheridan's left, and Palmer's right on the left of Negley, Rousseau being in reserve. Crittenden was ordered to move Van Cleve's division across the river at the lower ford, covered and supported by the pioneer brigade and at once advance on Breckinridge. Wood's division was to follow — crossing at the upper ford and joining Van Cleve's right — when they were to press everything before them into Murfreesboro. This gave a strong attack from two divisions of Federal troops on the one of Breckinridge's, which was known to be the only one of the enemy's on the east of the river. As soon as Breckinridge had been dislodged from his position, the artillery of Wood's division was to take position on the heights east of the river and open fire on the enemy's lines on the other side, which could here be seen in reverse, and dislodge them, when Palmer was to drive them southward across the river or through the wood. Sustained by the advance of the Centre under Thomas crushing their right, Crittenden was to keep advancing, take Murfreesboro, move rapidly westward on the Franklin pike, get on their flank and rear and drive them into the country toward Salem, with the prospect of cutting off their retreat and probably destroying their army." Rosecrans' orders were that the troops would attack at 0700 on the 31st.

On the eve of the Battle of Stones River, Thomas' center wing was the strongest formation under the Army of the Cumberland, but it had less soldiers available because the troops drawn to guard the army's line of communications came primarily from this command and not from Crittenden's or McCook's. According to his own report, forces available to Thomas at the battle included Rousseau's and Negley's divisions, and Walker's brigade of Fry's division (arrived later after the start of the battle), for a total of about 13,395 effectives. By evening, Dec. 30, only Negley's division occupied battle positions, two lines were drawn up between Palmer's southernmost brigade (Cruft) and Sheridan's northernmost (Roberts) — this being the critical link between the left and right wings. Since only one-half mile separated the brigades of Cruft and Roberts, there was no more room for the center wing to deploy along the front. Rousseau's division of three brigades arrived and took positions as reserve behind Palmer's division, near Rosecrans' army headquarters, around 1030 on Dec. 30 after marching from Stewartsburg. Rousseau's entire division was designated a reserve because of Rosecrans' anticipated offensive against the Confederate right on the east side of Stones River. So, as of late Dec. 30, of Thomas' center wing (nominally at a strength of five divisions) only Negley's division was forming the Union center battle line. Rousseau's division was the reserve located behind the Union left

wing, behind what Rosecrans planned to be his main effort for the next day's attack.

It is no accident that Thomas was named to lead the largest wing of The Army of the Cumberland — the left and right wings each contained three divisions under Major General Crittenden and Major General McCook respectively. Rosecrans openly admired Thomas and depended on his experience in the west. Rosecrans' description of his wing commander from his battle report includes an especially apt summation: "…Major General George H. Thomas, true and prudent, distinguished in council and on many a battlefield for his courage." Thomas was already a proven battle leader in the Western theater as a result of his decisive victory over Crittenden's brother at the battle of Mill Springs, Jan. 19, 1862. While in command of an independent force in eastern Kentucky, Thomas had gained the first important Union victory of the war. After marching his troops for 18 days along muddy roads in foul weather, from Lebanon to Logan's Cross Roads, Kentucky, Thomas beat back and finally defeated Crittenden with well-coordinated and timely counterattacks. The battle permanently broke the South's hold on Kentucky. Rosecrans demonstrated his faith in the capabilities of Thomas from the start of their professional relationship. In his book *The Life of General George H. Thomas*, author Thomas B. Van Horne said, "Soon after assuming command of the army, General Rosecrans offered to continue General Thomas in his position as second in command, but he preferred a distinct, defined office, and consequently was assigned to the command of the 'Centre,' composed of four divisions, with Generals Rosseau, Negley, Dumont and Fry as commanders." Rosecrans apparently accepted freely his reliance on Thomas' experience, competence, and reputation for completing any mission.

The terrain to the west of Murfreesboro did not support a Confederate defense. The road network converged on the town from the northwest, west, and southwest which only encouraged an attacker from the west to maneuver against the flanks of a defender in front of Murfreesboro. In his book, Cist described the battlefield this way: "Murfreesboro is situated on the railroad to Chattanooga, 30 miles southeast of Nashville, in the midst of the great plain stretching from the base of the Cumberland Mountains toward the Cumberland River, and is surrounded by a gently undulating country, exceedingly fertile and highly cultivated. Leading in every direction from the town are numerous excellent turnpikes. Stone's River — named after an early settler — is formed here by the middle and south branches of the stream uniting, and flows in a northerly direction between low banks of limestone, generally steep and difficult to cross, emptying into the Cumberland. At the time of the battle the stream was so low that it could be crossed by infantry everywhere. The Nashville Railroad crosses the river about 200 yards above the turnpike bridge. At some 500 yards beyond, it intersects the Nashville turnpike at a sharp angle, then runs some 800 yards between the pike and the river, when the stream turns abruptly to the east and passes to the north. Open fields surrounded the town, fringed with dense cedar-brakes. These afforded excellent cover for approaching infantry, but were almost impervious to artillery." Obstacles in many different forms filled the battlefield, most significantly Stones River itself running north-south. The rolling hills created many areas of high ground (namely, Wayne's Hill on the east bank of Stones River, the high ground north of Murfreesboro between Nashville and Lebanon Pikes, the high ground west of the area where Salem Pike crossed the railroad, and the high ground near the Gresham farm) which became key terrain to both sides due to the sweeping fields of fire they afforded artillery batteries.

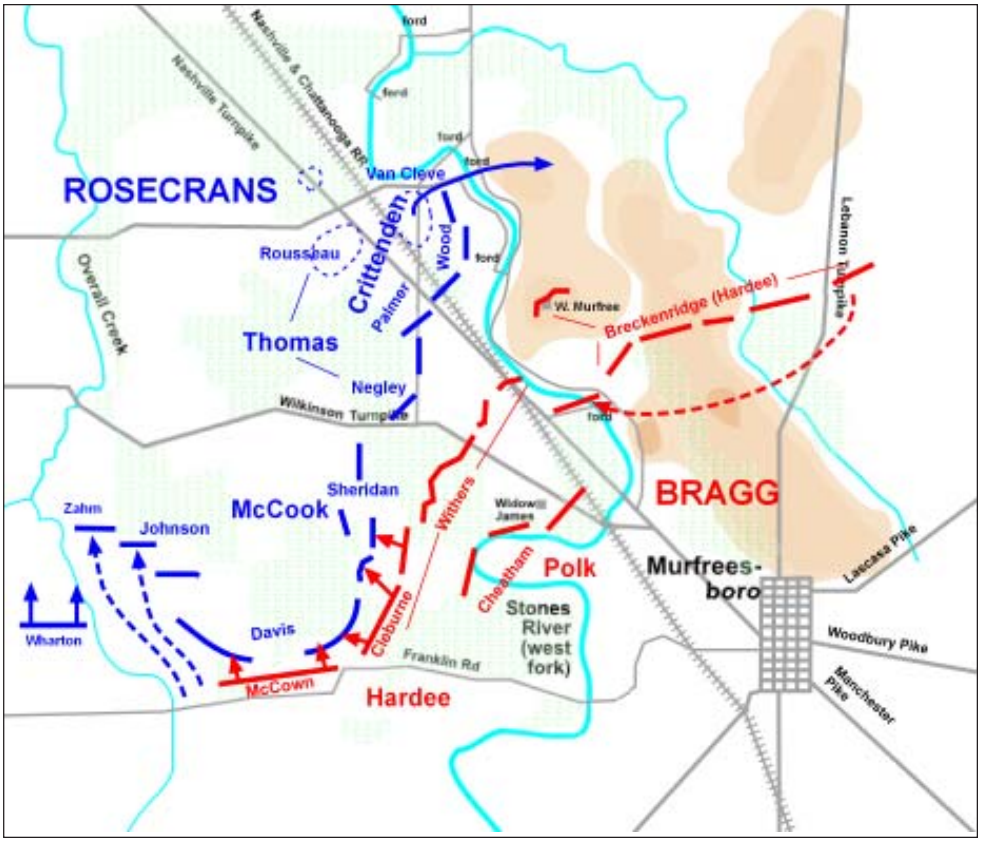
The armies involved were roughly matched in size and both had roughly the same proportion of raw to experienced troops. From the reports collected in the official records, it is also clear that both sides were fairly well apprised of the other's positions.

The armies involved were roughly matched in size and both had roughly the same proportion of raw to experienced troops. From the reports collected in the official records, it is also clear that both sides were fairly well apprised of the other's positions. Cist wrote that as Dec. 30 came to a close, troops along both battle lines knew that the next day would witness a terrible and fierce struggle. While the troops readied themselves in whatever way they could, Rosecrans was envisioning his version of the epic and composed stirring words to be distributed throughout the Army of the Cumberland. In his General Orders issued before the battle, Rosecrans said, "Soldiers, the eyes of the whole nation are upon you; the very fate of the nation may be said to hang on the issue of this day's battle. Be true, then, to yourselves, true to your own manly character and soldierly reputation, true to the love of your dear ones at home, whole prayers ascend to God this day for your success. Be cool! I need not ask you to be brave. Keep ranks. Do not throw away your fire. Fire slowly, deliberately; above, all, fire low, and be always sure of your aim. Close steadily in upon the enemy, and, when you get within charging distance, rush on him with the bayonet. Do this, and the victory will certainly be yours."

Bragg's initial deployment was poor. Most alarming of all was that both Stones River and the Nashville and Chattanooga Railroad bisected the Confederate battle line. High ground to the front had not been secured before the arrival of Union forces. The broken and compartmentalized terrain severely hindered organization and communication — both of which were critical to the success of the rebel battle plan. Bragg also failed to have his units entrench — only in the center did Confederate commanders take it upon themselves to construct hasty field works stretching one half mile north and south of Wilkinson Pike. Bragg arrayed his three wings roughly from northeast to southwest, Breckenridge's division (nominally part of Hardee's corps though he was on the other end of the battle line) held the right on high ground from Stones River to Lebanon Pike. Pegram's cavalry screened the extreme right. Polk's corps (of Cheatham's and Withers' divisions) held the Confederate center. The arrogant but less than brilliant Polk seemed to only obey Bragg when it suited his own aims, and in this insubordination he enjoyed the protection of his good friend in Richmond, Jefferson Davis. The center held a piece of both wooded and open ground on a sharp salient on the west side of Stones River through which ran both Nashville and Wilkinson Turnpikes. So the Confederate center and right were separated by both natural and

manmade obstacles. Hardee's remaining two divisions of Cleburne and McGown held the left in that order from center left to far left, also with Stones River to their rear. Wharton's cavalry screened the extreme left in the direction of Triune.

Both commanders devised similar battle plans and both plans were equally ambitious and unrealistic. Bragg's plan of battle directed his entire left and center to assail the enemy's right flank by wheeling right, pivoting on Lieutenant General Polk's right — which sat on the point where the Nashville Pike crossed the Nashville and Chattanooga Railroad — as an anchor. Hardee's corps, stretched south of Polk's, would lead the assault with the aim of pinning the bulk of the Union army against Stones River. Various arguments have been made concerning Bragg's overall battle plan, such as the accusation that the terrain was poorly suited to the offense and that the maneuver called for in the plan seemed better suited to a parade ground. Whatever merits his position and battle plan may have had, his battle plan failed and the terrain had a fundamental role in that failure.



Maps by Hal Jespersen from www.wikipedia.org

Map 1 — Map of Stones River on Dec. 31, 1862, at 0800

Thomas suspected before the battle began that the enemy would attack McCook. In response, he ordered an engineer unit to clear routes through the thick woods in his sector which would prove decisive during the ensuing battle because it allowed Thomas to maneuver both infantry and artillery freely through the cedar breaks in the center where otherwise no organized movements of any kind would have been possible, according to Thomas B. Buell in his book *The Warrior Generals: Combat Leadership in the Civil War*. Thomas' earliest combat experiences, at least as far back as his observations at the siege of Fort Brown as a lieutenant, taught him the supreme importance of proper and detailed preparations. While still a division commander early on in the war, Thomas refused to carry out orders to invade east Tennessee on the grounds that his soldiers were not yet fully trained, according to Burtt. His propensity to prepare in-depth for operations meant that the Confederates would not easily sweep away the Union center wing.

Around 0600 on Dec. 31, Hardee's corps launched an all-out assault against McCook's wing on the Union right. (See Map 1.) The divisions of Johnson and Davis bore the initial brunt of the attack. According to official records, the extreme Union right was overwhelmed by a large infantry force and a supporting cavalry force (elements of Wharton's brigade) on the extreme western part of the battle lines. Soldiers fled in panic as entire formations from McCook's wing broke up and retreated in disorder. An artillery battery commander who fell captive to the advancing Confederates reported: "The infantry, our support, gave way on the front and flank in disorder, almost with the first volley." McCook was for the most part absent from his sector that morning. He had already been made aware that his line might be the target of the main Confederate attack but, from a review of the official records, he did not make any special preparations. He probably made the foolish assumption that since General Crittenden's wing was tasked with opening the Union offense, whatever potential threat that faced his wing could be discounted. Although Johnson readied his lead two brigades for an enemy attack, he was not given any special guidance or support from McCook.

Bragg's grand attack — divisions attacking in echelon, wheeling right — began to break down soon after it was under way. The terrain broke up the formations and made coordination between regiments almost impossible. According to Thomas' report of the battle, at the same time that Bragg's left corps attacked and drove back McCook's unprepared regiments, so far that the enemy were able to wheel north and dislodge the southern flank of Thomas' center, Negley's and Palmer's divisions were attacked in strength to their front. While Hardee launched into the Union right, Van Cleve and his force crossed Stones River in the north to lead Rosecrans' anticipated attack.

Mounting sounds of battle easily reached Rosecrans on the Union left. Advancing Confederates were heard by Major General Rousseau and others along the entire Union lines, as the sounds indicated the enemy was advancing then swinging around into the rear. After Rosecrans, who was posted behind the left supervising Crittenden's forces, had finally been convinced by a staff officer that disaster was befalling his right wing, he suspended Crittenden's advance and raced to the center where he found Thomas and called Rousseau's division into the fight to halt the charging Confederates. It is no surprise that at that moment when Rosecrans realized the precarious position of his entire army he

turned to his most expert commander in the center. Cist wrote, "As the storm of battle passed down the line it reached Thomas, who cool, calm, and self-sustained, stood the test of one of the fiercest contests of the war. It was to him that Rosecrans first turned in the hour of disaster and in him he trusted most."

Sheridan commanded the Third Division of McCook's wing and formed the key link between the retreating right and Thomas' center. Sheridan's men had already fought their way forward the day before to a position two and a quarter miles from Murfreesboro against Confederate skirmishers until ordered by McCook to form battle line. In the very early hours of Dec. 31 after a report of noisy enemy activity to his front (probably the sounds of Cheatham's men preparing for battle), Sheridan deployed more of his reserves to bolster his lines, and by 0400 that morning his men were in battle positions. The hasty withdrawal of Davis' and Johnson's forces completely exposed Sheridan's right flank to enemy fire. After his brigades exhausted their ammunition and the capture of an ammunition train, Sheridan ordered bayonets fixed. Rosecrans wrote in his battle report: "Sheridan, after sustaining four successive attacks, gradually swung, his right from a southeasterly to a northwesterly direction, repulsing the enemy four times, losing the gallant General Sill, of his right, and Colonel Roberts, of his left brigade, when, having exhausted his ammunition, Negley's division being in the same predicament, and heavily pressed, after desperate fighting, they fell back from the position held at the commencement, through the cedar woods, in which Rousseau's division, with a portion of Negley's and Sheridan's, met the advancing enemy and checked his movements."

A lack of ammunition forced Sheridan's weary soldiers to finally withdraw from their key position in the sharp salient caused by the retreating right wing and to the left of Crittenden who still occupied his original position. The Confederates recognized the gap between Rousseau and Negley caused by the withdrawing Sheridan and began stepping up the pressure, trying to bring the full weight of their numbers on this potential seam and break it wide open. Confederate forces had paused shortly to resupply and reorganize as much as possible after driving McCook back more than two miles. Instead, the Union regiments held by defending successive lines organized by Thomas and maximizing the use of terrain, specifically protective terrain such as depressions and natural obstacles. In concert with these successive defensive lines — in effect, an organized defense in depth — Thomas sited his artillery in prepared positions with sweeping fields of fire to bring fires raining down on the advancing rebels and in support of the hard pressed infantry. From Thomas' own extremely modest report of the battle, he said, "As it became necessary for General Sheridan to fall back, the enemy pressed on still farther to our rear, and soon took up a position which gave them a concentrated cross-fire of musketry and cannon on Negley's and Rousseau's troops at short range. This compelled me to fall back out of the cedar woods, and take up a line along a depression in the open ground, within good musket-range of the edge of the woods, while the artillery was retired to the high ground to the right of the turnpike. From this last position we were enabled to drive back the enemy, cover the formation of our troops, and secure the center on the high ground." Thomas began stabilizing the Union center by sending Rousseau's reserve division to Sheridan's right and ensuring that Negley held his ground just north of Wilkinson Pike against Polk's piecemeal attacks.

Thomas directed his subordinates skillfully and in person, using prompt and uncomplicated orders. Negley wholeheartedly commended Thomas' leadership in his official report of the battle where he noted that his commanding general was up front, exhibiting his usual courage and "cool determination." An examination of the reports from Thomas' other subordinates indicates that Thomas was present in his sector and always seemed to appear where key decisions needed to be made. Rousseau, for example, recorded that the two met and deliberated together over exact unit dispositions and actions under the heat of battle, including the seizure of key terrain to deny its use by the enemy.

Thomas' calm and controlled behavior — so important to the morale of soldiers in battle, when coupled with competency — allowed the Union center to reform and repulse one Confederate attack after another. Thomas was personally present with or very nearby while Rousseau and his brigades repulsed numerous determined Confederate assaults in an attempt to break the Union center. Thomas did not get overly excited like Rosecrans and was not prone to giving ambiguous or unintelligible orders. He was not very talkative at all, in fact, even in the thick of battle. Although his brigade fought hard and diligently, at one point during the battle, Colonel Scribner ordered his men to disperse due to sharpshooters and effective enemy artillery, and to reform on the Wilkinson Pike. Realizing that Thomas was in view and might mistake the situation for a retreat, Scribner rode over to the general to explain that his men would be reforming and asked if the general had any further orders. According to Larry J. Daniel in his book *Days of Glory: The Army of the Cumberland, 1861-1865*, Thomas replied in his typical manner, without expression, "No, reform on the pike."

Thomas was a patient, steadfast commander. He had that rare ability to imbue his subordinate leaders and soldiers with a rock-steady confidence that he himself genuinely shared. "Under Thomas, the Centre of the army evinced, in a marked degree, the staying qualities of that commander, which afterward were shown so conspicuously at Chickamauga," according to Cist. Thomas' determined command influence created a climate that allowed his soldiers to steel themselves under enemy attack and fight back even following high profile setbacks. He had both appeal and credibility among the troops which was unusual for a successful high-level commander of the period.

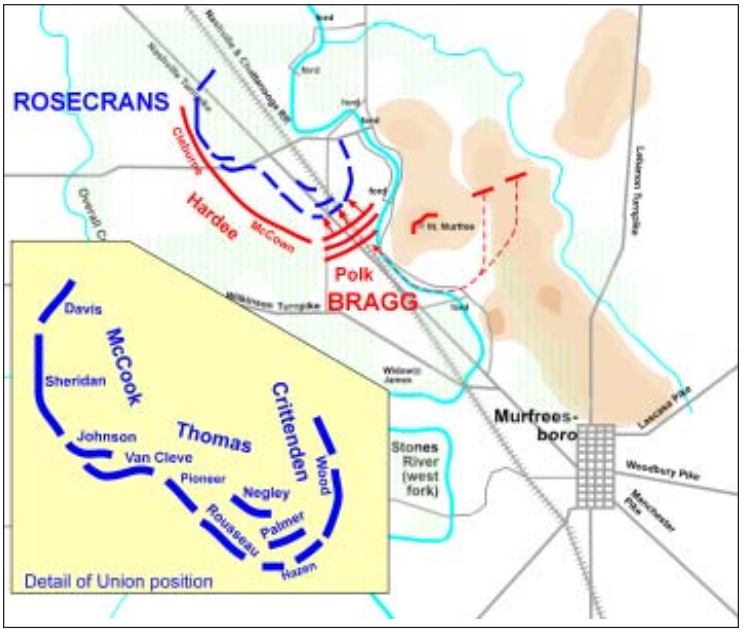
Though pushed back, the Union center was not broken which ultimately led to an opportunity to break the Confederate assault once it had culminated. Polk made a serious tactical error by committing his forces to the fight in the center piecemeal instead of concentrating for a coordinated attack. As a result, by mid-afternoon, Polk's assault broke apart, lost momentum, and was finally repulsed by Union soldiers under Colonel W. B. Hazen holding the Round Forrest, which was also called "Hell's Half Acre" by the soldiers who fought there.

As things turned out, even though Bragg had advanced in overwhelming force and smashed his enemy's entire right flank, he had also reduced the Union forces into a

tight and compact salient. Even worse, Rosecrans, Thomas, and a majority of the Army of the Cumberland stood ready as ever to repel any further enemy assaults, said Cleaves. Although the Union right had been completely routed over two miles from their original positions, this accomplishment was won at a fearful cost in Confederate lives. According to Colonel David Urquhart, a member of Bragg's staff, of the first half-day's fighting: "Our attack had pivoted the Federals on their center, bending back their line, as one half-shuts a knife-blade." The Union right, then center had been pushed back over two miles like a great door, the hinge of which was Palmer's division under General Crittenden which sat just north of the Round Forrest. At the most disheartening point of the battle for the Union side, around 1600 on Dec. 31, Rosecrans had his right and center pushed back so far north of the Wilkinson Turnpike that the Union position was crammed into a space of about a mile and a half from side to side, within a mile of Stones River. (See Map 2.)

After realizing Polk had failed to break the enemy center, Bragg called on his only reserve — Breckenridge's division still deployed on the Confederate right. Although it is reasonable to assume Bragg believed he was very close to breaking the Union center and thus collapsing the Union lines and severing Rosecrans line of communication, Bragg took his only intact formation of any size and sent it directly into the strongest and most firmly held spot on the battlefield — the Round Forest and Thomas' well organized center wing. Bragg made the mistake of making no attempt to probe and find a weakness first in the enemy's line, according to Buell. As it turned out, Breckenridge's brigades were decisively beaten after failed frontal attacks against Hazen's brigade still defending the Round Forrest. Nightfall finally concluded the first full day of battle.

All day on Jan. 1 both armies adjusted their lines but declined to renew operations. Finally, in the afternoon of Jan. 2 Bragg gave the order to Breckenridge to attack Van Cleve's division (Crittenden's Third Division, now commanded by Colonel Beatty) which had crossed Stones River and occupied a knoll overwatching the Confederate right wing. Van Cleve was forced from the high ground and, left unsupported, withdrew back across the river. As Breckenridge's victorious soldiers crested the knoll they were met by the concentrated fire of 58 cannons in position on the opposite side of the river. After seeing the enemy lines reel from the mass fire, some of Crittenden's soldiers spontaneously charged back across the river and routed what remained of Breckenridge's division. (See Map 3.) On Jan. 3, after initially refusing to cede the battleground, Bragg ordered a withdrawal under the cover of darkness in the direction of Tullahoma. Official records indicate that on Jan. 4, Rosecrans reported to higher headquarters that the enemy was in full retreat and that the Union center led the pursuit.

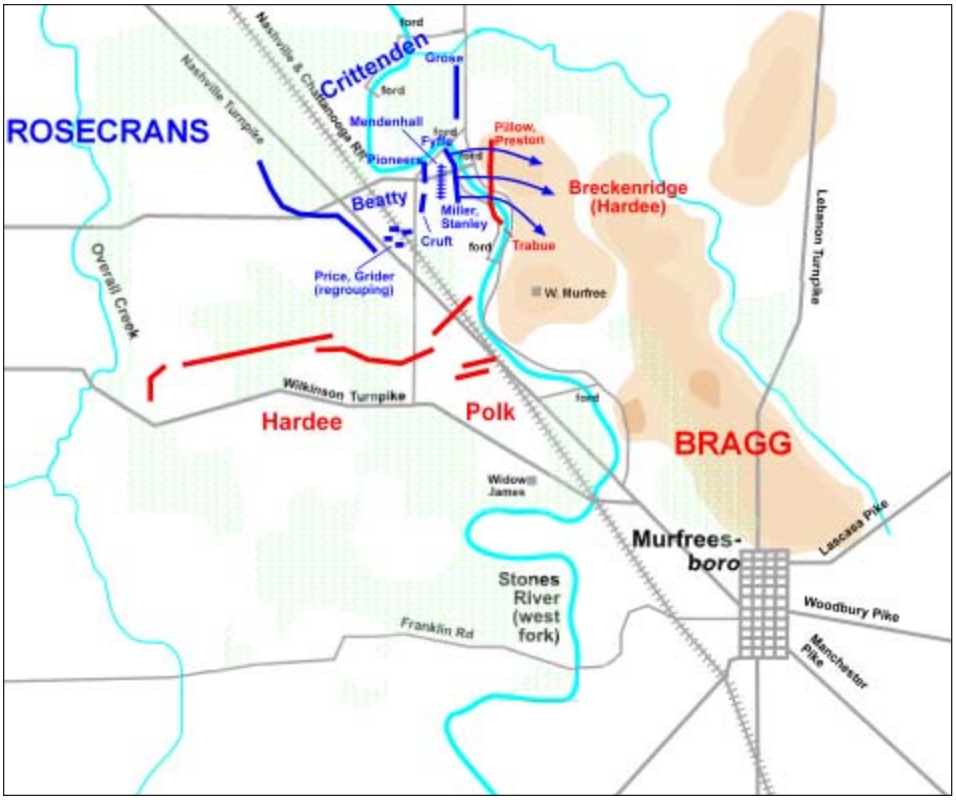


Map 2 — Map of Stones River on Dec. 31, 1862, at 1600

In all significant ways the Battle of Stones River was a costly draw. Of the approximately 43,000 Union soldiers and 37,000 Confederates engaged at Stones River, approximately 12,000 Federals and 10,000 rebels became casualties, or roughly 27 percent for each side. The fighting was so fierce along Sheridan's front that he lost all three of his brigade commanders. Yet still the Union could call it a triumph of sorts. Major General Crittenden recorded this impression: "As in most of our battles, very meager fruits resulted to either side from such partial victories as were for the most part won. Yet it was a triumph. It showed that in the long run the big purse and the big battalions — both on our side — must win; and it proved that there were no better soldiers than ours." As debilitating as Stones River was with respect to casualties — it ranks with Gettysburg, Chickamauga, and Antietam as one of the costliest battles of the war — it nonetheless served an important purpose of bolstering the morale and fighting spirit of the Union army in the west.

Although militarily not a victory at all, Stones River was nonetheless the "non-loss" that President Lincoln needed at the time — following the costly disasters at Fredericksburg and Chickasaw Bayou. On Jan. 5, Lincoln composed a letter to Rosecrans thanking him for his effort: "Please tender to all, and accept for yourself, the nation's gratitude for your and their skill, endurance, and dauntless courage." General-in-Chief Halleck's response, from Jan. 9, included: "The victory was well earned and one of the most brilliant of the war. You and your brave army have won the gratitude of your country and the admiration of the world. The field of Murfreesborough is made historical, and future generations will point out the places where so many heroes fell, gloriously, in defense of the Constitution and the Union."

General George H. Thomas' leadership of the Union center at the Battle of Stones River presents a compelling example of Army leadership that is especially instructive to soldiers today. The survival of the Union army hinged on the ability of the center to reform itself quickly under significant enemy pressure. Following the initial Confederate assault, Union forces, after a furious defense, took up a new line of defense running roughly along Wilkinson Turnpike perpendicular to the original battle line. To accomplish this required a commander who was adept at quick tactical decisions, a quick appraisal of the terrain and situation, and a strong will to ensure subordinate units moved and acted as necessary. Thomas' biographer Thomas B. Van Horne wrote: "Battles are won in a general way by the aggregate force of all operations to which every officer who gives or obeys an order, and every soldier who fires a cannon or a musket, makes a contribution. However, in an engagement of marked



Map 3 — Map of Stones River on Jan. 2, 1863, at 1645

emergencies the action of a brigade, division, or corps often stands out distinctly as saving an army. The crisis at the centre was so distinct, that its mastery brought General Thomas and his five brigades into boldest relief, as having saved the army. The prompt dispositions of the commander, and the steadiness and bravery of the subordinate officers and men under circumstances which have often brought confusion to generals and panics to soldiers, give the greater prominence to their action. General Thomas gained greater distinction in other battles, but never did he meet a crisis with more promptness and skill."

Thomas was an officer who regularly displayed integrity and a solid sense of duty and at the Battle of Stones River in particular, his profound sense of duty and common sense approach to tactical problems served to bolster the Union center and break the Confederate offensive. Thomas used initiative and his exceptional judgment to reconnoiter his sector of the Union line early and made key decisions concerning the preparation of the field for battle. He identified key terrain that afforded effective fields of fire to his artillery which he correctly assessed would prove decisive in the coming battle. Thomas relied on all of his considerable tactical skills and experience to successfully employ his units in a prepared defense in depth along successive lines operating over difficult terrain. Thomas successfully communicated the purpose of the defense his soldiers were being required to make and motivated them through his personal presence and example to remain organized and in communication.

Thomas was among the best combat leaders of the war. Unfortunately he is too often characterized as merely a superb defensive fighter — and in fact, he was probably unsurpassed as a defensive commander by any other Civil War leader. Although he was well suited to the defense, where maximum use could be made of his abilities to orchestrate in-depth preparations, his later victory at Nashville proved Thomas understood the fundamentals of the offense as well. In many primary and secondary accounts, Rosecrans receives the lion's share of credit for moving ceaselessly along his lines during the critical fighting of Dec. 31, encouraging his soldiers and given direct (sometimes too direct) guidance to his subordinates. After all, it was Rosecrans who received an official "Thanks from Congress" (on March 3, 1863) for his actions at Stones River. Still, and despite this, it is clear from a detailed study of the battle that General Thomas—before winning the sobriquet "The Rock of Chickamauga" — through his deliberate preparations, foresight, aggressive and successful leadership, held the Union center at Stones River against the odds and won the battle for the Union.

Captain Marco J. Lyons is a 2001 graduate of Officer Candidate School. He served as a Bradley platoon leader, support platoon leader and HHC executive officer with the 1st Battalion, 26th Infantry, 1st Infantry Division (Mechanized). He is currently assigned to the 10th Mountain Division serving as the Combined Joint Task Force - 76 CJ3 executive officer in Afghanistan.

A list of references for this article is on file with *Infantry* Magazine.

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A sketch shows the charge of the Col. M.B. Walker's 1st Brigade during the Battle of Stones River on Jan. 2, 1863.

The Kneeling Position

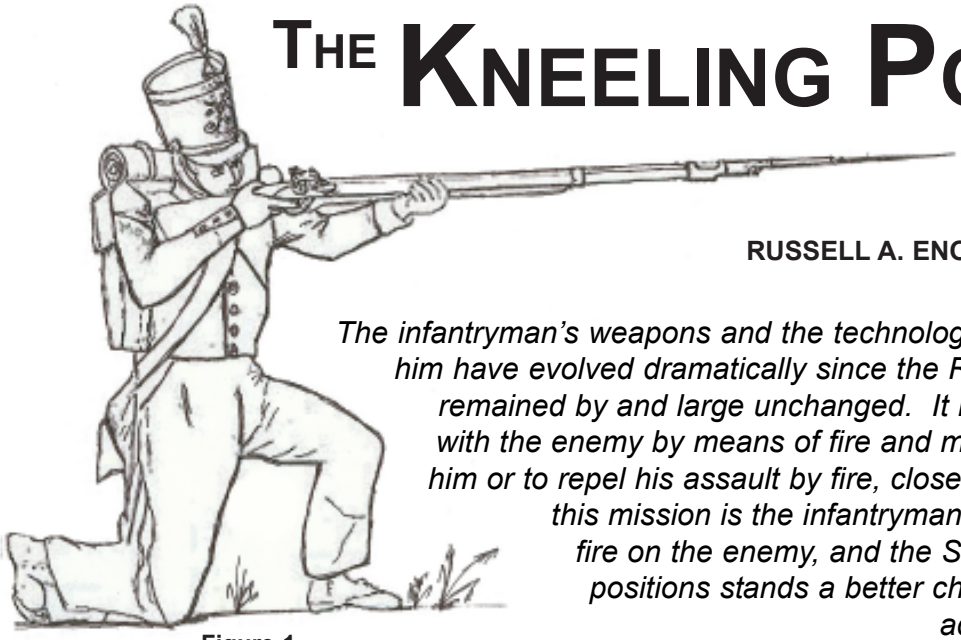


Figure 1

RUSSELL A. ENO

The infantryman's weapons and the technology and weapons systems that support him have evolved dramatically since the Revolutionary War, but his mission has remained by and large unchanged. It is still the infantryman who must close with the enemy by means of fire and maneuver in order to destroy or capture him or to repel his assault by fire, close combat, and counterattack. Central to this mission is the infantryman's ability to place accurate small arms fire on the enemy, and the Soldier who can master several firing positions stands a better chance of killing or incapacitating his adversary.

Learning the four fundamentals of marksmanship — a steady firing position, aiming, breath control, and trigger squeeze — and firing from the individual foxhole supported and basic prone unsupported firing positions will enable the Soldier to develop confidence in himself and his weapon. Once he has mastered these basic positions, he is ready to apply the four fundamentals to other more advanced firing positions. These include the alternate prone, kneeling supported, kneeling unsupported, and standing positions. Combat in specialized surroundings such as the urban environment, on mountainous terrain, or in forests may dictate other firing positions, but these will be mostly variations of the prone, kneeling, and standing modes. One of these firing positions — the kneeling — is receiving increased attention in today's marksmanship training, since it offers the best opportunity for engaging targets while reducing Soldier's vulnerability.

Given the urban nature of the contemporary operational environment, the kneeling position offers a good compromise between the stability of the prone position and the ability to engage quickly, as from the standing mode. The prone is steady and reduces the Soldier's profile, but may restrict his field of vision on uneven ground, and while firing standing permits rapid engagement of targets it exposes the shooter to enemy fire and is less stable than any other position. The kneeling position reduces the shooter's visible profile, lets him better see around and over uneven terrain and rubble, and affords him a greater degree of stability. Once he has successfully engaged his target, the Soldier can rise and move out more rapidly from a kneeling mode than he can from the prone.

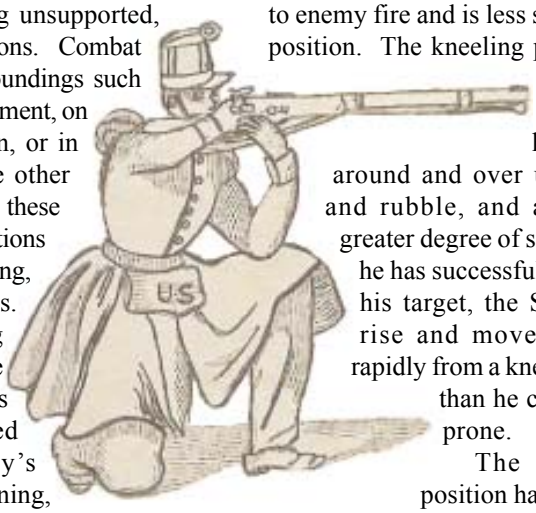


Figure 2

The kneeling position has been around for a long time, and predates even the American Revolution. One of the earliest U.S. illustrations of how the kneeling position should look (Figure 1) appeared in *Infantry Tactics* in 1835. Note that, aside from lowering the shooter's profile, it offers little in the way of stability. Figure 2 is from *Hardees Rifle and Light Infantry Tactics* dating from 1862 and shows the rifle supported by the left arm with the elbow resting on the knee. This, and the lowering of the right upper leg onto the heel, both steadies the aim and further lowers the shooter's profile. *Upton's United States Army Infantry Tactics* of 1866 shows the weapon, somewhat muzzle-heavy, supported by the left elbow resting on the shooter's knee and the left hand between the rear sight and the second barrel band, which

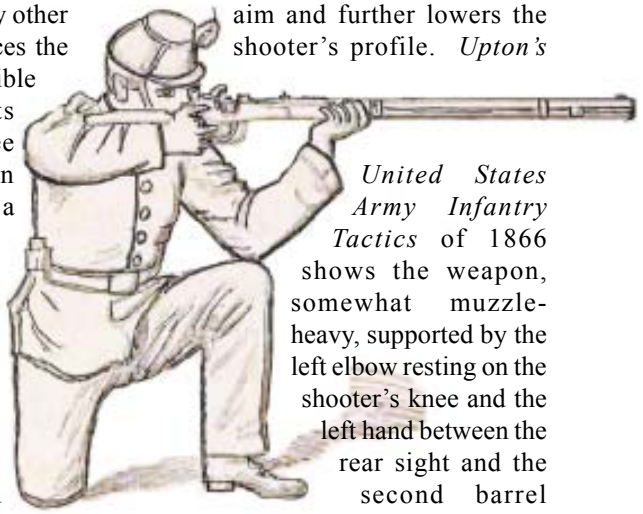


Figure 3

Figure 4

Figure 5

better controls side-to-side movement.

Few if any changes to the kneeling position took place until the turn of the century, when the United States Army recognized the value of the rifle sling as a component of marksmanship and began training troops in its use. Figure 4 shows the sling kneeling position of a Soldier firing the United States rifle, Model of 1917, one of two rifles issued to U.S. troops in World War I. Figure 5 shows the same position, this time using a building as support. Both are taken from the late Colonel Townsend Whelen's 1918 book, *The American Rifle,* and illustrate the stability and low silhouette possible with the kneeling position. The shooter sits on his right heel, the support hand is far enough forward to support the rifle at the point of balance, and the right forearm is parallel to the ground to facilitate a trigger pull straight to the rear.

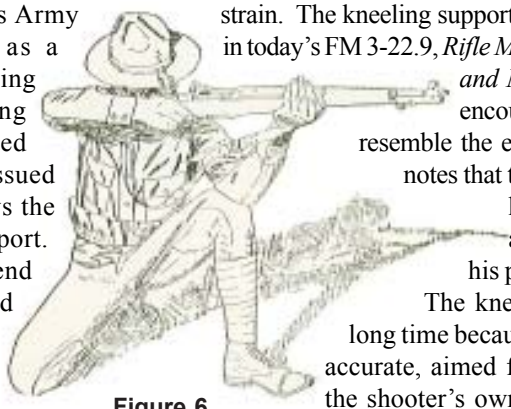


Figure 6

Field Manual 23-5, published in 1940 to train Soldiers on the U.S. Rifle, Caliber .30, M1— the Garand to most of us — taught the kneeling position with sling shown in Figure 6, and authorizes sitting on the side of the right foot instead of the heel to reduce strain. The kneeling supported and unsupported positions illustrated in today's FM 3-22.9, *Rifle Marksmanship M16A1, M16A2/3, M16A4, and M4 Carbine,* (Figures 7 and 8) likewise encourage the use of the sling and generally resemble the earlier FM 23-5 techniques. FM 3-22.9 notes that this position enables the Soldier to adjust his height as necessary to take advantage of available cover, something his predecessors probably did in every war.

The kneeling position has been with us for a long time because it is an effective means of delivering accurate, aimed fire against the enemy while reducing the shooter's own vulnerability. We have long known that effective fire is a function of accuracy rather than volume, because unless the enemy is killed or otherwise incapacitated he will remain a threat to our Soldiers, and will continue to impede our ability to accomplish the Infantry's mission.

Figure 7

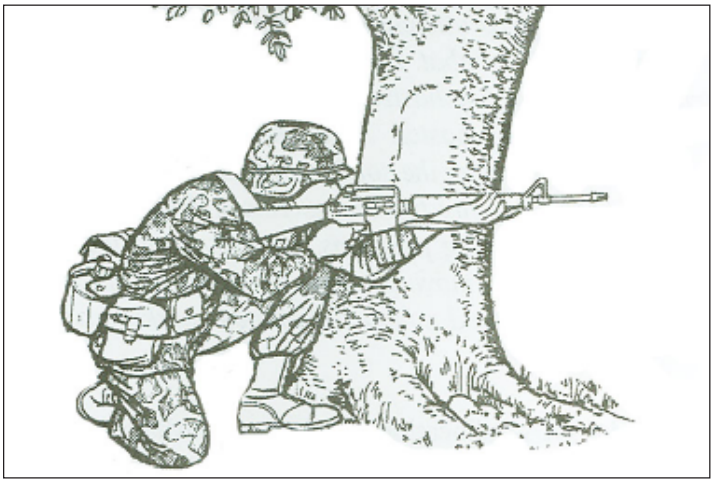


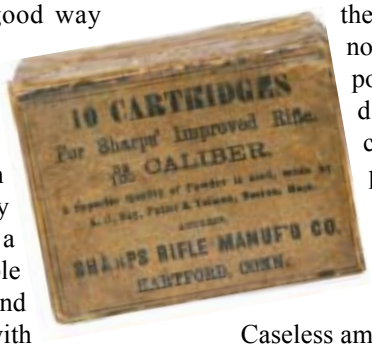
Figure 8

Caseless Ammunition:

The Future is Now

RUSSELL A. ENO

The subject of ammunition is always good way to get a discussion started, and any technological advance that proposes to radically change the way we do business will attract attention. With that in mind, let's look at the subject of caseless ammunition, an idea that has been around in one form or another for at least a century and a half. The American Civil War saw a proliferation of attempts at developing combustible cartridges that were self-contained, could withstand handling, and which presented minimal problems with bore fouling. The powder charge and bullet were enclosed in either paper, linen, a covering processed from animal intestines, or other material that could be easily wrapped and folded. These rounds were usually unprimed, and were fired by a percussion cap once chambered. Figure 1 shows a number of Civil War rounds that illustrate different techniques of manufacture. Although innovative for their time, they were not without their limitations: nitrated paper, while rigid and easily handled, tended to absorb moisture from the air which both compromised the strength of the paper and affected the burn rate of the black powder propellant. Shellac offered better protection from moisture, and hence was also used. The .52 caliber Spencer copper-cased cartridge is shown only to illustrate the transition between combustible cartridges and the fixed ammunition in use today.



Rounds of today's caseless small arms ammunition differ from the small arms ammo we all know, in that there is no primed brass or steel cartridge case to hold the powder and bullet. Caseless rounds currently under development and testing instead consist of a cylinder of solid propellent that holds the projectile and primer and which leaves no fired case requiring extraction and ejection. Figure 2 represents a schematic diagram of a typical caseless round as envisioned by the German firearms manufacturer Heckler & Koch (H&K).

Caseless ammunition can be a great deal lighter and cheaper than conventional rounds, because the heaviest — and most expensive — component of present ammunition is the brass or steel cartridge case. Less weight means the Soldier can carry a greater basic load without increasing his combat load above what he now carries. Lower weight will also reduce the logistics burden by making bulk shipments of ammo lighter and requiring less space than that required for conventional Class V.

The development of caseless ammunition has required overcoming a number of technical problems. Foremost among these is the stability of the propellant compound; it must be impervious to moisture, tough enough to resist handling without chipping or crumbling, resistant to cooking off in a weapon heated by prolonged rapid or automatic fire, and it must be tolerant of extremes of climate and temperature. The progressive burning nitrocellulose rifle powders of today deliver

Rounds photographed provided by David S. Stieghan

From left to right: 1) .52 Cal. Sharps Nitrated Linen 2) .52 Cal. Spencer Copper 3) .58 Cal. Mucilage Glue Binder 4) .58 Collodion Binder 5) .58 Cal. Nitrated Paper 6) .52 Cal. Sharps Nitrated paper.

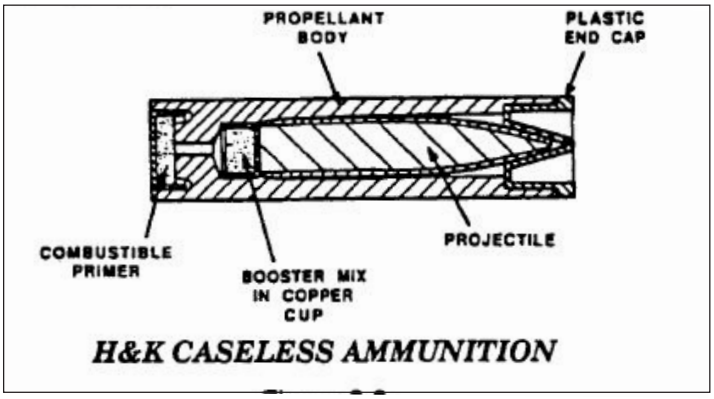


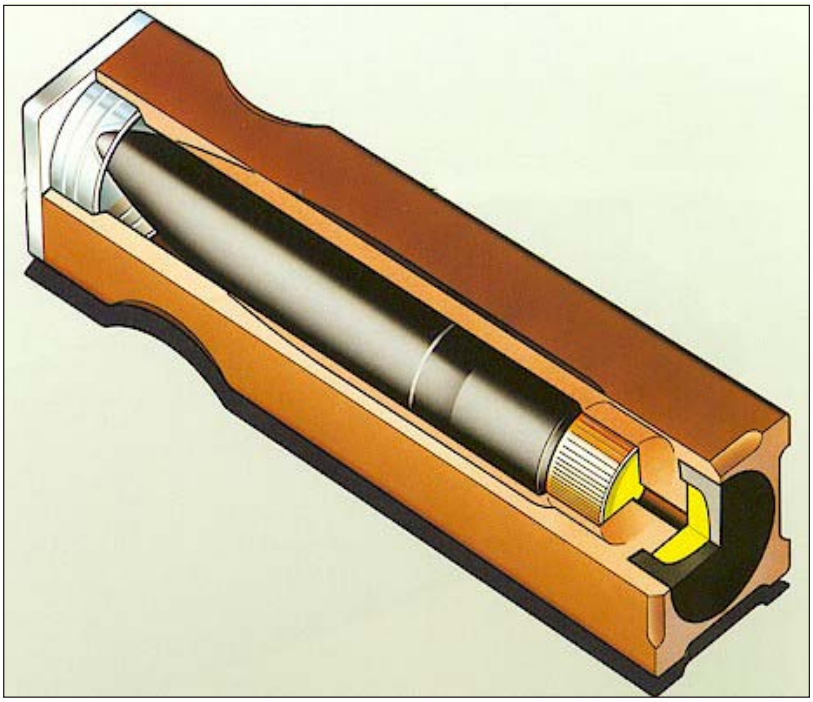
Figure 2 — Heckler & Koch concept sketch of a typical caseless round

acceptably consistent muzzle velocities — and concomitant energy levels — across a wide range of temperatures in regions from the arctic to the deserts of the Middle East. As we approach the development of caseless rifle ammunition the performance of the present service round, the 5.56mm M855 cartridge, is the baseline. As a minimum, any round selected must deliver the same lethality as the M855, and at the same or lower cost.

We have not been alone in our research and development efforts; during the 1970's H&K and the Dynamit Nobel company produced and successfully tested the G11 4.73x33mm advanced assault rifle and ammunition. (Note: 4.73mm is the diameter of the 50-grain bullet and 33mm is the overall length of the complete round.) A round of ammunition (Figure 3) is approximately 40 percent shorter, 15 percent narrower, and lighter than the M855, and the G11 test rounds delivered a muzzle velocity in excess of 3000 feet per second. The collapse of the Soviet Union and the subsequent reunification of Germany posed economic challenges that caused the German government to halt the G11 program in 1990, and the rifle never entered production.

The United States Army is continuing to actively pursue the caseless round concept for both rifles and machine guns, and has procured sufficient ammunition for continued testing. Once sufficient prototype weapons have been procured and ballistic testing is completed, further evaluation will identify the requirements for the next stage of development. We now need to determine the formulation of the best propellant, arrive at the most cost-effective production process, continue to deliver ammunition for testing and evaluation, and scale-up the process for pilot-scale ammunition production. If and when we adopt a caseless rifle as our service weapon, we are going to need ammunition, and lots of it. The industrial base of this great nation has never let the Soldier down, and we will continue to count on its enormous manufacturing capability as we move ahead to confront the enemies of the 21st century.

Figure 3 — Schematic of H&K G11 round



From H&K open source data, courtesy of USAIC Combat Developments

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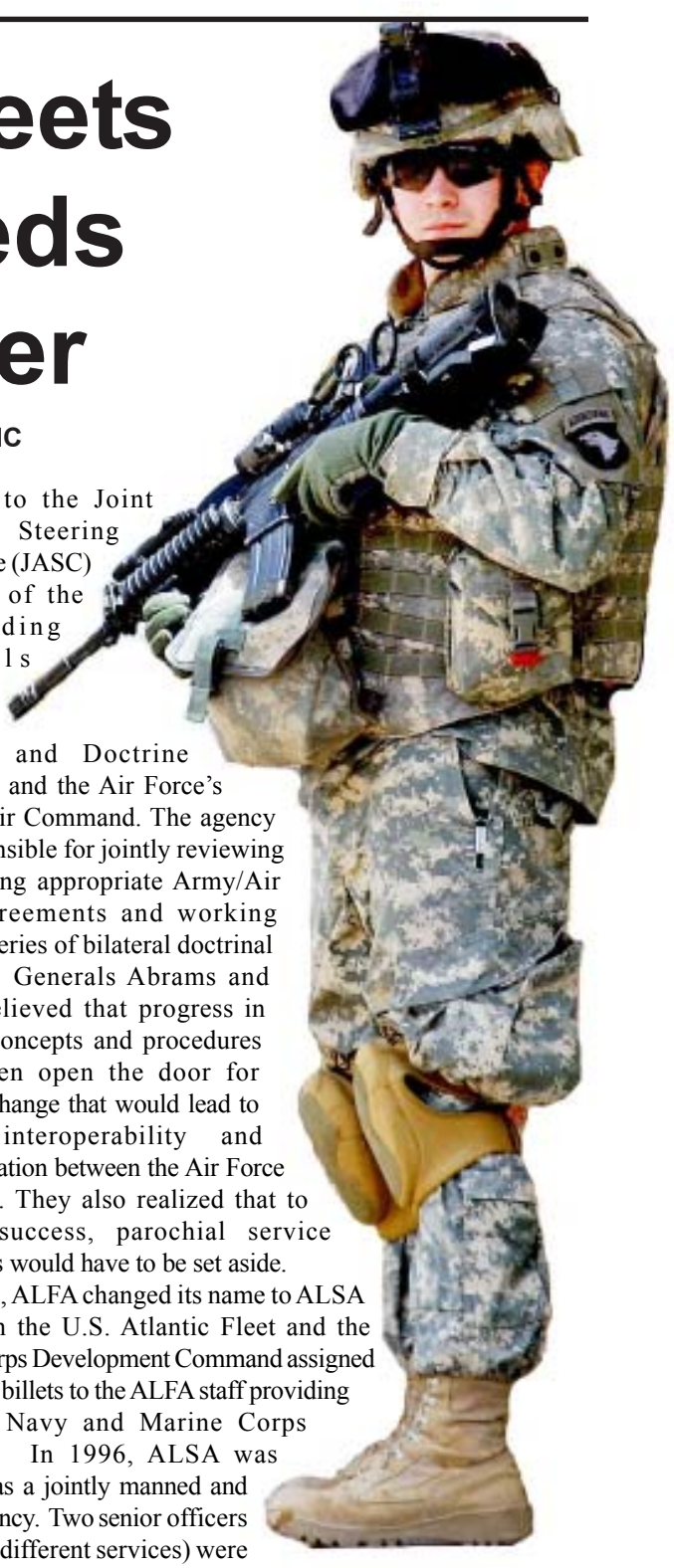
ALSA Center Meets Immediate Needs of the Warfighter

LIEUTENANT COLONEL JOHN R. ANDERSON, USMC



As the Global War on Terrorism (GWOT) continues, what is being done to capture the lessons learned and the tactics, techniques, and procedures (TTP) that the Soldiers, Sailors, Airmen, and Marines are paying for in blood? With this question in mind, now is an opportune moment to examine one of the most unique and dynamic organizations within the DoD — the Air Land Sea Application (ALSA) Center.

ALSA is responsible for putting multi-service tactics, techniques, and procedures (MTTPs) in the hands of warfighters, planners, and support personnel as quickly as within six months in order to enhance interoperability at the "tactical level" of war and thereby increase the warfighting effectiveness of the joint force. By examining ALSA's history, mission, command structure, and its contributions to supporting the warfighter on a tactical level, this article reinforces ALSA's existence as an organization dedicated to developing and providing critical MTTPs directly to tactical-level warfighters of every service.

Each service has some form of a lessons-learned department that turns lessons learned into TTPs or handbooks in various forms. These include the Marine Corps Lessons Learned Center, the Joint Center for Lessons Learned, the Center for Army Lessons Learned (CALL), and the Air Warfare Center. For example, CALL does an excellent job of producing handbooks based on Army lessons learned, primarily from exercises at the Joint Readiness Training Center. Generally speaking, the process to create joint publications is very lengthy, and joint publications do not get into sufficient detail to assist those on the ground in the fight at the tactical level. However, the U.S. military will always fight as a joint force, resulting in increased requirements for interoperability and subsequently the continual need for MTTPs with the appropriate amount of tactical-level detail. ALSA has a proven process to rapidly develop interoperability solutions that contribute significantly to the interoperability of all the services' warfighters in the conduct of the GWOT.

HISTORY

Based on lessons learned from Vietnam, General Creighton Abrams, Army Chief of Staff, and General George Brown, Air Force Chief of Staff, created the Air Land Forces Agency (ALFA) in 1975. ALFA was created to develop Army and Air Force coordination/interoperability solutions and was designed to be an independent organization that could cut through bureaucratic "red tape" to rapidly meet the immediate needs of the warfighter. ALFA reported to the Joint Action Steering Committee (JASC) made up of the commanding generals from the Army's Training and Doctrine Command and the Air Force's Tactical Air Command. The agency was responsible for jointly reviewing and revising appropriate Army/Air Force agreements and working toward a series of bilateral doctrinal manuals. Generals Abrams and Brown believed that progress in defining concepts and procedures would then open the door for doctrinal change that would lead to greater interoperability and communication between the Air Force and Army. They also realized that to achieve success, parochial service approaches would have to be set aside.

In 1992, ALFA changed its name to ALSA when both the U.S. Atlantic Fleet and the Marine Corps Development Command assigned permanent billets to the ALFA staff providing full-time Navy and Marine Corps expertise. In 1996, ALSA was approved as a jointly manned and funded agency. Two senior officers (O-6 from different services) were assigned as the leadership structure and served one year as the director before rotating the position to another service. In addition, six Army action officers (major/lieutenant colonel), six Air Force action officers (major/lieutenant colonel), one Navy action officer (lieutenant commander/commander), and one Marine Corps action officer (major/lieutenant colonel) were assigned as joint action officers (JAOs). The rest of ALSA's support team consists of an information management NCO (USAF), an administrative support assistant (USA/civilian), an editor (USAF/

civilian), a budget analyst (USA/civilian), and two office automation assistants (USN/civilian).

MISSION

The ALSA Center provides a four-service approach to multi-service force applications across the entire spectrum of military operations. Currently, the ALSA mission is defined in the memorandum of agreement (MOA) signed by the service JASC members. The agreement states that "ALSA will rapidly and responsively develop multi-service tactics, techniques, and procedures (MTTPs), studies, periodicals, and other like solutions across the entire military spectrum to meet the immediate needs of the warfighter." These projects provide solutions that cross service lines to meet immediate needs of operating forces. In October 2002, the JASC approved the addition of a six-month fast track and 30-day urgent timeline to their standard 12-month process. To facilitate these responsibilities, the JASC authorized ALSA to expedite projects by coordinating directly with the joint staff, service headquarters, unified and component commanders, schools, centers, and other agencies as necessary. The mission of ALSA has evolved over its 30-year history. As the needs of the services have changed, so have the procedures and focus of ALSA. ALSA provides a unique capability to develop MTTP publications, studies, and periodicals that synchronize service doctrine and complement the efforts of other government, joint, unified, and service staffs.

COMMAND STRUCTURE

ALSA is responsible to the JASC for the conduct of its mission and for the approval of its products. These general/flag officers meet tri-annually to review and evaluate ALSA projects. JASC members can selectively involve their respective services in projects. The members have corresponding voting rights on the nature and conduct of any project. In 2004, the JASC approved the inclusion of the U.S. Special Operations Command (USSOCOM) as a non-voting member of the committee.

ONGOING CONTRIBUTIONS

Accepting project proposals from any organizational level within DoD enables ALSA to rapidly meet the needs of the warfighter. Any servicemember that identifies an interoperability void or gap in doctrine, or the need for critical TTPs not currently addressed can present the proposal to ALSA for development. An ALSA JAO team then researches the proposal and submits it to the director, who in turn formally recommends a course of action to the JASC as to whether or not it should be developed into an MTTP.

Currently, no other organization exists to rapidly capture multi-service lessons learned and best practices in order to provide interoperability solutions in the three dimensional battlespace at the tactical level of war. In FY 05, the efforts of ALSA's 14 JAOs resulted in the completion of 14 multi-service publications, 18 assessments, five new research projects, and outreach to 63 tactical-level units including a trip to Afghanistan. ALSA implemented the six-month fast-track production of the *Tactical Convoy Operations MTTP (MCRP 4-11.3H)*. This urgent request came out of the need for supporting unit-level MTTPs on convoy operations in support of Operations Iraqi Freedom (OIF) and Enduring Freedom (OEF). Additionally, an early revision of *J-FIRE (*MCRP 3-16.6A) incorporated lessons learned from OIF and OEF. [*J-FIRE,* is a handbook on tactical level fire support measures including the latest joint close air support procedures.] The latest ALSA publication under development is the MTTP on *Cordon and Search Operations.* It focuses on the ground scheme of maneuver as well as the combat multipliers all four services and Special Operations Forces (SOF) bring to the fight. This publication has chapters devoted exclusively to the integration of SOF and aviation employment. The aviation chapter captures applicable MTTPs for these operations from both fixed-wing and rotary-wing platforms. It also describes the utilization of unmanned aerial vehicles (UAVs) and nontraditional intelligence, surveillance, and reconnaissance (ISR) assets utilizing targeting pods. As many as 75 percent of the subject matter experts (SME) attending the two joint working groups for this MTTP had at least one combat tour in Iraq or Afghanistan while others had four combat tours in multiple locations. Above all, what makes this publication unique is that it focuses on the periphery of cordon and search operations that incorporates the nontraditional ISR, aviation, and SOF assets. ALSA provides this added value for the warfighter. There is not another organization better equipped to do this. Many organizations can write an MTTP publication, however, none can muster the quantity and quality of SMEs across the occupational fields as effectively as ALSA, resulting in a publication that is immediately adopted as service doctrine by the Services. Finally, no other organization has the structure to support or capability to produce a multi-service product in as little time as six months. ALSA does not produce handbooks or collections of lessons learned, ALSA produces multi-service doctrine.

ALSA's home page provides the warfighter immediate access to its publications and allows them to view and download ALSA publications in electronic form. It can be accessed on the worldwide web: https://www.alsa.mil/ and SECRET Internet Protocol Router Network (SIPRNET): https://wwwacc.langley.smil.mil. A dot mil address is required.

CONCLUSION

The need for interaction and interoperability solutions between the services at the tactical level continues to grow as the U.S. military continues to fight more jointly. Subsequently, the increased requirements for interoperability and the continual need for multi-service TTPs demand the appropriate amount of tactical-level detail. As the joint force confronts the unconventional foes of the 21st century, ALSA remains the only organization with the distinctive history, unique culture, specified mission, specialized command structure, proven process, and capability to meet this demand. ALSA exists to meet the time critical, immediate "tactical level" requirements of the warfighter.

Lieutenant Colonel John Anderson, USMC, is currently serving with the Air, Land, Sea Application Center at Langley, Va.

Weapons Corner

Military Bolt-Action Rifles:

They're Still Out There

Can you identify these rifles? Match the rifles with the descriptions on the following page.

1) _____

2) _____

3) _____

4) _____

5) _____

6) _____

7) _____

Bolt action rifles have served the world's armies since the mid-19th century, and even today they are to be found in the hands of insurgents anywhere that shots are being fired. While they no longer represent the majority of any forces' weapons, they are nevertheless often favored for their accuracy, ease of maintenance, and the power of their ammunition. The latter is significant: the German 7.92mm (commonly referred to as the 8mm) Model 98 Mauser of both World Wars fired a service bullet of 154 grains — later replaced by a heavier 196-grain boat tail bullet — at a muzzle velocity of over 2,800 feet per second, surpassing even the performance of our own .30 caliber service cartridge. Note: the official German designation of the cartridge is the 7.92x57mm, with the first number denoting the diameter of the bullet (approximately .31 caliber) and the second number indicating the length of the unfired cartridge case. Both numbers are expressed in millimeters. Under this system the familiar 7.62 NATO rifle and machine gun cartridge is the 7.62x51.

Following World War II, Soviet forces had captured so many Mausers and their ammunition that they found it worthwhile to clean and recondition them and place them in storage against the day when they would be needed to support Communist insurgencies around the world. Many of these were later captured in Vietnam during the early 1970's, when their flat trajectory made them ideal for shooting across the broad expanses of rice paddies and their heavy boat tail bullets — not easily deflected by vegetation — made them something to be reckoned with in densely forested terrain. Much of the Mauser ammunition captured in Vietnam bore German World War II headstamps, although today ammunition made in countries as varied as Czechoslovakia, Romania, Yugoslavia, Turkey, Greece, Portugal, and Austria can still be found. And the supply of 7.92mm ammunition is not likely to run low anytime soon. Production within the Eastern European Soviet surrogates continued with good quality, reliable military-specification cartridges — still available today at low cost — being manufactured in Romania and Yugoslavia up until at least the 1980's. *Infantry* magazine has tested brass-cased Czech 7.92mm ammunition loaded in 1938, and found it to be reliable and accurate, a tribute to the stability of the Berdan primers and nitrocellulose smokeless powders used nearly seven decades ago.

Match the Rifles Shown with the Descriptions Below

_____ **A)** The U.S. Model 1903 A1 caliber .30 Springfield rifle incorporated many elements of the Model 98 Mauser but also had improved features such as windage-adjustable rear sight, a magazine cutoff which permitted firing single shots while keeping the 5-round magazine in reserve, and a rear sight mounted close to the receiver ring for a greater sight radius and hence better accuracy.

_____ **B)** The Soviet M44 7.62x54R carbine was based on the earlier Mosin-Nagant M1891 infantry rifle of both World Wars and its offspring, the M38 carbine of World War II. Both the M38 and the M44 saw service in World War II and all three rifles were used by North Korean and Chinese forces during the Korean War. This rifle also saw service with Viet Cong regional forces and some North Vietnamese Army units before it was replaced by the Kalashnikov assault rifle. The M44 is readily identified by its overall length of approximately 40" and its folding bayonet.

_____ **C)** The German 7.92mm Kar. 98 was the most common Mauser rifle in *Wehrmacht* service during World War II. It is identifiable by the steel disassembly grommet and sling hole in the stock, the cutout recess beneath the bent-down bolt handle, and the upper handguard which ends in front of the rear sight. The Kar. 98 shown here was captured from Thuan Hoa district Viet Cong forces following a firefight in the fall of 1968.

_____ **D)** The 6.5x55mm M38 Swedish infantry carbine is characterized by its vertical L-shaped cocking piece, a brass data plate on the right side of the buttstock, the straight bolt handle, a finger-grooved foreend, and an upper handguard that extends past the rear sight to the receiver ring.

_____ **E)** The 7.92mm M48 Yugoslav Mauser is a close variant of the Kar. 98, and was produced in postwar production according to original German specifications. It can be distinguished by its distinctively bent bolt handle, the absence of both a bolt cutout and disassembly grommet in the stock, by the cup-type steel buttplate, the upper handguard extending all the way to the receiver ring, and by the overall high quality workmanship not found in most late-World War II Mauser variants.

_____ **F)** The 7.92mm Czech VZ24 was copied from German improvements of 1924, and was widely sold throughout the world during the years when the treaty ending World War I prohibited Germany from manufacturing military small arms. This is clearly one of the best Mausers ever made, and is identifiable by its sling swivels below the stock, the straight bolt handle, the reinforcing bolt in the pistol grip, the short finger groove under the rear sight, and the distinctive butterfly-type front sight guard.

_____ **G)** The .30 caliber Model 1903A3 Springfield rifle differs from the M1903A1 in its heavy use of stamped vs. milled parts, a measure to speed up rifle production in the early years of World War II, when the United States arsenals were still unable to produce the M1 Garand in sufficient numbers. Features that distinguish the 03A3 include stamped sling swivels, trigger guard assembly, and buttplate; an upper handguard extending to the receiver ring, a simpler stamped rear sight mounted on the rear receiver bridge, a straight-grip stock without finger grooves, and a stamped magazine follower.

Answer Key

1)E 2)F 3)B 4)C 5)D 6)G 7)A

Book Reviews

Lightning out of Lebanon, Hezbollah Terrorists on American Soil. **By Tom Diaz and Barbara Newman. New York: Presidio Press/Ballantine Books, 234 pages, $24.95.** Reviewed by Major Keith Everett.

How to find terrorists on American soil should be this book's title. The primary value of this account is the unraveling of a terrorist cell by local and federal law enforcement working together. The terrorist cell was unraveled through the cigarette and drug smuggling investigation tied in with investigating charitable organizations operations financing weapons purchases, high-tech equipment and fraudulent passports. Neither the Feds nor the local and state law enforcement officers would have as much success without the synergistic effect of combining their efforts.

The account is written by two authors, Tom Diaz, an experienced reporter, and Barbara Newman, a producer of documentary films. The overall delivery of this important story is somewhat disjointed as it jumps from the terrorism/criminal investigations to history of Hezbollah, the Ottoman Empire and the faults of FBI intelligence. The two authors did not succeed in telling their story with seamless transitions between what the two of them wrote. Although this makes for jerky reading, it is not a fatal flaw. *Lightning* should be required reading for local, state and federal law enforcement as an outstanding example of how lesser violations can lead to a terrorist organization. Why would a terrorist organization risk involvement in cigarette smuggling? The answer is simple: profits are high without the severe criminal penalties of drug smuggling.

The key person in this story, Mohammed Hammond, describes how he used an asylum claim, then an appeal, to gain time in the United States to develop fraudulent marriage opportunities to get a green card. The authors accurately outline how the United States Immigration Service has a huge Achilles heel in its asylum process. In Hammond's case, the asylum process lasted more than five years! Hammond had all the time needed to set up a Hezbollah terrorist cell in Charlotte, N.C., at leisure.

The story illuminates some of the key weaknesses of law enforcement intelligence operations and immigration operations. Superb investigative work is evident throughout highlighting key points in combating terrorists. Ken Bell, the lead prosecutor, organized the team effort in prosecuting the many branches of the Charlotte Hezbollah organization. What made terrorist investigation successful was developing criminal cases on each member first. Ready criminal cases gave agents a tool to arrest and detain the members if they decided to flee the country or move. Then the agents were able to develop the terrorism case without fear of losing everything. The Charlotte case was also the first criminal case under the new supporting terrorist organizations law.

The author singles out testimony by then Attorney General John Ashcroft on April 13, 2004, before the Senate Commission investigating the attacks on Sept.11. Ashcroft testified about a 1995 memo written by Jamie Gorelick, putting even further restrictions on the ability of the intelligence and criminal investigation branches of the Justice Department to cooperate together. The description of how the many obstacles to a complex terrorist investigation were overcome is the most important contribution of this work.

The authors point to two factors crippling the FBI in combating terrorism in the early 1990s. One was the lack of a law against contributing funds or support to terrorist organizations. A law prohibiting this was passed in 1996 and formally signed into law by President Clinton. Although Clinton signed the bill into law, the State Department did not issue the necessary list of designated terrorist organizations for another 16 months. The law was useless without this list, as no one could be charged as supporting a State Department recognized terrorist organization without it. Currently, it is standard practice to disrupt suspected terrorists and deport them as soon as possible. A proactive effort must have the tools of disruption by prosecution and/or deportation fully available.

One last flaw in the book is the insertion of other criminal cases, some terrorist cases, some not. This distracting method of illustrating a point does not detract from the main story; it just slows it down by adding a touch of confusion here and there. This book, however, is a good starter account for joint terrorism task force members or those interested in disrupting terrorist activity through law enforcement.

Al-Jazeera: The Inside Story of the Arab News Channel that is Challenging the West. **By Hugh Miles. New York: Grove Press, 426 pages, 2005.** Reviewed by Lieutenant Commander Youssef Aboul-Enein, USN.

In discussions with my fellow Middle East foreign area officers, one thing we all seem to agree on is that this current war against Islamic radicalism is as much a war of ideas as it is an actual combat operation. We may have differing ideas on the Qatari-based Arabic news channel Al-Jazeera, but that should not stop American military planners and leaders operating in the Central Command or European Command areas of operations from learning all they can about the history and evolution of this network.

Hugh Miles is a British freelance journalist who initially spent his childhood in Saudi Arabia and Libya. Fluent in Arabic, Miles has become an up and coming freelance journalist winning the 2000 Times of London Young Journalist Award. His first book looks into the forming of Al-Jazeera in 1996, and how this channel rocked the Arab world by offering programs critical of ruling regimes. The book highlights how Al-Jazeera gained many talented albeit Arab nationalist journalists by sheer luck after a failed Saudi deal to create Orbit TV using Arab journalists from the BBC.

Al-Jazeera, however, did not hit mainstream in its founding year until the French Canal 4 channel mistakenly

programmed an adult movie for 30 minutes on what was supposed to be a family show, beaming the signal into Saudi and Arab Gulf living rooms. This caused a fury in the Persian Gulf, and the French network lost its precious C-band signal. This was a gain for Al-Jazeera, which was then operating on an inefficient H-band signal.

To understand why Al-Jazeera is a success with its shock news TV, you must remember that Arabs had to endure government-controlled television that kept the masses in the dark if not outright lied to them. To learn the truth of the Egyptian crushing defeat in 1967 or even that Saudi Arabia was threatened by Saddam Hussein one had to turn to the BBC or Voice of America radio stations. It is with this background that Al-Jazeera burst onto the scene with political commentary that challenged Arab Nationalism, Islamic customs and much more.

One chapter is devoted to the second Palestinian *intifadah* (uprising), and this chapter alone provides the clearest example of reporting that led to escalating hostilities between Israel and its Arab neighbors. The Arab world was saturated with daily pictures of graphic Palestinian footage and this in turn led to Arab street protests and mob violence that made the shaky regimes of the Middle East nervous and reactionary. Perhaps the more interesting sections of the book is Al-Jazeera reporter Yosri Fouda's 2002 interview with Al-Qaeda September 11 planners Khalid Sheikh Mohammed and Ramzi bin Al-Shaibh; both were captured shortly after their interview. The book details how Fouda got the interview and how both admitted and gloated over the planning and execution of the terrorist acts of September 11th. Both Al-Qaeda leaders acknowledged the fourth hijacked plane was bound for the U.S. Capitol and that ramming nuclear facilities were discussed but dropped for now.

Although I do disagree with some of the author's observations, this book does provide an important look into the media war allies are fighting with Islamic radicalist groups. The book is also a valuable lesson in never loosing sight of the rules of war as tragedies such as the Abu Ghuraib prison incident is fuel in for Al-Qaeda's media war against the United States.

***First In: An Insider's Account of how the CIA Spearheaded the War on Terror in Afghanistan*. By Gary C. Schroen. New York: Ballantine Books Inc., 2005, 379 pp. $25.95 (cloth).** Reviewed by Lieutenant Colonel (Retired) Rick Baillergeon.

When the events of September 11th occurred, Gary Schroen was days away from retiring from the CIA after a 30-year career. Shortly after that, he was asked to meet with Cofer Black, the chief of the Counterterrorist Center (CTC). In the meeting, Black stated, "Gary, I want you to take a small team of CIA officers into Afghanistan. You will link up with the Northern Alliance in the Panjshir Valley, and your job is to convince them to cooperate fully with the CIA and the U.S. military as we go after bin Laden and al-Qa'ida. You will also evaluate their military capabilities and recommend steps we can take to bring the Northern Alliance forces to a state of readiness so they can effectively take on the Taliban forces, opening the way for our efforts against UBL. Gary, this is an incredibly risky assignment, but it is also incredibly important. You are, frankly, the best-qualified officer to lead this team."

First In is Schroen's own story on how he and his team planned, prepared, and executed this highly challenging and critical mission. It is highly detailed, superbly written, and truly engaging. *First In* will fill in the blanks for readers wanting to understand what led to major combat operations in Afghanistan. These strengths make this a book readers will not want to put down and provide them vital new perspectives and information.

Perhaps, the first thing that jumps out to the reader is that the book is atypical of the many books written by CIA operatives and personnel. This difference stems from the amount of detail allowed in the book. As Schroen states in his author's note in describing the book, "The CIA Publications Review Board stated that it is the most detailed account of a CIA field operation told by an officer directly involved that has ever been cleared by the PRB for publication." I have read several other books in this genre and would agree with the amount of detail throughout the pages. There are few occasions in which the reader will wish the author got more into "the weeds" in a certain area or event.

As expected, Schroen gives his unique perspective on the initial decisions made in the first phase of operations in Afghanistan. These include the use of Special Operations Forces, the location of staging bases, the procurement and transportation of supplies and equipment to the Northern Alliance, and the use of money in dealing with the Northern Alliance. It is all intriguing "stuff" and personally brought many issues to light for me. In fact, the author's discussion on these subjects will bring more value to other books readers may have read on Afghanistan operations.

As mentioned earlier, *First In* gives the reader unprecedented detail in numerous areas. I believe this detail is most significant in Schroen's discussion of the Northern Alliance. I have read many books in this genre and most of them give minimal treatment of the Northern Alliance. Schroen delves into the culture of the society, compares and contrasts the customs of the numerous tribes, and gives superb insight into the personalities of the key tribal leaders. It is the author's ability to provide this information and insight that makes *First In* such a valuable resource to anyone truly wanting to understand the early days of Operation Enduring Freedom.

For the reader, one of the added features of the book is a superb Afterword chapter. Schroen gives the following comments in describing the purpose of this chapter, "The Road ahead for Afghanistan is not an easy one. The problems facing President Karzai and his government are many, and there are no quick or easy solutions available. I am certainly no political expert, and do not pose as one here, but I would like to touch on a few of the key issues facing the Afghan government, discuss some of the pitfalls that lie ahead, and talk about the United States might do to assist." There is no doubt that this conclusion will make readers think and provide them with analysis they have not heard or seen before.

In summary, *First In* is a superb book that is filled with numerous strengths and no noticeable weaknesses. I feel this book fills the void in truly understanding why the events of Operation Enduring Freedom unfolded as they did. Anyone who would like to possess this insight should read *First In*!