

PB 7-14-3

Infantry

July-September 2014



Why Fundamentals Matter
(Page 1)

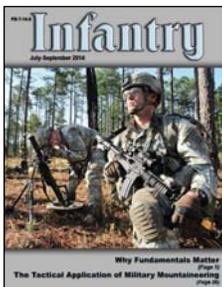
The Tactical Application of Military Mountaineering
(Page 36)

BG JAMES E. RAINEY
Commandant,
U.S. Army Infantry School

RUSSELL A. ENO
Editor

MICHELLE J. ROWAN
Deputy Editor

FRONT COVER:



U.S. Soldiers assigned to 1st Battalion, 325th Infantry Regiment, 2nd Brigade Combat Team, 82nd Airborne Division establish an indirect fire support position for maneuvering Infantrymen during a field training exercise (FTX) at Fort Bragg, N.C., on 24 April 2013. The FTX was part of the "Red Falcons" intensive training cycle to test their readiness to deploy anywhere in the world on short notice. (Photo by SSG Jason Hull)

BACK COVER:

A Soldier with Blackfoot Company, 1st Battalion (Airborne), 501st Infantry Regiment, 4th Infantry Brigade Combat Team (Airborne), 25th Infantry Division, rushes under direct fire on an Expert Infantryman Badge qualification lane at Joint Base Elmendorf-Richardson, Alaska, on 10 September 2014. (Photo by Justin Connaher)

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.

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RAYMOND T. ODIERNO
General, United States Army
Chief of Staff

Official:

GERALD B. O'KEEFE
Administrative Assistant to the
Secretary of the Army
1427202

Distribution: Special

Approved for public release; distribution is unlimited.

Infantry

JULY-SEPTEMBER 2014

Volume 103, Number 3

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• **INFANTRY** (ISSN: 0019-9532) is an Army professional bulletin prepared for quarterly publication by the U.S. Army Infantry School at Fort Benning, Ga. • Although it contains professional information for the Infantryman, the content does not necessarily reflect the official Army position and does not supersede any information presented in other official Army publications. • Unless otherwise stated, the views herein are those of the authors and not necessarily those of the Department of Defense or any element of it. • Official distribution is to Infantry and Infantry-related units and to appropriate staff agencies and service schools. • Direct communication concerning editorial policies can be directed to Editor, *Infantry Magazine*, 1 Karker St., McGinnis-Wickam Hall, Suite W-142, Fort Benning, GA 31905. • Telephones: (706) 545-2350 or 545-6951, DSN 835-2350 or 835-6951; email: usarmy.benning.tradoc.mbx.infantry-magazine@email.mil • Bulk rate postage paid at Columbus, Ga., and other mailing offices. • **POSTMASTER:** Send address changes to *Infantry Magazine*, 1 Karker St., McGinnis-Wickam Hall, Suite W-142, Fort Benning, GA 31905. • USPS Publication No. 370630.

Commandant's Note

BG JAMES E. RAINEY

WHY FUNDAMENTALS MATTER

We are an Army at War and we will remain an Army at War for the foreseeable future. It is our job at the United States Army Infantry School (USAIS) to ensure Infantry forces remain ready for today and prepared for tomorrow. The USAIS exists to develop the best Infantry Leaders, Soldiers and Capabilities in the world in order to provide Operational Commanders with Infantry forces capable of closing with and destroying the enemy as part of a combined arms and JIIM team. The timeless fundamentals of "shoot, move, communicate, and survive" that enabled our Soldiers to win in past conflicts are the same fundamentals that will enable us to win in future conflicts.

Our mission is to support the MCoE Commanding General's priorities and focus areas, provide the fighting force with well trained Soldiers and Leaders and ensure the health and viability of the Infantry Branch and Career Management Field. We have six objectives that we will always work towards to ensure we stay on the right path. These six objectives are:

1. Build and collaborate with the Maneuver Community
2. Understand the evolving nature of war and shape the future maneuver force
3. Develop competent, committed Leaders of character
4. Conduct realistic, rigorous and properly resourced training
5. Deliver clear, relevant and current doctrine
6. Develop and integrate required concepts and capabilities based on the future operational environment(s) and role of the Infantry

We will be decisive in establishing, developing, and preserving the core combat competencies that support Department of Defense maneuver warfare capabilities. We will develop smart agile Soldiers and Leaders who are fast both physically and cognitively. We will instill the importance of being precise and lethal. But most importantly we will develop Soldiers and Leaders who are adaptive and can constantly learn, think through and react to changes no matter the magnitude. This can be accomplished only through close coordination with the operating force. We welcome your input and experience as we work together to field an Army that will prevent conflict, shape security environments, and Win in a Complex World.

One Force, one fight! Follow me!



Infantry News



PERFORMANCE TRIAD APP NOW AVAILABLE

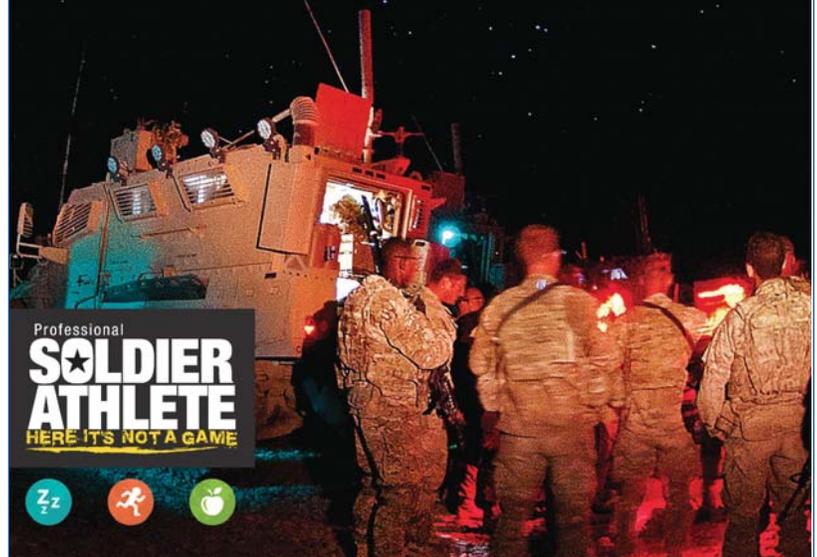
ARMY MEDICINE

Members of the U.S. Army Public Health Command, the Performance Triad Team at the Office of the Surgeon General, and the Combined Arms Support Center Sustainment Center of Excellence Mobile Team recently released the first version of the Performance Triad app for global distribution. This app provides specific educational resources for squad leaders, Soldiers, spouses, civilians, health care workers, pre-retirees, and retirees on how to optimize their performance and enhance their health.

For example, leaders can quickly get information on how to schedule sleep and rest cycles to maximize unit performance during field exercises. The Performance Triad app also provides leaders information about refueling after exercise to maintain performance over sustained operations.

Personal lifestyle choices make a huge impact on health, wellness, and readiness. Sleep, activity, and nutrition

Sleep Tactics for the Professional Soldier Athlete: Sustained Operations



enable Soldiers, their Families, and retirees to reach their goals and their full potential.

The free app can be downloaded for iPhones, iPads, Android devices, and Windows phones by searching for "Performance Triad."

Learn more about the Performance Triad at <http://armymedicine.mil/Pages/performance-triad.aspx>.

APPLY NOW FOR BROADENING OPPORTUNITIES

DAVID VERGUN

Now is the time for qualified Soldiers to apply for the Army's Broadening Opportunity Program, said Joel Strout, the program manager.

For those who apply, "it's an opportunity of a lifetime for the Army's best Soldiers to get even better," Strout said.

By better, he explained that Soldiers will get "unique experiences they can't get anywhere else inside the military; opportunities to work within interagency departments like the FBI, CIA, State Department, Homeland Security, and so on."

Some of the programs even involve travel overseas, where Soldiers can get intercultural assignments that will broaden their horizons and ultimately help the Army as well. Other assignments involve experience in the commercial sector or in the legislative or executive branches of government.

Cutting-edge graduate degrees in cybersecurity and anti-terrorism are offered, along with other sought-after degrees such as business administration and public administration. These degrees are from top-tier universities, like Harvard, he added.

The Broadening Opportunity Program is offered to staff sergeants through command sergeants major, chief warrant officer 2 to 5, and captains to lieutenant colonels, depending on the specific program.

Complete information about the program can be found at <http://www.hrc.army.mil/bop>.

(David Vergun writes for the Army News Service. Read the complete article at http://www.army.mil/article/133173/Soldiers_can_apply_now_for_Broadening_Opportunity_education_programs/)

ENHANCED GRENADE LETHALITY: *ON TARGET EVEN WHEN THE ENEMY IS CONCEALED*

ERIC KOWAL

How does the warfighter launch a grenade at the enemy and ensure that it hits the target if the enemy is defiladed or concealed behind natural or artificial obstacles?

According to Steven Gilbert, the solution is simple — use Small Arms Grenade Munitions (SAGM).

SAGM is a munitions round that aims to provide warfighters with the capability of shooting a 40mm low-velocity grenade from an M203 or M320 rifle-mounted grenade launcher with the certainty that, if their target is hiding or behind an object, damage will still be inflicted.

The round more than doubles the lethality of the current 40mm grenade against defilade targets. It also does not require the user to carry extra weapon accessories, reducing the Soldier's load.

Gilbert is a project officer from the U.S. Army Armament Research, Development and Engineering Center at Picatinny Arsenal, N.J.

He and a team of about 10 engineers from the Joint Service Small Arms Program are in the third phase of the SAGM three-phase project.

The project began in 2011. The first phase of the project entailed making the fuze component smaller while

maintaining its functionality using a standard M433 grenade round. Gilbert described the round as being complementary to the XM25. The XM25 is a Counter Defilade Target Engagement System, which has an onboard laser system that determines the distance to the target.

“SAGM is complementary to that. We are not competing against it,” Gilbert explained. “The XM25 provides direct fire. SAGM is indirect.”

The second phase was to make the fuze “smart” by including sensors, so that the round detonates — what is known as “airburst” — over and past defilade obstacles that are detected by the sensor.

During this phase, engineers worked to integrate sensors and logic devices that will help to scan and filter the environment and then autonomously airburst the fuze in the ideal spot.

Now, in the third phase, engineers are working to optimize the fuze sensor from phase two and improve its ballistic accuracy, as well as integrate the fuze with a live high-explosive warhead.



A Mississippi National Guard Soldier fires the M203 grenade launcher during the individual weapons qualification weekend at Camp McCain, Miss.

Photo courtesy of the Mississippi National Guard

With this new capability, much like a smart phone, the grenade can perform a task without being told to do so by the user. Thus, when it is fired, it will recognize its surroundings and can detonate over an obstacle that might conceal the enemy.

The ballistic trajectory of legacy 40mm ammunition inhibits optimal engagement of personnel threats under cover. For these reasons, engineers are also working to optimize ballistic trajectory and the overall accuracy and effectiveness of the grenade.

“There are three modes of firing,” Gilbert said. “Airburst after detecting defilade is the first. Then, the default is point detonation or when it hits the target. Lastly, there is a self-destruct feature which decreases collateral damage and reduces unexploded ordnance left on the battlefield or training ranges.”

The team successfully demonstrated the phase two sensor technology in November 2013.

“The technology demonstration was conducted at



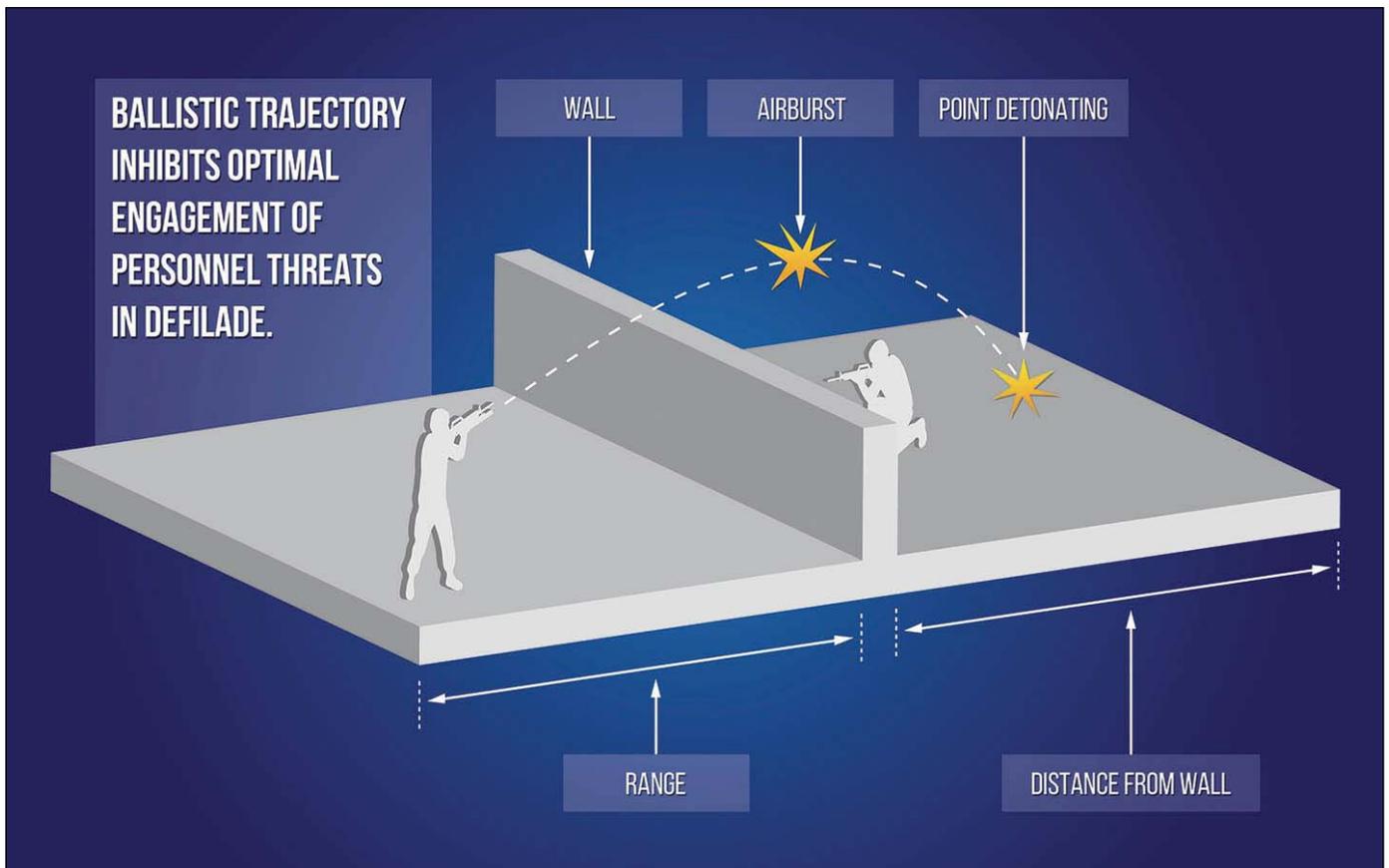
Figure 1 — 40mm SAGM Grenade Prototype

Redstone Arsenal (Alabama), and it was shown that the sensor correctly detected defilade and air-burst the round behind the defilade. This capability will inflict maximum lethality to any enemy personnel seeking cover behind defilade.”

However, the SAGM project is not expected to be in the hands of the Project Manager Ammunition Systems until July 2015.

(Eric Kowal writes for the Picatinny Arsenal Public Affairs Office. This article appears in the September/October 2014 issue of Army Technology Magazine, which focuses on lethality. The magazine is available at <http://armytechnology.armylive.dodlive.mil/index.php/2014/09/02/army-turns-to-researchers-for-future-lethality/#more-5763>. The Armament Research, Development and Engineering Center is part of the U.S. Army Research, Development and Engineering Command, which has the mission to develop technology and engineering solutions for America’s Soldiers.)

Figure 2 — SAGM Ballistic Trajectory



**BALLISTIC TRAJECTORY
INHIBITS OPTIMAL
ENGAGEMENT OF
PERSONNEL THREATS
IN DEFILADE.**

WALL AIRBURST POINT DETONATING

RANGE DISTANCE FROM WALL

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EVERY SOLDIER COUNTS: PART 2

THE ROLE OF THE BATTALION S1 IN MANNING A BRIGADE IN TODAY'S FORCE REDUCTIONS

MAJ CHRISTOPHER L. MOORE

Editor's Note: *This is the second article of a three-part series on how company command teams, battalion S1s, and brigade S1s sync their efforts to properly man brigade combat teams as the Army reduces its end strength.*

The battalion S1 plays an integral role in the effective manning of a brigade in today's force reduction. The battalion S1 serves as the linchpin of human resource (HR) services in the brigade. As a battalion's senior HR professional, the battalion S1 must provide updated HR support to the company command teams. Conversely, the battalion S1 collects and reviews HR data from company command teams before it is consolidated into local brigade databases and Army-level HR systems. As the only HR officer in each battalion, the battalion S1 ensures his or her battalion's HR data is collected in a correct and timely manner from the company command teams and then properly annotated in brigade and Army-level HR systems. The S1 also provides these teams with recommended means to mitigate administrative and medical readiness issues that can adversely affect the available/deployable status of Soldiers.

As the Army continues to reduce its personnel end strength from the wartime high of 569,000 to a prewar level of 490,000 or possibly even lower, the battalion S1's role in providing company command teams with updated HR information is crucial.¹ It is the responsibility of battalion S1s to monitor the Human Resource Command's (HRC's) website for military personnel (MILPER) and all-Army activities (ALARACT) messages that are pertinent to their units. Truly effective battalion S1s then glean the data most important from the source document and send a concise message to their company command teams in the form of an email or daily consolidated message from the battalion operations section, depending on the unit standard operating procedure (SOP).

A prime example of a message that directly affects a battalion's personnel is one listing the details of an upcoming separation board. It is the duty of the battalion S1 to dissect a message of this importance and push the most important details to the battalion and company command teams. These details usually include the population targeted by that board, the date of the board, and pre-board requirements such as

board notification counselings, complete the record evaluation thru dates, and updated photos. With these details company command teams and the battalion command team can prepare their formations for the impending impact of these types of Army-level actions.

The battalion S1 must conduct meetings, weekly is preferable, with company command teams to ensure that each Soldier's available status is properly coded in the Electronic Military Personnel Office (eMILPO) system — <https://emilpo.ahrs.army.mil/>. With the current available status of each assigned Soldier, along with the gains and loss rosters from the various automated Army HR systems, the battalion S1 can formulate the status of the battalion's current and projected available strength. This enables the battalion S1 to provide the battalion command team an accurate picture of the battalion's current and projected available strength, to include any personnel concerns.² These concerns are typically centered on undermanned weapon crews or low density military occupational specialty (MOS) shortages.³ Any of these concerns that cannot be resolved internally, generally by cross-leveling personnel, are reported by the battalion commander in the monthly unit status report (USR).

Accurate availability data in eMILPO provides all echelons — from battalion to U.S. Army Forces Command (FORSCOM) — a common manning picture for each unit. The battalion S1 is charged with ensuring that each Soldier's availability is accurately entered and updated in eMILPO as required. This is accomplished by thoroughly understanding the personnel status data provided by the company command teams during the unit's personnel sync meetings. Once each Soldier's availability status is verified, the battalion S1 section accurately annotates the availability/non-availability status of each Soldier in eMILPO in accordance with the Army's Manning Guidance.⁴ The availability/non-availability codes are used by brigade S1s, division strength managers, and various HR professionals throughout the Army to determine the personnel readiness status of units.

After the battalion S1 reviews their Soldiers' available/non-available status codes, they can determine which issues most negatively impact their Soldiers' availability. Some of the most common issues that negatively impact Soldiers' availability

are medical/dental readiness, outdated DD Form 93s, outdated record briefs, and incomplete family care plans. Each and every one of these issues can be mitigated through aggressive adherence to the Soldier Readiness Process (SRP). The battalion S1 coordinates through the brigade S1 for support from their garrison's finance, HR, legal, medical, and dental agencies/directorates at least biannually to conduct the SRP to validate assigned Soldiers' availability. It is during the SRP that Soldiers identified as non-available are assigned follow-up appointments to either mitigate the issue that has made them non-available or determine if they are to be separated from the Army. Consistent planning and execution of the SRP is crucial to maintaining the personnel readiness of any unit. By identifying Soldiers that cannot attain an available status, battalion S1s can work with their chain of command to separate these Soldiers and request Soldiers that have the required skill sets and available status to meet their unit's mission.

As the battalion's senior HR professional, the battalion S1 serves as the linchpin of HR services and personnel readiness in brigades. They are the HR leaders that provide crucial HR support to battalion and company command teams and ensure that Soldiers' availability status is correctly reflected in the Army's HR systems. It is this HR support that ensures that all available means are leveraged to secure Soldiers' availability against controllable issues, such as medical/dental readiness, outdated DD Form 93s, outdated record briefs, and incomplete family care plans. The battalion S1's efforts preserve the battalion's and companies' personnel readiness and contribute immensely to their mission readiness.

Notes

¹ GEN Raymond T. Odierno, "Planning for Sequestration in Fiscal Year 2014 and Perspectives of the Military Services on the Strategic Choices and Management Review," House Armed Services Committee, First Session, 113th Congress, Washington, D.C., September 2013.

² FM 1-0, *Human Resources Support* (Fort Jackson, S.C.: U.S. Army Soldier Support Institute, April 2010) 3-5.

³ Ibid.

⁴ ALARACT 293/2012, "HQDA EXORD 10-12 ISO the HQDA FY13-15 Active Component Manning Guidance," Pentagon Telecommunications Center, HQDA, Washington, D.C., October 2012.

MAJ Christopher L. Moore is currently serving as the S1 for the 3rd Infantry Brigade Combat Team, 1st Infantry Division, Fort Knox, Ky. He is a graduate of the Intermediate Level Education program (common core and qualification courses), Fort Leavenworth, Kan.; Adjutant General Captains Career Course, Fort Jackson, S.C.; Adjutant General Officer Basic Course, Fort Jackson, Brigade S1 Operations Course, Fort Leavenworth; Postal Operations Course, Fort Jackson, Basic Instructor Training Course, Fort Jackson; Military Transition Team training, Fort Riley, Kan.; and Recruiting Commanders Course, Fort Jackson. MAJ Moore earned a master's degree in human resources development from Webster University.

WARRIOR UNIVERSITY OFFERS RESOURCES

This portal is organized as a professional "home" for Infantry, Armor, and Cavalry Soldiers and leaders to facilitate and foster lifelong professional relationships. The mission of Warrior University is to synchronize and integrate all maneuver training so the right Soldiers receive the right training at the right time, regardless of their physical location. It is the center of gravity for Warrior Learning and serves as the Maneuver Center of Excellence's executive agent for use of technology to enhance resident instruction, to meet the training needs of field units, and to quickly disseminate information on new systems and lessons learned in the contemporary operating environment.

www.warrioruniversity.army.mil

The screenshot shows the Warrior University website interface. At the top, there is a search bar and navigation links for Home, Training and Educational Material, Forums, Maneuver News, and Army Training Help Desk. Below the navigation, there is a section titled "Training and Educational Material" with a search box. The main content area displays "MCoE Apps" and "Maneuver Center of Excellence Apps". A feedback table is visible, listing various apps and their availability on different platforms.

Feedback	App Title and Description	Adobe Air	Android	iOS	Windows
Request for Digital Learning Content Training Product Development form	All customers requesting a DLC product must fill out an Instructional Technology Development Team Request for Digital Learning Content Training Product Development form. Please fill out a request completely as possible and provide a detailed description of the requested product to avoid ambiguity. POC for all requests: roy.m.elam.civ@mail.mil				
Rate this App	Agile and Adaptable Leadership Development - This application is an Informative based training and sustainment reference tool for the use of all military personnel. Users select from a list of menu topics which provide guidance related to the development of decisive procedures and leader actions. Users are provided with a training and sustainment reference at the point of need which provides necessary information regarding aspects of decision making directly related to critical situations.		Available	Available	
Rate this App	Arab Culture - This application is an informative based training and sustainment reference tool used for Pre-deployment and deployed military personnel. Users select from specific listed areas of cultural concern within a given theater of operations. Selection of specific content illustrates conditional behavioral expectations in relation to appropriate cultural procedures.		Available	Available	
Rate this App	BRM 4 - Descriptive videos of Soldiers in Basic Combat Training maintaining and zeroing the M16 Rifle (Program of Instruction)			Available	
Rate this App	BT2 - Descriptive videos of Soldiers in Basic Combat Training performing essential tasks and battle drills (Program of Instruction)			Available	
Rate this App	CSF2 provides a complete overview and educational material of Comprehensive Soldier and Family Fitness (CSF2) program in order to increase the physical and			Available	

HOW TO INACTIVATE A COMPANY:

A PRIMER FOR COMPANY-LEVEL LEADERS

CPT SAM ROSENBERG AND CPT STUART BARNES-ISRAEL

In June, Chief of Staff of the Army GEN Raymond T. Odierno announced that the Army will reorganize the number of brigade combat teams from 45 to 32 over the next four years. The changes, which are part of the Army's effort to reduce its budget by \$170 million and trim the number of Soldiers from 570,000 to 490,000, represent what GEN Odierno calls, "one of the largest organizational changes probably since World War II."¹ In February, a report from the Congressional Research Service suggested the Army may even drop to 24 brigades if the force is reduced to 420,000 Soldiers.² These changes are not just significant at the strategic level, but they will surely have a considerable impact at the tactical level with the hundreds of sergeants, lieutenants, and captains charged with inactivating companies. Luckily, the Army has been inactivating and reactivating units throughout its history. Most recently, the 170th and the 172nd Infantry Brigades, both stationed in Germany, were inactivated as part of the initial wave of force adjustments. As a company commander and executive officer (XO) in the 172nd Infantry Brigade during pre-deployment training, combat operations in Afghanistan, redeployment, and inactivation, we have a unique perspective on inactivation and some key points that may assist other companies across the force as they prepare for their own potential inactivation.

While not as glamorous as a decisive-action rotation or as adrenaline inducing as a combat deployment, inactivation is just as demanding — albeit in a much more administrative way. In order to responsibly inactivate a unit, it is helpful first to build a company team specifically for inactivation. Then, one must focus and train the team not only for inactivation but for follow-on assignments and future deployments as well. Finally, the company team — specifically the Soldiers — must be sustained, as inactivation can be a frustrating and demoralizing endeavor.

Building the Team

Maneuver companies are built to fight wars, not deactivate units. Therefore, a new team must be built before inactivation begins. This starts with task organization and getting the right people in the right places. During inactivation, a unit may look very different from training rotations or combat deployment. That is perfectly normal, as the demands of training and deployment are quite different from those of inactivation. Teams and organizations that are not part of a traditional unit modified table of organization and equipment (MTOE), such as reconfigured training rooms, legal teams, or supply rooms, are useful to a company during inactivation. After



restructuring the MTOE, it is important to weight the main effort or provide additional manpower to the most important operational elements. During inactivation, the main effort may not be the line platoons. It is far more likely that a company's main effort will be the supply room (if it is a large, property-heavy organization) or the training room, as it is the single point through which all of the unit's permanent change of station (PCS) awards, evaluations, leave paperwork, administrative forms, legal actions, and medical issues flow.

Put the right people in the right places. Years of combat deployments made it painfully clear that only the best officers and NCOs should be in leadership positions in combat. Typically, squads and platoons receive priority in manning while staffs and company commodity shops come second. During inactivation, it is the opposite. The best junior officers should be S1s and S4s, not specialty platoon leaders. The best NCOs should be running company commodity shops, not squads. If it hurts to pull an officer or NCO from his platoon or squad, it is probably the right choice. Moreover, the entire company should be familiar with command supply discipline and how to prepare property for turn in. If not done correctly, 90 percent of the work will be done by 10 percent of the company, and there will be significant problems.

Establishing priorities and determining where to focus organizational energy is one of the most challenging aspects of command. There is truly an art to identifying what tasks are absolutely critical, what tasks are lower priority, and perhaps most difficult, where to assume risk. During inactivation, it may be helpful to identify the top three priorities for the company each day and list them on a white board or butcher block in a prominent common area. Emphasize these points in a morning huddle prior to physical training and during training meetings. Build and mold a common understanding of the company priorities and supervise execution that supports those issues. Often the company priorities will not involve training, as the sheer size and scope of manning and equipment issues will be overwhelming, at least initially. Manning issues can be quite frustrating, but equipment issues — if not handled properly — can actually lead to criminal charges and financial penalties. After establishing priorities of work, the commander must ensure all Soldiers in the company understand their particular roles in the operation. A good technique is to delegate the various equipment-related tasks like filling out turn-in forms or inventorying shortages to the company's platoons. Assign the supply sergeant and XO as the direct supervisor of these activities, and the workload on the commodity shops will be greatly reduced.

During our company's inactivation, we built a unit legal team, a supply group, and a motor pool crew that augmented our commodity shops (with some of our best in charge). The additional manpower and new task organization helped to address the unique demands and constraints of inactivation while minimizing the administrative burden of the command team. Our training room focused on PCS awards, leave forms, administrative paperwork, and the monumental effort of tracking the PCS status of every Soldier leaving the unit. Our battalion created a manning briefing format that served as a tracker for unit strength and personnel progress along each step of the PCS process. At the company level, we reviewed and updated this tracker by name for every Soldier, which helped to maintain efficiency and oversight in the process. This allowed command teams to identify PCS roadblocks early and address them with the appropriate agencies and get the Soldier to his or her next unit quickly.

Developing genuine working relationships with the military personnel division is an absolute must. Our battalion commander and S1 officer personally visited our on-post personnel division, handing out coins and meeting face-to-face with the civilians who address and manage the PCS paperwork for our Soldiers. Our company command team did the same, which paid dividends when we had confusing or complicated problems with our Soldiers transitioning out of the unit. Due in large part to the relationships we developed with our military personnel division, our unit had a much easier time correcting paperwork and addressing problems in the PCS timelines of our Soldiers. If the inactivating unit is stateside, the process for transitioning Soldiers out of the unit may be considerably easier, as most Soldiers may be able to simply transition into a sister brigade on post. Regardless of where a Soldier transitions, the process must be highly regulated, and the command team must have constant oversight. Typically, the supply room and the XO handle equipment and property issues, but during inactivation, a more robust team is needed.

Training the Team

Soldiers need to train not only for the inactivation mission at hand, but also for the next mission at their next unit. Just because Soldiers are not performing MOS-related duties daily does not mean they should not remain experts. Unfortunately, training during inactivation can be incredibly difficult. Often the resources, time, organizational focus, and personnel needed to conduct training are not there or are severely limited. Nevertheless, it is critical to continue training both to prepare Soldiers for their follow-on assignments and to ensure they are actively engaged at work because some inactivation tasks may not involve the entire unit. There are four ways any inactivating unit can maximize training opportunities in a resource-constrained environment.

First, focus on simulators. Most posts have a wide array of simulators. The most useful may be the engagement simulations trainer (EST) and the call-for-fire trainer (CFF), as these simulators do not necessarily require coherent units to facilitate training. If a unit maintains functional

teams, crews, squads, and platoons long enough, it may even benefit from collective training simulators such as the close combat tactical trainer (CCTT), unit-conduct of fire trainer (U-COFT), and Virtual Battlespace 2 (VBS2). Regardless of the size and scope of the training, simulator-assisted events must be deliberately planned. While this may be common sense, during inactivation some units will be tempted to simply schedule the trainers as a quick way to fill white space or to occupy the Soldiers while the leadership focuses on equipment turn-in or manning conferences. Such haphazard planning should be avoided at all costs, and simulator-assisted training should be part of a larger training plan that has clear tasks, conditions, standards and end state. Additionally, collective training in simulators should also be multi-echelon training, with operation orders (OPORDs) and troop leading procedures playing an integral part. If the unit conducts a VBS2 event, develop and brief company and platoon OPORDs. Train the platoon leaders to deliver quality orders while also exposing the NCOs to platoon-level planning.

Second, remember the key to successful units is often in the quality of leaders from the team to the platoon level.

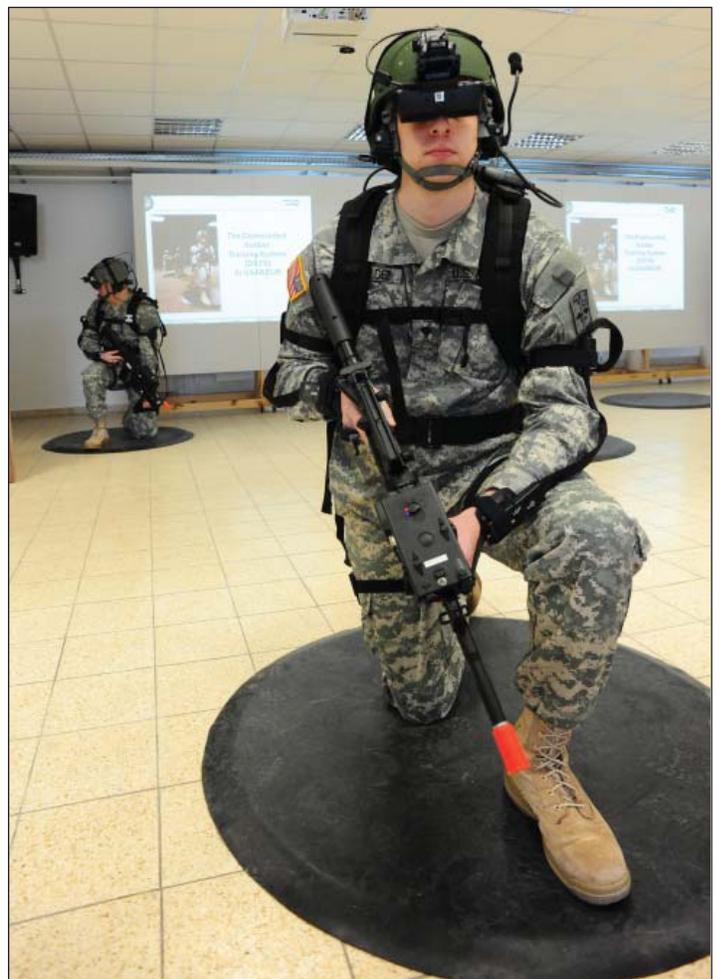


Photo by SSG Pablo N. Piedra

Soldiers from the 172nd Infantry Brigade train using the Dismounted Soldier Training System (DSTS) at Grafenwoehr, Germany, on 21 February 2013. The DSTS is the first fully immersive virtual training environment to conduct dismounted Soldier operations.

Leader training and professional development for officers and NCOs must be part of any inactivation training plan. Deployments and increased operational tempo have limited professional development programs in the past. As the Army returns to garrison life, many leaders may be intimidated by establishing a leader development program, possibly because they assume such programs must be complicated and involved. But some of the best programs are rather simple. Book clubs amongst the officers and NCOs are a great way to spark discussion and creative thinking. There are an abundance of reading lists such as the Army Chief of Staff's reading list, that could easily provide material for months of training. Focusing on one book a month, with one officer or NCO leading the discussion and highlighting significant aspects and ideas, is an ideal way to focus a company professional development program.

Third, tactical decision exercises or vignettes are excellent vehicles for leader development. At the basic school, our instructors often used these during lulls in training or ranges to force us to think quickly and employ sound tactics to achieve specified objectives. These exercises usually involve no more than a map or imagery, a fictional scenario, a hypothetical enemy of any type, and a specified objective. Participants then have a short time to think through the problem, develop a course of action, and brief the plan.

If tactical decision exercises are too basic, then perhaps lead a company tactical exercise without troops in which one half of the company leadership replicates attacking forces on a particular range or terrain while the other half replicates defenders. Both groups conduct reconnaissance on the terrain and then develop an OPORD before briefing the plans to the entire group. The company commander and first sergeant can assess the plans and lead discussions on the strengths and weaknesses of each.

Fourth, with the Army becoming more regionally focused, it may be wise to hold country briefings and basic language instruction amongst the officers and senior NCOs. These classes would not only improve creative-thinking skills but would also increase understanding of other regions in the world — traits our leaders need in an increasingly uncertain security environment.

Preparing subordinates for future assignments and Army schools is also a key task for any commander. In an inactivating unit, a company commander could help prepare his platoon leaders for the career course by focusing professional development sessions on the entrance exam requirements and program of instruction (both of which are listed on the course website). Platoon sergeants could, in-turn, prepare their Soldiers, team leaders, and squad leaders for their respective boards. Focusing classes on uniform standards, regulations, and general Soldier knowledge requires little outside resources and serves as quick, effective training events that have practical benefits for Soldiers and units alike.

Sustaining the Team

During inactivation, command teams must plan to sustain

both the unit's logistics and morale as both can easily fade through the process. For logistics, pay close attention to automations, supply accounts, and facilities to sustain the unit. For morale, focus on unit integrity, high-risk Soldiers, and leveraging on-post agencies.

Units must plan automations availability and supply account status through unit closure. Automations and supply accounts are the fuel on which the company operates, and if a company is without computers or accounts, the inactivation will grind to a halt. Backwards plan for the number of computers the unit requires to ensure that enough computers remain in the company as long as it is operating. Additionally, close supply accounts when able (Class III after the vehicles are turned in), but not before it is necessary. It is likely that Class II accounts will need to remain open for the duration of the process in order to order supplies to sustain daily company activities, but each unit will have its own particular needs.

Units will also turn in facilities as the inactivation process draws to a close and the unit dwindles in size. While it may seem simple, facility turn-in can be quite complex because it is difficult to gauge when the unit no longer needs the facility. While facilities must be kept long enough to sustain training and administrative issues, resist the urge to hold on to facilities (and property) too long. Instead, units should prep facilities and equipment for turn-in as early as possible or else find themselves without enough Soldiers to effectively finish the task. Establish clear turn-in and paperwork standards that remain fixed and uniform to drive facility and equipment turn-in. If these standards change after the start of inactivation, it will cause confusion and drastically slow down the inactivation process. The amount of property and supplies that will appear when a motor pool or office building is emptied is astonishing — start early.

Unit inactivation is not only an administratively difficult process, it also presents unique challenges to the spiritual and mental health of our Soldiers. For this reason, it is critical to maintain unit integrity — keep the Soldiers who deployed together as a coherent unit for as long as possible during inactivation. Soldiers identified to augment the training, supply, and arms rooms must be superior Soldiers who present little or no risk in transitioning to new, first-line supervisors. When tasked with inactivation, a command team may be tempted to task organize the company according to PCS timelines. However, this runs the risk of taking a Soldier out of the squad and platoon chain of command with which he deployed and putting him with a brand new set of leaders that better match his PCS timeline. At first glance, this technique seems attractive because it streamlines the inactivation of a company. But the risk of putting Soldiers in new chains of command that do not understand their particular history and background likely outweigh any advantage. Also, it is key that units maintain an effective leader-to-Soldier ratio. During inactivation, officers and NCOs may PCS or transition out of the unit at a faster rate than enlisted Soldiers, leaving the bulk of the formation leaderless. Command teams must ensure that teams, squads, and platoons retain quality leadership

throughout the inactivation process. The last thing any command team wants during inactivation is a preventable Soldier emergency that could have been avoided if the original chain of command remained intact.

Efforts to combat rising rates of suicide within the military led many units to deliberately track and monitor high-risk Soldiers or those Soldiers who had multiple indicators or factors that might lead to self-harm. In our company, we tracked and updated our high-risk Soldier lists weekly. This became incredibly important during inactivation as we did not want our high-risk Soldiers moved out of their original units or to be in a unit with a leader PCSing or preparing to PCS. We needed our high-risk Soldiers in units where they felt most comfortable and where there was a fully engaged leader, who was focused on inactivating responsibly and not on transitioning out of the unit.

Leverage the full weight of on-post agencies to ensure Soldiers receive the best possible care and treatment during inactivation. Most command teams are familiar with the Army Substance Abuse Program, Army Community Services, Army Family Advocacy, and Military Family life counselors. These organizations provide excellent counseling and care of our Soldiers and can give invaluable advice on a wide range of Soldier issues during inactivation. Including representatives from these organizations in reviews of high-risk Soldiers or during inactivation manning meetings may be a good technique to identify special-needs individuals and prevent any potential incidents. The unit chaplain may also be an excellent source of information, and can assist in monitoring unit morale.

As the casing ceremony draws closer and the unit turns-in

equipment, it may be harder to keep Soldiers focused and engaged. Morale in the unit may take a hit, as the inactivation mission is not as fulfilling for most Soldiers as preparing for deployment or training. Be creative and forward thinking in combating complacency and declining morale. On-post agencies can help. Our company worked heavily with the local Morale, Welfare, and Recreation (MWR) office to design fun events that motivated Soldiers and maintained unit morale. While MWR offices throughout the Army differ slightly, most can offer creative alternatives to morning physical training, such as canoeing or mountain biking, or offer adventure trips, such as rock climbing and hiking. Almost all events require a small fee, but unit fundraising or donations eliminate or limit most costs.

Final Thoughts

Inactivation is a challenging mission, and if recent political developments hold true, far more companies may be involved than originally expected. Although challenging, inactivation does not have to be frustrating for company-level leaders. If proper time is spent building the team prior to inactivation, many frustrations can be avoided. Once inactivation begins, it is imperative that command teams focus their organizations to ensure that the colossal amount of work is evenly spread throughout the formation with the best possible leaders in the right positions. Finally, as inactivation takes hold in a unit, training and sustaining our Soldiers is vital to reducing risk and maintaining unit focus. While not as exciting as a deployment or a rotation at a combat training center, inactivation is just as challenging and no less important. It is critical that company-level leaders inactivate and help shape the future force in a responsible and thoughtful manner.

Notes

¹ GEN Raymond T. Odierno, "CSA Press Conference on Force Structure Reductions," 25 June 2013, http://www.army.mil/article/106433/June_25_2013___CSA_Press_Conference_on_Force_Structure_Reductions__As_Delivered__Includes_Q_A/

² Kristina Wong, "Army to Cut Combat Brigades," *The Hill*, 13 March 2014, <http://thehill.com/blogs/defcon-hill/army/200764-army-to-cut-combat-brigades#ixzz2vtLM6zX4>.

CPT Sam Rosenberg is currently serving as a maneuver company primary observer, coach, trainer with the Timberwolves Team, Operations Group, Joint Multinational Readiness Center in Hohenfels, Germany. He has held leadership positions in combat at the platoon and company levels in both Iraq and Afghanistan. CPT Rosenberg was a company commander in the 172nd Infantry Brigade during the train-up and deployment to Afghanistan as well as during the unit inactivation. He was recently selected as a Downing Scholar and will attend Georgetown University where he will be a candidate for a master's degree in security studies. He has a bachelor's degree in American politics from the U.S. Military Academy at West Point, N.Y.

CPT Stuart Barnes-Israel is currently a student at the Intelligence Center of Excellence in Fort Huachuca, Ariz. He previously served as the XO of Headquarters and Headquarters Company (HHC), 3rd Battalion, 66th Armor Regiment, throughout the unit's inactivation in Grafenwoehr, Germany. He also served as a platoon leader in B Company and deployed to Afghanistan in 2011-2012.



Photo by Gertrude Zach

COL Edward T. Bohnemann, commander of the 172nd Infantry Brigade, and CSM Michael W. Boom case the unit colors during the unit's inactivation ceremony on 31 May 2013 in Grafenwoehr, Germany.



UNMANNED AERIAL SYSTEMS:

WHAT WE'VE LEARNED THROUGH EXPERIMENTATION

LTC (RETIRED) JEFFERY J. GUDMENS

The Joint and Army Experimentation Division (JAED) of the U.S. Army Training and Doctrine Command's (TRADOC's) Army Capabilities Integration Center (ARCIC) is responsible for conducting experiments to prepare the Army for the future and supervises numerous battle laboratories and experimentation and analysis elements at TRADOC Centers of Excellence as they execute experiments. The Mission Command Battle Laboratory at Fort Leavenworth, Kan., Maneuver Battle Laboratory (MBL) at Fort Benning, Ga., Fires Battle Laboratory at Fort Sill, Okla., Intelligence Experimentation and Analysis Element at Fort Huachuca, Ariz., and the Aviation Experimentation and Analysis Element at Fort Rucker, Ala., have conducted numerous simulation-supported experiments that have examined unmanned aircraft system (UAS) employment.

In addition to the simulation-supported experiments, MBL also conducted an annual live force-on-force/constructive simulation experiment — the Air Assault Expeditionary Force (AAEF)/Army Expeditionary Warrior Experiment (AEWE) — since 2004. During AAEF/AEWE, A Company, 1st Battalion, 29th Infantry Regiment, also known as the Experimentation Force (EXFOR) "... conducts experimentation of emerging technologies (in order to) provide Soldier assessment and feedback of systems/capabilities under consideration for

acquisition/fielding to the force."¹ Among the emerging technologies each year are UAS, which the EXFOR Soldiers pilot during tactical operations against an opposing force (OPFOR) that is also equipped with UAS.

The U.S. Army Aviation Center of Excellence's UAS Center of Excellence (CoE) at Fort Rucker outlined how the Army plans to develop and organize UAS in its report "Eyes of the Army" — U.S. Army Roadmap for Unmanned Aircraft Systems 2010-2035. According to the roadmap, a UAS is comprised of an unmanned aircraft (UA), a payload (sensor, weapon, communications, etc.), a human element (the crew), a control element (system to launch, control, and land), a display (how/where a sensor payload information is displayed), communications architecture (hardware/software used to send data between control element, the aircraft, and the display) and life-cycle logistics (equipment needed to move, launch, recover, and maintain the UAS). Within this roadmap, the UAS COE has categorized Army UAS in accordance with the Department of Defense's five identified groupings of UAS (see Figure 1).

During experimentation efforts over the past 10 years, analysts identified critical information that enabled the Army to develop a UAS strategy for operations in Iraq and Afghanistan as well as future operations. Additionally,

Figure 1 — UAS Categories and Current Systems²

UAS Category	Max Gross Takeoff Weight	Normal Operating Altitude (Feet)	Airspeed	Current U.S. Army UAS in operation
Group 1	<20 lbs	<1,200 Above Ground Level (AGL)	<100 Knots	RQ-11B Raven
Group 2	21-55 lbs	<3,500 AGL	<250 Knots	No Current System
Group 3	<1,320 lbs	<18,000 Mean Sea Level (MSL)		RQ-7B Shadow
Group 4	> 1,320 lbs	>18,000 MSL	Any Airspeed	MQ-5B, MQ-1C
Group 5				No Current System

observations from Soldiers, UAS technology providers, experiment control/support personnel, and OPFOR members provided important insights into the desired characteristics of UAS; tactics, techniques, and procedures (TTPs) for UAS employment; and the proper mix of UAS to support tactical operations from platoon to division.

UAS Desired Characteristics

Over the course of several campaigns of experimentation, the experiment community of practice (COP) identified characteristics that should be common to all UAS, regardless of size, category, or echelonment. While not all inclusive, these characteristics include detectability, ease of control, location identification, and ability to complete required mission set.

A UA conducting operations must be difficult to detect so the enemy doesn't know it is being observed. If the enemy detects a UA, they can hide or worse — portray false actions in an attempt to deceive. UA are most often detected because they were seen or heard. Any UA should be silent to anyone on the ground while it is conducting operations at its operating altitude. Additionally, a UA should not be observable from the ground while at its operating altitude, which in some cases will restrict operations to periods of limited visibility. One solution is having a UA that can operate offset from the objective with the ability to observe the objective from that distance. If a UA can be seen or heard while conducting operations, its

value is reduced and it should not be employed.

A UAS can have every feature you want, but if the control element is too burdensome, the UAS is of little worth. All UAS have some sort of ground control system (GCS), be it a small tablet for a Group 1 UAS to multiple control trailers for a Group 5 UAS. While a vehicle-mounted GCS may be appropriate for a company in an armored brigade combat team (ABCT) or a Stryker brigade combat team (SBCT), it would be unsuitable for an Infantry brigade combat team (IBCT). Additionally, if a UAS requires an entire rucksack for the control element and life-cycle logistics (batteries, spare parts, etc.), then it is inappropriate for an IBCT as well. The control element must be appropriate for the type of unit and echelon of employment.

Soldiers operating UAS during AEWE have identified the need to have both active flight control (they physically fly the UA) and waypoint movement control (they pre-program the route) methods of employment and the ability to shift between them at will without losing capability during the transition.

Soldiers also have observed that many of the optical sensors Group 1 UAS do not have an electro-optical (EO) or infrared (IR) sensor payload that provides enough fidelity. There are many quality UAs produced today so the Army should concentrate on payloads. Having common payload characteristics allows a UA company to build the UA, while another company that builds quality payloads can develop payloads that satisfy the requirement of the overall UAS.



Photo by Angela Depuydt

Experimentation Force Soldiers operate an unmanned aerial system during the Army Expeditionary Warrior Experiment at Fort Benning on 16 January 2013.

One very important requirement for a UAS is its ability to perform the mission required by that echelon of employment (platoon-division). Modern UAS can conduct numerous mission profiles including surveillance, reconnaissance, communications relay, attack, etc. However, not all UAS are able to perform every mission profile and at each echelon of employment, but the UAS must perform the mission profile the unit needs. Systems supporting target acquisition must have the ability to identify targets with enough fidelity to allow engagement with indirect fire systems. UAS conducting reconnaissance missions unable to provide the location of what it is observed is not effective. Units conducting night operations must have UAS with the ability to “see” in limited visibility (with infrared, synthetic aperture radar, etc.). When selecting UAS for each echelon, the Army must carefully consider the requirement of the echelon and the particular type unit; ABCT requirements are different than IBCT requirements.

Every UAS in the Army inventory should have the ability to identify locations. A UAS should display the UA location and should also have an indication of the direction it is observing so those doing analysis can determine locations. Some UAS require the fidelity to have the location of what the UAS is observing, like UAS supporting a fires battalion. A UAS without any ability to provide locations provides minimal information.



Photo courtesy of PEO Aviation

Current Army UAS include the MQ-1C Gray Eagle, RZ-7B Shadow, MQ-5B Hunter, RQ-11B Raven, and RQ-20A Puma.

UAS Tactics, Techniques, and Procedures (TTPs)

Extensive and recurring experimentation has resulted in the capture of some TTPs for UAS employment. Soldiers operating the systems, leaders of units supported by the UAS, UAS technical providers, experiment control personnel, analysts, and OPFOR Soldiers and commanders generated these TTPs.

The requirement to secure the UAS launch/recovery location and the operators at the GCS is very important. For Group 1 UAS, it is best to have the operators move with their unit and launch from the unit's location, thus ensuring residual security. Group 2 and larger UAS require some sort of open area to launch and recover; the larger the UAS, the larger the launch/recovery area. For any UAS launch/recover operations away from the unit's location, the unit will require dedicated security as the UAS crew will be consumed with air operations.

All UAS operations, regardless of payload, are an operational decision, so employment decisions need to be made by the commander or his operational representative. Many UAS can carry different payloads. The MQ-1C Gray Eagle Extended-Range Multi-Purpose (ERMP) UAS that supports divisions can be configured for surveillance, communications support, and as an attack platform. The division G6 will want the platform for communications relay while the G2 will want to get as many platforms as he can for reconnaissance and surveillance. As the representative of the division commander, the G3 or chief of staff decides the ERMP missions. This decision is usually best decided in an UAS board or in a meeting, where all interested parties can present their case before the decision is made.

The life-cycle logistics of any UAS has a great effect on UAS operations and the unit it supports. Every UAS requires power, be it batteries or fossil fuel to operate, and the unit has to have the ability to manage fuel. How will an airborne IBCT obtain batteries for its UAS immediately after conducting an airborne assault? UAS should be durable

with the ability to quickly and easily repair broken parts. UAS require maintenance and parts to maintain operations, and units must prepare for this. While UAS operations require different logistics, the unit supply system is capable of providing this when leaders plan for it.

UAS mission planning improves operations and provides security for the unit. Each unit, from platoon to division, has different groups of UAS, and planners need to ensure that units have continuous UAS coverage. UAS mission planning must ensure that while one UA is in the air conducting its mission, another is ready to launch to replace it before the original UA lands. Additionally, the replacement UA is prepared to launch in case the original UA has to terminate its mission early. Route planning is an important part of UAS mission planning. Good route planning enhances airspace command and control (AC2). Units should not fly directly to and from the target area because the enemy can observe the direction the UA is flying and either follow the UA back to its launch location or predict the location using the flight direction and a map reconnaissance. Another mission planning tactic is to avoid what is called "echelonment" of UAS. Units should avoid flying the brigade UAS, followed by the battalion UAS, the company UAS, and finally the platoon UAS in an orchestrated procession of systems. While continuous UAS coverage of an enemy position may fix an enemy that is trying not to be seen, commanders need to be careful not to give away their plan with an echelonment of UAS.

Managing the UAS-congested airspace over the battlefield has been and continues to be a difficult task, especially below BCT level. Division and BCTs have staff sections with the personnel and equipment to provide some positive airspace control. Below BCT level, the airspace should be controlled with procedural airspace control, but the Army requires more experimentation and training to achieve an acceptable level of control.

UAS Unit Recommendation

Based on years of experimentation with UAS in live, virtual, and constructive events, the following are recommendations for particular UAS support for the different echelons of maneuver units from squad to division.

The lowest level that should have organic UAS is the platoon. Squads should not have personnel dedicated to UAS operations; if they require UAS support, the platoon should provide it. Platoons should have two Group 1 UAS. These UAS should be vertical take off and landing (VTOL) and only require electro-optical (EO) and infrared (IR) sensor payloads. They should have 45-minute endurance. They should have a tablet-based GCS that is also the display. They should operate with the platoon and receive residual security from being with the platoon. Some examples of platoon UAS that satisfy these recommendations include the Sky Watch Huginn X1, Airrobot AR100B, and gas micro-air vehicle (gMAV) small UAS.

Companies in an ABCT, SBCT, and IBCT should have a dedicated UAS section at the company level that works closely with the company intelligence support team (CoIST) to provide UAS support and basic AC2. Company-level UAS support is different based on the type of BCT due to factors such as mission and mobility. The ABCT and SBCT company UAS section should have two hand-launched Group 1 UAS with two aircraft each (for a total of four aircraft) supported by a vehicle for life-cycle logistics, control element, and communications architecture. Company UAS

payloads should include an EO and IR sensor as well as a communications-relay payload. These UAS should have a one-hour endurance. The display should be visible in the GCS but also visible in the CoIST and/or the commander's vehicle. The UAS could collocate with the company mortars (both have similar requirements for locating positions), and this combined element could secure itself. If it operates independently, it will require a security element. Some examples of company UAS that satisfy these recommendations include the RQ-11B Raven, Skylark Block I UAS, and Desert Hawk Extended Endurance & Range UAS.

The companies in an IBCT (including airborne and air assault) do not have the mobility of other BCT companies, so their UAS sections need to be different. The company UAS section of an IBCT should have two VTOL Group 1 UAS (similar to the platoon-level UAS) and one hand-launched Group 1 UAS (similar to the A/SBCT companies). These UAS should have the same payloads and display options as previously mentioned. While the IBCT company UAS section should have a vehicle, they should be trained and prepared to operate dismounted for extended periods. Like their heavier "brothers," they should operate with the company mortars.

Like at company level, the IBCT battalion UAS sections need to be different than the ABCT and SBCT battalion UAS section. ABCT and SBCT battalion UAS section should consist of three Group 2 UAS each with two aircraft (for a total of six aircraft). The Army currently doesn't have a Group 2 UAS, but the U.S. Navy and the U.S. Marine Corps (USMC) are developing this capability. These Group 2 UAS should have a requirement for short launch and recovery areas; this may include catapult-launched aircraft and parachute/hook/stall and airbag recovery options. ABCT and SBCT battalion UAS payloads should include EO, IR, synthetic aperture radar (SAR), signal intelligence (SIGINT), and chemical, biological, radiological, nuclear, high-yield explosive (CBRNE) detection sensor packages, and communications packages. Battalion UAS should have a minimum of six hours of endurance. Battalion UAS displays need to be completely integrated into the network for full motion video sharing both higher and lower. These UAS will launch and recover from the battalion or BCT rear area (consider areas like combat trains or field trains), and may have to be augmented with security. Some examples of battalion UAS that satisfy these recommendations include the Scan Eagle UAS, and the Silver Fox UAS.

The UAS section of an IBCT battalion should consist of one Group 2 UAS with two aircraft (the same as above), and two Group 1 UAS with two aircraft each (for a total of four aircraft). Just like their company UAS sections, the IBCT battalion UAS section should be prepared to operate dismounted for extended periods.

Each BCT should have a UAS platoon with three Group 3 UAS, each with two aircraft (for a total of six aircraft). The launch and recovery location is large and may include unimproved and improved airfields. However, they can still be catapult launched and hook recovered. Their payload



Photo by Cheryl Rodewig

An EXFOR Soldier demonstrates the Airrobot UAS during the Army Expeditionary Warrior Experiment at Fort Benning in December 2008.

should include EO, IR, SAR, SIGINT, CBRNE sensor, and communications packages. BCT UAS should have an endurance of at least 8-10 hours. Like battalion UAS, the BCT UAS need to be completely integrated into the network for full-motion video sharing both higher and lower. The BCT UAS platoon should try to collocate with another unit for security, but if this is not possible they may require attachment of security forces. Some examples of BCT UAS that satisfy these recommendations are the RQ-7B Shadow, RQ-21A Blackjack, and Viking 400.

Each combat aviation brigade (CAB) that supports a division has a UAS company to provide UAS for division operations. The company has six Group 4 UAS with two aircraft each (for a total of 12 aircraft). Their payload should include EO, IR, SAR, SIGINT, and CBRNE sensor packages like previously discussed UAS, but should also have advanced sensors. These sensors include moving target indicator (MTI), light detection and ranging (LIDAR), laser radar, and measures and signatures intelligence (MASINT). Division UAS payloads should also include communications packages, laser range finders, and laser target indicators. Like previously discussed UAS, the division UAS need to be completely integrated into the network for full motion video and other information sharing both higher and lower. Group 4 UAS require a 4,500-foot hard surface runway for launch and recovery, so they will be located on an airfield and integrated into the airfield defense plan. Some examples of division UAS that satisfy these recommendations are the MQ-1C Gray Eagle, and the MQ-1B Predator.

The Army has come a long way in the past 25 years with the employment of UAS. UAS were successfully employed during operations Enduring Freedom and Iraqi Freedom, as well as many other operations worldwide. Even while operations were ongoing, Army experimentation was examining UAS operations to better prepare the Army of the future. Over this decade-long campaign of learning, the Army has gained valuable insights for UAS characteristics, TTPs, and employment. The Army UAS program is better prepared because of experimentation.



Photo by TSgt Christopher Gish

An airman operates a Desert Hawk unmanned aerial system.



U.S. Navy photo

Navy and Insitu personnel lift the RQ-21A Small Tactical Unmanned Aircraft System (STUAS) onto a launcher in preparation for flight at Naval Air Weapons Station China Lake, Calif.

Notes

¹ 1st Battalion, 29th Infantry Regiment website, accessed 29 January 2014, <http://www.benning.army.mil/infantry/197th/129/>.

² U.S. Army UAS Center of Excellence, "Eyes of the Army": US Army Roadmap for Unmanned Aircraft Systems, 2010-2035, Fort Rucker, Ala.: U.S. Government Printing Office, 2010, <http://www.rucker.army.mil/usaace/directorates/cdid/tcm-uas/index.html>.

LTC (Retired) Jeffrey J. Gudmens is a contractor supporting the Joint & Army Experimentation Division at TRADOC, with duty at the Mission Command Battle Laboratory at Fort Leavenworth, Kan., supporting Army experimentation. He served as the UAS coordinator at the Army Expeditionary Warrior Experiments at Fort Benning, Ga., for six years and has coordinated UAS in numerous other Army experiments. He holds a bachelor's degree in history from the University of Dayton, a master's degree in history from American Military University, and a certificate in Cybersecurity Policy from the University of Maryland University College. LTC Gudmens was an Infantry officer who served in the 82nd Airborne Division, 6th Infantry Division, 25th Infantry Division, XVIII Airborne Corps, and I Corps. He also taught history at the Command and General Staff College and was the team leader of the Combat Studies Institute's Staff Ride Team.

Who You Gonna Call?

DECIPHERING THE DIFFERENCE BETWEEN RESERVE, QUICK REACTION, STRIKING, AND TACTICAL COMBAT FORCES

LTC (RETIRED) MICHAEL T. CHYCHOTA AND LTC (RETIRED) EDWIN L. KENNEDY JR.

Unlike in the 1984 film, when faced with a problem of enormous dimensions and severe ramifications, the worldly Army unit commander cannot follow the admonitions of Dr. Raymond Stantz and Dr. Peter Venkman and answer: “Ghostbusters!” Instead, today’s Army commanders have several options to whom to place that all important 911 call. From the quick reaction force (QRF), across the spectrum including the rapid response force (RRF) or, in some references, the ready reaction force (RRF), the tactical combat force (TCF), and the reserve, to the vaunted “striking force,” organizations are standing by to strive mightily to “save the supported commander’s bacon,” so to speak. Unfortunately, knowing whom to call in what situation and where that organization might be is all too often clouded in mysterious volumes of forgotten doctrine. It is not addressed in the Army Doctrine Publication (ADP) and Army Doctrine Reference Publication (ADRP) ménage of “Doctrine 2015.”

For example, the greenest young captain commanding for the first time knows that his battalion commander told him the reserve will come running with Infantry possibly

supported by tanks, engineers, and artillery, to wreak havoc, kill the bad guys, and restore order to the young captain’s troubled land. Yet, how does the battalion commander (or any other commander) know how to organize, position, and employ this ad hoc organization whose purpose is to save us from destruction or exploit our success?

Many of the majors we teach at the Command and General Staff Officer’s Course are confused as to the type and purpose of the units to use, especially in conventional operations based on several years of experience conducting counterinsurgency (COIN) operations. We hear it in classroom discussions and read it on student written requirements.

The question of knowing whom to call prompted a check with ADRP 1-02, *Terms and Military Symbols*, and on page 1-32, the definition of reserve is: “reserve — (Army) That portion of a body of troops which is withheld from action at the beginning of an engagement, in order to be available for a decisive movement. (ADRP 3-90, *Offense and Defense*).” Further searches find the definition of “striking force” on page 1-34 to be “striking force – A dedicated counterattack force in a mobile defense constituted with the bulk of available combat power. (ADRP 3-90) See also, mobile defense.”

Not found anywhere mentioned in ADRP 1-02 are the



organizations of QRF (or any other type of reaction or response force) such as a TCF. However, a casual glance at division, corps, and joint task force (JTF) operation orders will reveal that QRFs and TCFs are receiving missions and specific tactical tasks.

According to ADRP 3-90, "A reserve is that portion of a body of troops which is withheld from action at the beginning of an engagement, in order to be available for a decisive movement." The reserve is initially not a committed force and thus does not normally have a full suite of combat multipliers available to it until its commitment. It is normally the echelon's main effort once committed.

The commander constitutes a reserve regardless of which element of operations currently dominates. The commander bases the desired size of the reserve on the level of uncertainty and risk in the current tactical situation. The location occupied by the echelon reserve depends on the most likely mission for the reserve upon commitment, or on survivability considerations. The commander can assign the reserve a wide variety of tasks to perform upon commitment, and it must be prepared to perform other missions. The primary tasks for a reserve are to:

- Retain the initiative;
 - Take advantage of unexpected success ("exploitation");
- and
- Counter tactical reverses that threaten the integrity of the friendly force's operations.

A commander should always retain a reserve, reconstituting one whenever possible upon the commitment of the original reserve. Unlike the "striking force," the reserve's size is contingent on risk and forces available.

So, how does the young leader know the difference between the reserve and the striking force? Farther along in ADRP 3-90, the very clear guidance concerning the striking force delineates that: "The mobile defense is a defensive task that concentrates on the destruction or defeat of the enemy through a decisive attack by a striking force. The mobile defense focuses on defeating or destroying the enemy by allowing enemy forces to advance to a point where they are exposed to a decisive counterattack by the striking force. The striking force is a dedicated counterattack force in a mobile defense constituted with the bulk of available combat power. A fixing force supplements the striking force. The commander uses the fixing force to hold attacking enemy forces in position, to help channel attacking enemy forces into ambush areas, and to retain areas from which to launch the striking force."

Additionally, ADRP 3-90 states: "A mobile defense requires an area of operations with considerable depth. The commander must be able to shape the battlefield, causing an enemy force to overextend its lines of communication (LOCs), expose its flanks, and dissipate its combat power. Likewise, the commander must be able to move friendly forces around and behind the enemy force targeted to be cut off and destroyed. Divisions and larger formations normally execute mobile defenses. However, brigade combat teams (BCTs) and maneuver battalions may participate in a mobile

defense as part of the fixing force or the striking force."

From this guidance, echelons below division do not conduct mobile defenses, but lower echelons may be part of a mobile defense. So, the question arises, in what manner does a reserve differ from a striking force at division or higher?

ADRP 3-90 states: "The defending force conducts operations throughout the depth of the enemy's formation in time and space to destroy the enemy's key units and assets, particularly their artillery and reserves, or disrupt their timely introduction into battle at the point of engagement. This allows the defending force to regain the initiative. It conducts spoiling attacks to disrupt enemy's troop concentrations and attack preparations. The defending force counterattacks enemy successes rapidly with its reserve, the forces at hand, or a striking force before the enemy can exploit success. It conducts electronic warfare to assist this process."

Are the reserve and the striking force really two different animals? According to our doctrine, they are separate and distinct, but they are frequently confused due to some similarities in their commitment.

The biggest difference is that a striking force is a committed force once it has been designated in the operation order (OPORD) or operation plan (OPLAN). A reserve is not "committed" until it is employed. This has ramifications for the assignment of supporting forces and fires. For example, because a striking force is "committed," it is automatically included in the scheme of maneuver and assigned attached or supporting forces. Fires that cannot be employed elsewhere until properly relieved can also be assigned. Because a reserve is not committed until its employment is ordered, it does not have assignment of fires or priorities of support. Generally, it will not have additional supporting forces assigned until actual commitment. While a reserve can plan for possible commitments based on most likely and most dangerous enemy courses of actions (MLECOA/MDECOA), it may actually never be employed. The reserve is a contingency force, not part of the primary scheme of maneuver.

Here is where we then find a conundrum: Since "striking forces" are part of a mobile defense and the lowest level a mobile defense is constituted is the division/joint task force (JTF), how does a BCT or battalion execute a scheme of maneuver with a dedicated force designed to counterattack the enemy in the main battle area (MBA)? Doctrinally, the answer must be the use of a reserve. So, at the BCT and below, any counterattack force is a reserve, not striking force. However, this means that the designated reserve's coordination with other supporting elements becomes more complex since other supporting elements are not attached or supporting until the commitment of the reserve. This requires a great deal of flexibility with the units involved.

One of the forces that has fallen out of the "lingo" of our Army in the past 12 years is TCF. The reason is that in a low-intensity, unconventional conflict, the purpose of the TCF is negated (i.e.; fighting "Level III" threats). Unlike Vietnam, and potentially what might have occurred in Europe, the

counterinsurgencies in Iraq and Afghanistan have not consisted of Level III threats in the areas constituting the base support areas. The threats are not a conventional, mobile force, but a smaller, unconventional force.

The origins of the TCF go back to the development of AirLand Battle (ALB) doctrine. The developers of ALB doctrine studied the operations on the Eastern Front between the German and Soviet forces in World War II as well as the battles in Golan Heights in 1973. The U.S. doctrine developers realized that we faced many of the same problems then facing the Warsaw Pact that the Germans previously faced with the Soviets and the Israelis later faced with the Syrians. Additionally, modern Soviet doctrine depended upon deep penetrations of NATO defenses by *desant* or mobile armored columns — operational mobile groups (OMGs) or mobile groups (MGs). These conventional forces were too powerful for NATO sustainment forces and territorial defense units in the rear areas to handle. Rear area threats became classified according to the size and threat — Levels I through III. The need arose for designated conventional forces to fight Level III threats which have significant capabilities not possessed by rear-area NATO forces. The TCF became the solution since it requires the use of “movement and maneuver” (formerly combat arms) units armed and equipped to fight a like conventional force.

Soviet deep attacks were of significant concern to the German Wehrmacht and later to NATO. The intent of the Soviet deep attacks was to hit the “soft” rear areas and disrupt the logistics, support, and command/control for the MBA forces, or more importantly, destroy the U.S. tactical nuclear delivery units during the Cold War era. The Wehrmacht’s solution to the Soviet rear-area threats required detailing forces to specifically deal with Soviet breakthrough forces and thus taking combat power from the front lines. Additionally, as the war progressed, the Germans realized the “front” could be anywhere, and they began training

service and support troops to defend themselves against what we now classify as Level I and II threats. A number of innovative solutions were tried, but the biggest effect was the realization that Soviet forces, once in the rear areas, generally could be isolated and destroyed. This countered the psychological effects of the “enemy in the rear.” As a result of their WWII experiences, the modern Soviet/Russian response has been to make the mobile groups’ combat and sustainment support power more robust.

Rear area Level I threats do not require mobile forces to fight them. However, Level II threats may require larger, more capable responses. A mobile force with appropriate fire support designated, usually by the area commander, deals with Level II threats in the rear area. The Level II-oriented forces are called “response forces.”

Because of the nature of the threat and conflicts in Iraq and Afghanistan, a relatively new organization has been designated and codified. Since stability and COIN operations tend to be relatively static and offensive/defensive actions are generally of limited nature and scope, a force not related to offensive and defensive operations has been designated as the “quick reaction force.”

Like the reserve, the QRF is an uncommitted force designed to handle emergency responses for forces operating in the assigned area of operations. “Quick” designates not only the speed of response but the speed of movement to the point required. The QRF must be highly mobile and able to respond in enough time to prevent the enemy from decisively defeating or destroying the unit that the QRF is assisting. A QRF is a response force but not a “response force” in the sense of Level I or II threats considered in conventional operations.

QRFs operate everywhere in the assigned area of operations of units conducting stability or COIN operations. Joint Publication 1-02, *Department of Defense Dictionary of Military and Associated Terms*, states that a response

Figure 1 — Tactical and Operational Contingency Force Matrix

TYPE FORCE	COMMITTED	UNCOMMITTED	SIZE	OBJ - ENEMY MANEUVER FORCES	OBJ - LVL 1-3 FORCES	OFFENSE/ DEFENSE	COIN/ STABILITY OPERATIONS	PRIORITY OF FIRES SUPPORT
RESERVE		X ²	Depends on Risk and ECOA	X		X / X	X	X
TCF	X		Depends on Risk and ECOA		X Lvl III	X / X		
QRF		X	Depends on Risk				X	
STRIKING FORCE	X		Bulk of Def Maneuver Force	X		O / X		X
REACTION FORCE		X	Depends on Risk and ECOA		X Lvl I and II	X / X Lvl I and II		
RESPONSE FORCE		X	Depends on Risk and ECOA		X Lvl II	X / X Lvl II		

force is “a mobile force with appropriate fire support designated, usually by the area commander, to deal with Level II threats in the rear area.” QRFs are therefore designated in stability and COIN situations but not usually in conventional situations. The level of threat is not pertinent to QRFs since such “level” threats are not normally designated in stability or COIN operations by doctrine.¹ This may, however, change in emerging doctrine that addresses “hybrid” forces with both unconventional and conventional capabilities.

Figure 1 sorts the types of forces, their commitment for planning, size of forces used, the type of enemy faced, and the type of operation in which the forces are employed. It is an attempt to classify types of forces used and planning considerations affecting their employment.

In Closing

What kind of force to designate and whom to call can be confusing if the units involved do not understand the doctrine along with the second and third order effects. The support requirements, the size and composition of the elements involved, and the receipt of priorities of fires and support to the units involved are especially important to unit planners and commanders.

Doctors Stantz and Venkman might rest assured that whatever force they need to use, after familiarizing themselves with the current doctrine, they will pick the correct one.

Notes

¹ Stability and COIN operations generally fall under the auspices of “irregular war” which, by definition, is the conduct of operations against irregular combat forces. These forces are likely to be those that would constitute Level I or II forces in a conventional scenario. With advent of “hybrid” threats, e.g.; non-state, terrorists with conventional capabilities, the consideration for the use of the threat levels might be considered appropriate.

² Reserve forces are designated and given priorities for planning and commitment. However, until they are ordered into action, they are “uncommitted.” Once they have been ordered into action, they become committed forces and another reserve should be constituted.

LTC (Retired) Michael T. Chychota is currently serving as an assistant professor with the Department of Tactics, U.S. Army Command and General Staff College (USACGSC), Fort Leavenworth, Kan. He began his career as a student at the U.S. Military Academy (USMA) at West Point, N.Y., in 1969. Upon graduation, he was commissioned as a Field Artillery officer and served on active duty until his retirement in 1993. During his career, he completed assignments with the 5th, 8th, and 25th Infantry Divisions.

LTC (Retired) Edwin L. Kennedy Jr. is currently serving as an assistant professor with the Department of Command and Leadership, USACGSC, with duty at the satellite campus at Redstone Arsenal, Ala. He enlisted in 1971 as an Infantryman and retired in 1997 after having served in a variety of command and staff positions in CONUS, Republic of Korea, and Germany. LTC (Retired) Kennedy graduated from USMA and has master's degrees from USACGSC and Webster's University.

HHC/BDE ... SEPARATE COMPANY?

COL BLACE C. ALBERT

Since our Army began transforming to brigade combat teams (BCTs), brigades have created different business rules for their headquarters and headquarters company (HHC/BDE). The question has never been about whether or not the Soldiers in this company require leadership, resourcing, and supervision; rather, the question is which organization should provide these things for the company?

Some believe that this company should remain as a completely separate subordinate organization in the BCT. On the other end of the spectrum, some would argue that the company should be attached to the brigade special troops battalion (BSTB) with the BSTB assuming complete ownership as they do for their other companies. The compromise is that an operations order or memorandum of agreement (MOA) outlines what the BSTB is responsible for and what authorities over the company they do not have. As the Army undergoes another transformation from BSTBs to brigade engineer battalions (BEBs), the question of how to exercise mission command with respect to the brigade HHC remains relevant. This article will make the case for the course of action in which the company is attached to the BEB, and that battalion should assume 100 percent responsibility for the organization. Why? Because this increases the BCT's ability to accomplish its mission, and that is what we are all trying to achieve.

HHC/BDE requires supervision like every other company in the Army. There are numerous tasks that Soldiers must complete each week. Some of these are directed, such as annual information assurance training. Some of the tasks are created at battalion level based on the experience of the commander and staff. For example, a few months into our deployment we made everyone update their DD Form 93, *Record of Emergency Data*. The opponents of attachment to the BEB say that this is what the company commander and first sergeant (1SG) are for — partially true, but all companies need things to be reinforced or prioritized, and a company commander and 1SG do not have the same depth of experience as a battalion commander and command sergeant major. Figure 1 shows numerous things that the BEB can ensure that the Soldiers of HHC/BDE accomplish. Many of these things require mature proof-reading, guidance, and input to the content — all things that a battalion commander and a battalion staff can provide.

The company has resourcing requirements just like the other 29-37 companies in the brigade. Soldiers in HHC/BDE are required to qualify on their weapons, complete driver's training to receive a valid military driver's license, do annual drown-proofing, train on Warrior Tasks and Battle Drills, attend numerous schools, and many other things. Resourcing the ammo, ranges, pool, vehicles, field rations, training areas, etc., is the responsibility of a battalion staff, and the BEB can do this

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| <ul style="list-style-type: none"> • Global Assessment Tool (GAT) • FORSCOM Risk Assessment Tool • Information Assurance (IA) training • Update DD93s • Timely award submissions • Timely NCO/officer evaluation report (NCOER/OER) processing • Proper 4187 routing • Serious incident reporting • Accident reporting • Incident/accident review boards • Congressionals | <ul style="list-style-type: none"> • Investigations • Field-grade Uniform Code of Military Justice (UCMJ) • Distribution of command information • Family readiness group account audits • Unit status reports (USRs) • Financial liability investigations of property loss (FLIPLs) • Security clearances • Flags/Bars to reenlistment • POV inspections |
|--|---|

Figure 1 — Company Tasks Supervised by a Battalion

for HHC/BDE. Who will do this if the company does not work for the battalion? The company commander is not staffed to accomplish this on his own, and the brigade staff is busy enough. Why would they want to have the responsibility of taking care of an extra company on top of the six to seven battalions? HHC/BDE should attend the BEB training meetings, resource conferences, and executive officer (XO) meetings. The battalion commander can approve the company training schedules. These are all things that any extremely busy brigade XO or brigade S3 would gladly let someone else do so they can continue to focus on responsibilities across the battalions vice managing an individual company.

The company leadership of HHC/BDE requires battalion mentorship just like any other company commander, XO, or 1SG would. Perhaps 10 years ago, one could argue that these company leaders were the best in the brigade — many having commanded another company already. My recent experience, however, shows that the HHC/BDE is not usually a second command anymore (zero times in the two brigades I was in between 2005 and 2012), and many times it is filled by an officer who is not combat arms. These company-level leaders need just as much mentorship as the other company command teams in the BCT. This mentorship can come from the BEB commander, and it involves a lot more than just signing things like Army Achievement Medals (AAMs) and 4187s in an administrative control (ADCON) relationship. Again, the senior brigade staff officers are too busy to put *sufficient* effort into the mentorship of a young captain. And frankly, some business needs to remain in a “green-tab” chain of command because it is the business of commanders, not staff officers. Examples would include execution or supervision of the Command Supply Discipline Program, risk assessments, leader professional development programs, command maintenance, promotions, unit commander financial reports, unit status report (USR) submissions, and many other things. Every other company commander has a battalion commander conduct his change of command ceremony and then gets rated by a battalion commander; why would this company commander be different? But if the BEB commander is going to rate the HHC/BDE company commander, that captain should be attached and completely accountable to the battalion. Only with complete supervisory

and mentorship responsibilities can the BEB commander provide the HHC/BDE commander an honest, justified officer evaluation report (OER).

Why can't it be a separate company; that's how we used to do it? Those who disagree with attaching HHC/BDE to the BEB will frequently make this statement. This isn't very sound logic for the argument, however. The Army transformed. It is constantly adapting, and we require our leaders to be agile and willing to accept that things change. Based on Stryker brigade after

action reviews (AARs), transformed BCTs were given a BSTB commander and staff to assume all of the leadership responsibilities for what used to be the brigade's separate companies. The Army is again transforming so that even the Stryker brigades will receive a new BEB. If the BEB performs the function of “unique company” integrator for the BCT's military intelligence company, the BCT's signal company, and numerous other attachments, why couldn't it perform the function for the BCT's headquarters company? The response: “Because we are brigade, we don't belong to a battalion. **We** tell the **battalions** what to do.”

It seems that often the biggest heartache that opponents of this task organization have is that the brigade staff can be tasked by the battalion (BSTB or BEB). For example, the brigade can tell the BEB to provide six people for the post police-call detail, and the BEB can turn around and tell HHC/BDE they need one person for this detail. There are two important points to make here. First, HHC/BDE has 175 Soldiers that can, and should, help accomplish our missions (which is really what a “tasking” is) — the other six-seven HHCs in the BCT operate this way. Are the unmanned aerial vehicle (UAV) pilots or Joint Network Node (JNN) operators less valuable than the brigade S3's schools NCO? We are all on the modified table of organization and equipment (MTOE) for a reason, and it is not to pick up trash on post. We must ALL assume a fair share of taskings, which leads to the second point — why would we not trust the BEB S3, a major with 12-15 years of experience, to determine what HHC/BDE's fair share is? Usually, this major has already served on a BDE staff and has a very good idea of what HHC/BDE can take on without being to the detriment of the BCT. It is common for key and essential personnel to be exempted from duty. This technique may be applied to assist the BEB S3 from tasking the brigade inappropriately. Coupled with communication between the majors working on the BEB and brigade staffs, very few issues will arise in this unique relationship.

One of the HHC/BDE 1SGs I knew would periodically suggest that things would work better if HHC/BDE was not attached to the BSTB. I was always surprised by this due to the many things the battalion did for the company — things like providing resources and briefing the HHC/BDE USR so the company commander and 1SG didn't have to. What I

found extremely ironic, however, was that the 1SG was unknowingly asking to become less empowered. He didn't realize what it would be like as a separate company because he had never operated that way. If the brigade XO or S3 was tasking HHC/BDE directly, they would almost certainly say, "Use SFC Smith for the funeral detail," for example. However, if the brigade tasks the BEB for a SFC for funeral detail, the battalion will task HHC/BDE for a SFC. Now the 1SG is empowered because he will go to his meeting with the brigade section NCOICs and discuss which SFC they should use.

Finally, attaching HHC/BDE to the BEB is good for the morale of the Soldiers. Whoa! That's a bold statement, but one that is absolutely true. All leaders should provide inspiration, keep their subordinates informed and motivated, and create an environment where Soldiers want to come to work and are proud of what they accomplish. We all want to feel like we are a part of something bigger than ourselves. But how many brigade staffs accomplish this? Most of the leaders I've known within multiple HHC/BDEs are merely "rowing to serve the ship"... working as hard as they can so they can be home by 1900 or not have to come in on the weekend. Figure 2 is a list of events that Soldiers in HHC/BDE participated in when they were attached to the BSTB.

The majors and senior NCOs on the brigade staff may not care much about these events, but Soldiers do. Getting to participate in a day of sports or hanging out with your Family at an Organizational Day is good for Soldier morale. Being included in combat patch ceremonies or having your own company pictures in a yearbook that documented your deployment make Soldiers proud. Staying informed by hearing your senior leaders speak at various formations or lunches increases your level of job satisfaction. The bottom line is that functions run by battalions are important for Soldier morale and provide one more reason why HHC/BDE should be attached to the BEB.

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| <ul style="list-style-type: none"> • Best company competitions • Company commander lunches • Officer PT • Organizational day • Receipt of birthday cards from battalion commander • Command maintenance formations • Combat patch ceremony • Safety awards | <ul style="list-style-type: none"> • FRG leader recognition • Battalion runs • 1SG lunches • Battalion sports day • Deployment yearbooks • BN closeout formation • Payday awards formations • Leader breakfasts • BN CDR congratulatory notes • Participation in graduation events |
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Figure 2 — Morale-Building Events

The intent of this article is to convince Army leaders that the best relationship for HHC/BDE is attached to the BEB. No battalion commander wants to receive a mission ("take care of this company"), and then be told that he doesn't have full authority to do so — as in merely an ADCON role. Our centrally selected battalion commanders and experienced iron majors within a BEB are smart enough to appropriately task HHC/BDE while taking care of the company and the Soldiers. The brigade and battalion XOs and S3s are certainly mature enough to maintain good communications as they refine roles and responsibilities in this unique relationship. When the company works for the battalion, the workload of the company command team is greatly reduced and the very busy senior brigade staff officers are not burdened with managing a separate company (much less providing command oversight which is not their responsibility), and this means that the BCT has increased its ability to accomplish the mission. For those brigade commanders, BEB commanders, HHC/BDE company commanders and 1SGs, operations sergeants major, or anyone else who is still not convinced of this, try it. I'm sure you will discover that the benefits gained from a pure attachment far outweigh having the BEB task the brigade staff for someone to be on the post-police detail every once in awhile!



Photo courtesy of author

Soldiers from a HHC/4th Brigade, 10th Mountain Division celebrate after receiving the trophy for winning the quarterly Best Company Competition.

COL Blace C. Albert was commissioned in the U.S. Army Corps of Engineers from the U.S. Military Academy (USMA) in June 1991 after earning a bachelor's degree in aerospace engineering. He currently commands the 130th Engineer Brigade in Hawaii. COL Albert previously served as a senior advisor with the Peacekeeping and Stability Operations Institute at the U.S. Army War College (USAWC). Other recent positions include battalion S3 and Brigade Special Troops Battalion (BSTB) commander, brigade military transition team (MiTT) chief, and brigade S3. He has two deployments to Afghanistan and one to Iraq. COL Albert possesses graduate degrees in engineering management from the University of Missouri in Rolla, mechanical engineering from the Georgia Institute of Technology, and strategic studies from the USAWC.

COL Albert has a unique perspective on this subject having served 34 months as a battalion commander of the 4th BSTB, 10th Mountain Division and also 16 months as the S3 for 3rd Brigade, 25th Infantry Division. He viewed the HHC/BDE relationship from both sides of the fence and never saw it work as well as it did when the company was attached to his BSTB, allowing him to assume 100-percent responsibility for the unit — good and bad.

'SEEING THE TERRAIN'

USING TERRAIN AND ANTI-TANK SYSTEMS TO INCREASE SBCT LETHALITY AGAINST ENEMY ARMOR

CPT SHAWN SCOTT AND MAJ CHRIS RICCI

In December 2012, 3-2 Stryker Brigade Combat Team (SBCT) returned from a successful counterinsurgency (COIN) deployment to southern Afghanistan. Upon arriving to home station, our brigade made preparations to ready the formation for decisive action operations. Decisive action is defined as the concept of continuous, simultaneous offense, defense, and stability operations.¹ Instead of purely focusing on COIN operations, as the force has done for the last 10 years, we had to become proficient across the full range of military operations. We needed to build a force that could transition between combined arms maneuver (CAM) and wide area security (WAS) in preparation for assuming regionally aligned force missions and Army contingency force missions by March 2014. Our major waypoint along this

training path was National Training Center (NTC) rotation 14-03 in January 2014, where we would test ourselves across the full range of military operations against a hybrid threat comprised of a near-peer mechanized threat, insurgents, guerillas, and criminal elements.

The SBCT and Anti-Armor Assets

The SBCT is an Infantry-centric organization with the rifle squad serving as the foundation of its combat power to execute decisive action operations. Based on the competencies and skill sets our unit retained post deployment

Soldiers from 3-2 Stryker Brigade Combat Team wait to engage enemy vehicles during Decisive Action Training Rotation 14-03 at the National Training Center in Fort Irwin, Calif., on 28 January 2014.

Photo by SGT Paul Sale

to Afghanistan in 2012, we took risk in training stability operations. Our brigade instead focused training efforts on offensive and defensive operations proficiency. Over the next eight months we executed individual and collective-level training up to the platoon level to prepare for the NTC rotation. As we began studying the NTC opposing force, we realized that we needed to maximize our anti-armor proficiency prior to rotation, specifically focusing on the use of Javelins.

The SBCT has three organic systems capable of destroying enemy armor and can employ lethal fires to disrupt and neutralize armored forces. The first organic system is the Anti-Tank Guided Missile (ATGM) Company that is assigned to the SBCT headquarters. This ATGM Company employs tube-launched, optically-tracked, wire-guided (TOW) systems mounted on Strykers and is highly effective at destroying armor at a range of 3,750 meters.² Many times this force is held in reserve or placed by the brigade commander to reinforce his main effort operation.

The second organic system, the Mobile Gun System (MGS), may look like a tank to the casual observer, but this vehicle was built as an Infantry support system. The MGS does have a M68A1E4 105mm cannon, but it was built to operate independently and support Infantrymen in the fight. Furthermore, the Infantry battalions within the SBCT are only authorized to have nine of these systems. It is also important to note that only 143 MGS have been produced for the U.S. Army. As a result of this decision, each SBCT will only receive nine of its authorized 27 MGS systems.

The last organic system is the Javelin, which is the primary anti-armor system across the SBCT formation. Each SBCT rifle battalion has M98A2 Javelin Weapon Systems that are employed at the squad level to defeat enemy armor. The Javelin system is a highly effective armor-defeating weapon system that was first employed in military service in 1996 as a replacement for the M47 Dragon anti-tank missile. The Javelin is a fire-and-forget missile that has automatic self-guidance that does not require a Soldier to steer the missile onto the target. This fire-and-forget capability allows the operator to fire the missile and retain cover and concealment. The Javelin provides dismounted Infantrymen a surefire way to effectively kill tanks. The system's portability makes it the anti-armor weapon of choice for light early entry forces. It has an extremely high probability kill rate against enemy armor and is effective out to 2,500 meters.³

**JAVELIN COURSE
MODULE DESCRIPTION**

Module 1: Introduction to the Course. Includes instruction on the following: Javelin Weapon System, the CLU, Javelin rounds, operations, and the capabilities and features of the system.

Module 2: Safety. Includes instruction on the following: Backblast area, round handling and care, doctrine fighting positions, and risk management and mitigation.

Module 3: Controls and Operation. Includes instruction on the following: Controls and indicators, CLU status and display indicators, preparation for firing, firing positions, restore to carrying configuration, and carrying techniques.

Module 4: Tactical Considerations. Includes instruction on the following: Tactical role and fundamentals, defense, advanced fighting positions, tactical operations, and target engagement techniques.

Module 5: Standard Range Card. Includes instruction on the following: Prepping a range card, sector sketch, general procedures, and field expedient card.

Module 6: Warning Indicators and Malfunctions.

Module 7: Training Program. This modified module will conduct testing to check gunner's knowledge.

Figure 1 — Home-Station Javelin Course Description

First used in combat during the invasion of Iraq in 2003, the Javelin was effective at destroying T-72 and Type 69 tanks. In one engagement, a Special Forces Operational Detachment-Alpha (ODA) destroyed two T-55 tanks, eight armored personnel carriers, and four troop trucks with the Javelin.⁴ As the wars in Iraq and Afghanistan transitioned to COIN operations, use of the Javelin transitioned from an anti-armor weapon to a surveillance optic due to the Javelin's thermal Command Launch Unit (CLU). The CLU employed without the launch tube assembly and Javelin missile is an outstanding optic in observation post operations. Based on solely using the CLU in surveillance operations in recent years, most Javelin gunners lacked experience at employing the Javelin in defeating enemy armor.

Home-Station Javelin Training Prior to NTC

The 1st Battalion, 23rd Infantry Regiment staff recognized the importance of building proficiency with the Javelin prior to the NTC rotation and created a home-station anti-armor course to prepare for the hybrid threat the unit would face at NTC 14-03. Using the eight-step training model, we developed a four-day program of instruction (POI) to teach designated battalion personnel how to employ and operate the Javelin prior to the NTC rotation. We utilized a four-man team of NCOs who had graduated from the Heavy Weapons Leader Course at Fort Benning as instructors.

This block of instruction covered employment and troubleshooting of the system. Specifically for the NTC, we spent a large portion of the POI teaching how to employ



Photos courtesy of authors

Soldiers from the 1st Battalion, 23rd Infantry Regiment train on the use of the Javelin during home-station training.

the Multiple Integrated Laser Engagement System (MILES) version of the system. Through the use of the Training Audiovisual Support Center (TASC) Javelin Basic Skills Trainer (JBST) and Field Tactical Trainer (FTT), we were able to allow Javelin firers to shoot at targets and receive feedback on their performance.

Four designated instructors were able to train 40 Javelin operators during the course, providing each company (including our Headquarters and Headquarters Company) the ability to employ Javelins at NTC. The anti-armor POI gave designated Javelin operators eight hours of hands-on training time.

Use of the Javelin at NTC 14-03

The employment of the M98A2 using the FTT proved to be a critical asset for the battalion during the force-on-force scenario of NTC rotation 14-03. The FTT is a fully integrated, three-dimensional force-on-force training device consisting of a simulated round, a battery charger, and batteries. The round incorporates a MILES laser transmitter to allow simulated Javelin engagements during training exercises. The FTT is designed to simulate the Javelin's operational and engagement parameters. The battalion was able to destroy enemy mechanized elements at distances of 1,500-2,000 meters away from positions of dominant terrain with a clear line of sight. Trained Soldiers were able to achieve a 50-percent kill ratio on enemy armored vehicles in both offensive and defensive operations. While 50 percent is low, it was in real-world battlefield conditions with Infantrymen climbing up significant terrain to achieve effects against enemy armor.

The key to the employment of the M98A2 was the use of movement and maneuver of the Stryker vehicles and the dismounted Infantry. NTC's vast open terrain allowed for the employment of weapon systems at their maximum

effective ranges. This required a "push and pull" technique between dismounted and mounted Infantry Soldiers. The Stryker platoons would dismount Infantry squads and "push" them forward, utilizing the Strykers' remote weapon systems to cover their movement. The dismounted squads seized dominant terrain, established hasty support-by-fire positions using Javelins, and provided overwatch for the Strykers as they "pulled" forward. The "push and pull" technique allowed the battalion to defeat enemy armor by maneuvering the dismounted Infantry with Javelins to positions of advantage and overwatch the movement of vehicles as they bounded forward. This technique requires a thorough terrain analysis by the battalion staff during the military decision-making process and the company leadership during troop leading procedures in order to maximize the usage of the terrain available.

During Battle Period 4 of NTC 14-03, we found ourselves attacking into an enemy armored formation defending key terrain in vicinity of the Arrowhead and Alpha/Bravo Pass. We had to maneuver to Refrigerator Gap and conduct a breach of enemy obstacles to pass elements of the brigade onto their objective. The terrain was not the most suitable place to maneuver Strykers as it was restrictive or severely restrictive in nature. Based on the posture of the enemy, we recognized we would have to employ the "push and pull" technique described above. Our rifle companies deliberately cleared mountainous terrain dismounted en-route to their objective and only moved vehicles forward once overwatch positions with Javelins were established. While this technique took extended time to execute, it enabled our battalion to destroy 10 armored vehicles before reaching our objective.

Incorporating Lessons Learned

The 1-23 IN returned home from NTC rotation 14-03 with

many lessons learned, but one of the biggest lessons at the tactical level was that dismounted Infantryman employing Javelins in the right terrain can hold their own against enemy armor. As we move into our next training path, Javelin training needs to be more deliberately integrated at the individual through collective training levels. Our leader development program needs to incorporate these lessons learned so that we can coach junior leaders on the tactical deployment of the Javelin in the SBCT as it pertains to terrain.

Our battalion recognized that training 40 Javelin operators was insufficient for NTC, considering the lethality of the system against a near-peer threat utilizing armor. Units should maximize the ability to send one to two weapons squad leaders per company to the Heavy Weapons Leaders Course at Fort Benning (<http://www.benning.army.mil/infantry/197th/229/HWLC/>). This course trains Soldiers in the rank of sergeant through lieutenant on the tactical employment of an anti-armor platoon and technical proficiency of the Javelin, Improved Target Acquisition System (ITAS) and heavy machine guns while operating in a decentralized competitive environment. Having this expertise resident in the squad gives a rifle battalion the ability to train proficiency on the Javelin for all Soldiers in the formation.

Additionally, training with the JBST and FTT should be conducted prior to maneuver situational training exercises (STX) and live-fire exercises (LFX) through courses like the described home-station Javelin POI. Doing so allows junior leaders to employ Javelin assets at the squad and platoon levels during STX and LFX training. Finally, Javelin training should culminate in the employment of live Javelins (if resourced) during the platoon/company combined-arms maneuver LFX.

Way Forward

In closing, through the combined employment of indirect fires of the M777 and the armor defeating capabilities of the ATGM company, the Stryker MGS, and M98A2 Javelin, the SBCT is capable of defeating any armor threat the U.S. military could face. Thus, more emphasis should be

directed to the training of the anti-armor weapon systems that the dismounted Infantry Soldiers employ. The SBCT is the “ready and modern” force that the Army needs as it continues to transition to a globally responsive Army and has proven in combat and training simulation to be a versatile and lethal tool for combatant commanders to utilize in any operational environment.⁵

The SBCT must continue to maximize the employment of the Javelin by training Soldiers and leaders on the operations and employment of the system. The Javelin provides the Stryker the necessary punch to defeat armored formations. The use of the “push and pull” technique between the dismounted and mounted Infantry should be a unit standard when dealing with an armored threat in restrictive terrain. Platoons and sections should be able to execute the “push and pull” technique to the same proficiency as the bounding overwatch.

Notes

¹ Army Doctrine Reference Publication 3-0, *Unified Land Operations* (Washington, D.C.: Department of the Army, 2012): 2-2.

² Field Manual 3-21.31, *The Stryker Brigade Combat Team* (Washington, D.C.: Department of the Army, 2003): 1-15.

³ “Javelin Portable Anti-Tank Missile,” <http://www.army-technology.com/projects/javelin>.

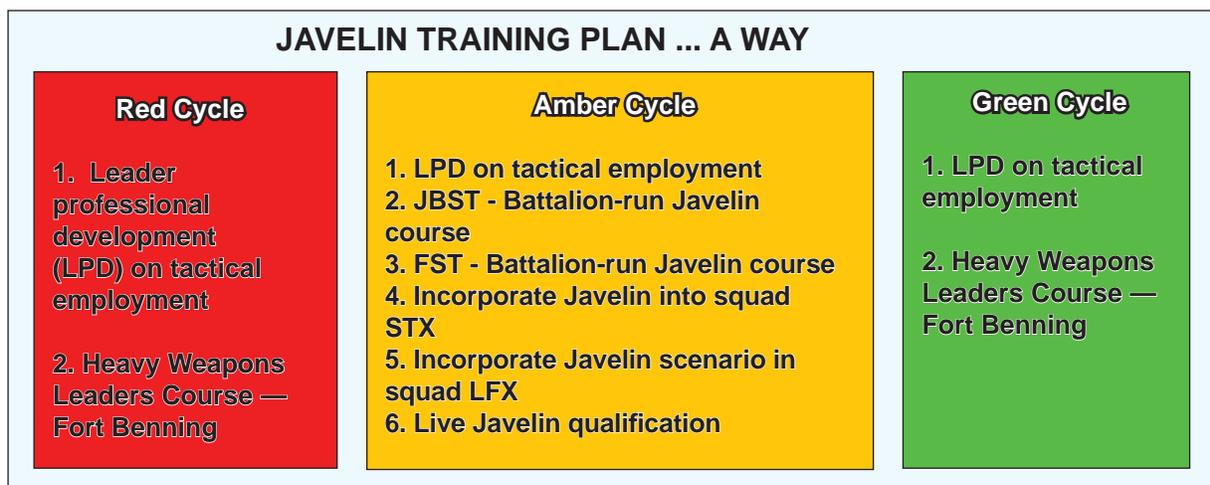
⁴ Thom Shanker, “The Struggle for Iraq: Combat; How Green Berets Beat the Odds at an Iraq Alamo,” *The New York Times*, 22 September 2013.

⁵ GEN Raymond Odierno, “CSA Strategic Waypoint 2,” U.S. Army website: www.army.mil/article/118873_Waypoint_2_Follow_Up_to_CSA_s_Marching_Orders, 13 March 2014.

CPT Shawn Scott is currently serving as the company commander for Headquarters and Headquarters Company, 1st Battalion, 23rd Infantry Regiment “Tomahawks,” 3-2 Stryker Brigade Combat Team, Joint Base Lewis-McChord, Wash.

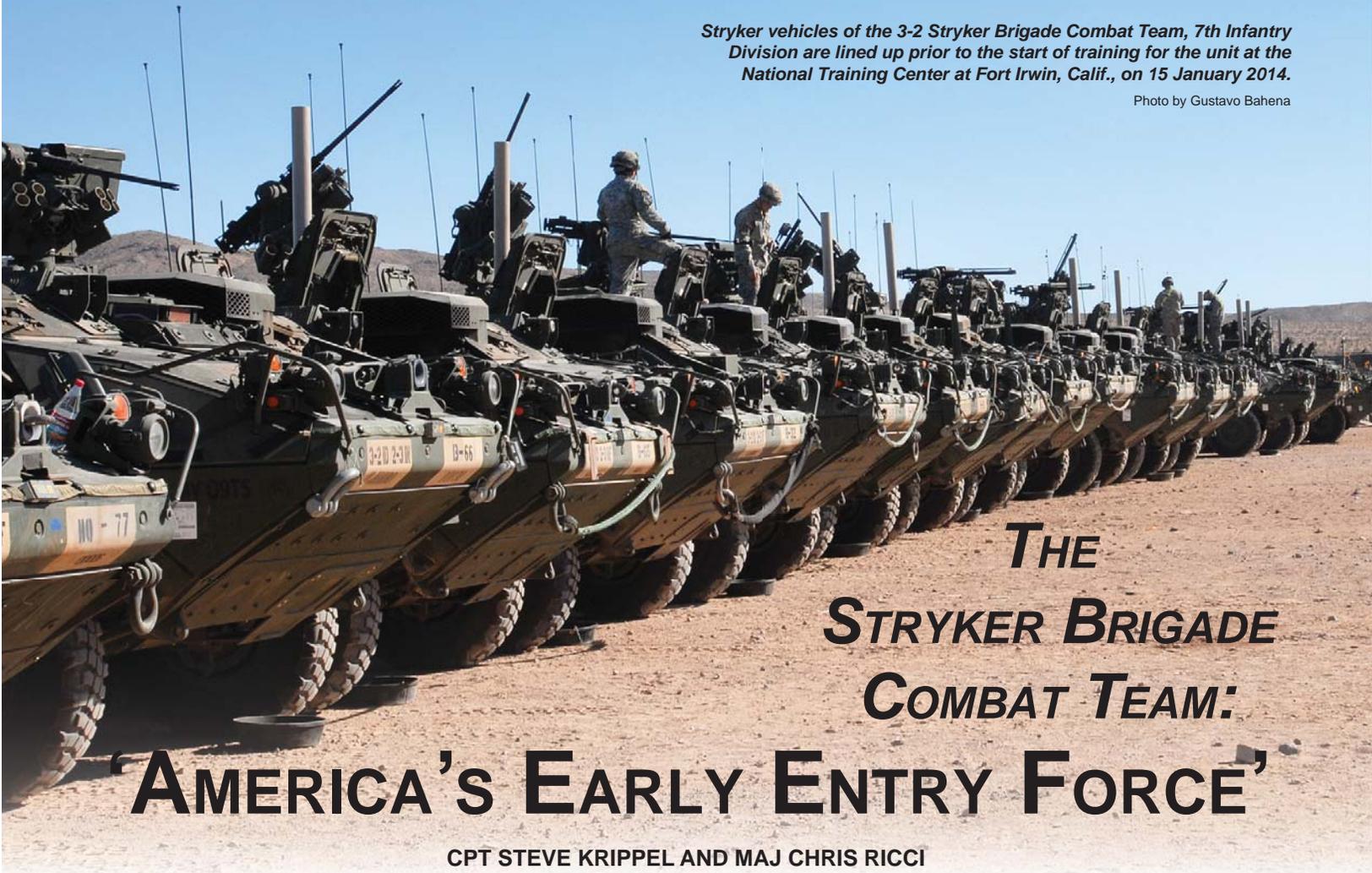
MAJ Chris Ricci is currently serving as the executive officer for 1-23 IN “Tomahawks,” 3-2 SBCT, JBLM, Wash.

Figure 2 — Example Javelin Training Plan



Stryker vehicles of the 3-2 Stryker Brigade Combat Team, 7th Infantry Division are lined up prior to the start of training for the unit at the National Training Center at Fort Irwin, Calif., on 15 January 2014.

Photo by Gustavo Bahena



THE STRYKER BRIGADE COMBAT TEAM: 'AMERICA'S EARLY ENTRY FORCE'

CPT STEVE KRIPPEL AND MAJ CHRIS RICCI

At present, although the Army is capable of full spectrum dominance, its organization and force structure are not optimized for strategic responsiveness. Army light forces — the best in the world — can deploy quite rapidly, within a matter of days, but they lack the lethality, mobility, and staying power necessary to assure decision. On the other hand, Army mechanized forces possess unmatched lethality and staying power, but they require too much time to deploy, given current joint capabilities for strategic lift, affording the adversary ample opportunity to prepare for the arrival of U.S. forces... The Interim Brigade Combat Team (now Stryker Brigade Combat Team [SBCT]) has been designed as a full spectrum, early entry combat force. The brigade has utility, confirmed through extensive analysis, in all operational environments against all projected future threats, but is optimized primarily for employment in small scale contingencies.

— Executive Summary (EXSUM) Organizational and Operational Concepts (O&O), June 2000

Development of the SBCT

Why did the Army create the Stryker vehicle? Army planners recognized the need to bridge the gap between our light forcible entry forces and our heavy formations based on experiences deploying to Bosnia.

Early entry operations were, and are, important to our ability to answer our nation's call. The Stryker brigade was designed to fulfill this requirement, but the Global War on Terrorism prevented early entry operations from being one of the key missions of the SBCT.¹ The Stryker, also designed for small scale contingencies, was quickly used in counterinsurgency (COIN) operations, and early entry operation skills atrophied as the SBCT focused on operations in Iraq and Afghanistan.

Most readers are aware of the constant trade off when developing armored vehicles; the balancing act of mobile protective firepower is — and always will be — a source of contention and debate. It is important to note that the Stryker family was designed to be C-130 transportable and capable of landing on an assault landing strip.² The Stryker was specifically designed with a myriad of add-on packages of armor to increase protection while maintaining C-130 assault strip capability.

The assault strip capability was placed on the Stryker since its inception for the purpose of being air movable anywhere in the world. A majority of landing strips in austere environments are only C-130 capable. The Stryker family of vehicles, with the exception of the double V-hull, remains C-130 transportable today. The capability of being transported by C-130 enables the Stryker brigade to conduct early entry operations in support of a host nation or as a

follow-on force to expand the lodgment of a forcible entry operation. Not only does the U.S. Air Force (USAF) have more C-130s than C-17s and C-5s, our allies around the globe also own significant numbers of C-130 aircraft. There are 70 countries with C-130s with a total of 2,400 C-130 aircraft across the globe. The C-130 has been in production for more than 50 years, and due to its unique capabilities will continue to be produced.³ This greatly increases options for the joint task force commander to insert increased mobile protective firepower and doesn't limit the areas a battalion task force can be inserted. This also increases the amount of U.S. and allied aircraft available to move the task force due to the vast quantities of C-130s available compared to C-17 and C-5 platforms.

Transporting Strykers on C-130s is not without issues. There are significant challenges using the C-130 to transport the Stryker family of vehicles that can only be mitigated through increased training due to cargo capacity limits. The USAF certification memo even states that the Stryker exceeds accepted limits for routine loading on C-130 aircraft.⁴ In addition to USAF testimony, multiple studies dispute the Stryker's ability to fulfill the C-130 requirement. Former Secretary of Defense Donald Rumsfeld publicly challenged the Stryker program specifically because he believed the Army failed to prove the Stryker was C-130 transportable. Rumsfeld thought the requirement was so important that if not achieved the entire program should be canceled.⁵ This argument against the Stryker only strengthens the need to train on C-130s. Only with well-defined SOPs and experience will the Stryker community truly be able to deploy, fight, and win with the C-130 platform in austere environments across the globe.

As the fledgling SBCT came into development, early entry operations were tested. Over time the wars in Iraq and Afghanistan became the U.S. Army's primary focus and the SBCT community moved away from early entry operations. With the war in Iraq now over and Afghanistan winding down, the SBCT community is beginning to relook early entry operations. The following training events highlight initial testing of early entry operations as well as recent examples of early entry operations.

Millennium Challenge 2002

Stryker?... in August, we took risk [time] and sent a Stryker company — many of the youngsters here represent that battalion — sent a Stryker company directly from new equipment fielding at Fort Lewis, Washington, into the NTC (National Training Center) to demonstrate Stryker's C-130 transportability into Bicycle Lake during exercise Millennium Challenge — thanks to the Air Force. This was done safely, professionally. We all saw the greater protection, speed, deployability, and battlefield agility that Strykers will provide combatant commanders... Now look, there are some who are still skeptical about Stryker. And I appreciate the debate, but some of these skepticisms, at times, have gotten a bit bothersome, to the point of accusing the Army of deception about the Stryker's performance and transportability. This institution values duty, selfless service, and honor, and

integrity. Its members have put their lives on the line and the lives of young men and women on the line for this nation. These accusations are baseless and thoughtless commentary. I appreciate the debate. Look at our numbers, challenge our metrics, question our analytics — they're all on review. But don't question our honor or our integrity. We must see the Stryker fielded to provide Soldiers the capabilities that they've needed for the last 12 years.

— **GEN Eric K. Shinseki**

State of the Army Address, AUSA Conference, 2002

Millennium Challenge 2002 (MC02) is surrounded in controversy, but that doesn't limit the value of lessons learned. A Company, 5th Battalion, 20th Infantry Regiment was a small part of the larger exercise, and the majority of the controversy surrounds the larger naval and air engagements.⁶ The Strykers, albeit a short flight, did execute a C-130 insertion.

The MC02 inserted four Stryker Infantry Combat Vehicles (ICVs) from Fort Lewis into Bicycle Lake Airfield at Fort Irwin, Calif., on C-130s. Many valuable tactics, techniques, and procedures (TTPs) were learned with regards to load plan, vehicle configuration, and planning timelines. For example, the Soldiers have to be capable of moving all the supplies because there will be limited to no material-handling equipment (MHE) on the airfield.⁷ This is a significant bill to pay because five C-130s are capable of moving at least one airborne Infantry company, but the Stryker has the ability to project combat power off the airhead line (AHL).⁸ It also gives the ground force commander (GFC) the ability to rapidly deploy a mobile dismounted Infantry assault force at the decisive point.

All variants of flat-bottom Strykers are C-130 transportable. This ability gives the GFC significant capabilities and options to tailor the force. If the GFC believes the initial task for Strykers should be a screen of the AHL, the commander could task organize to have Mobile Gun System (MGS) or Anti-tank Guided Missile (ATGM) Strykers be the first vehicles delivered on the ground. If the GFC assesses the forcible entry operation will take high casualties around the AHL, he could task organize for the Medical Evacuation Vehicle (MEV). The SBCT is the Army's only organic combined arms team at the company level. Dynamic task organization is readily available from the troop/company and battalion task force.

During MC02, A/5-20 IN was capable of off loading its vehicles in approximately three minutes and having them combat loaded in 15 minutes. The three-minute off-load time meant the risk to the aircraft was minimal, and 15 minutes ready to fight gave the GFC heavy machine guns and highly mobile Infantry squads in a short period of time. These times can be decreased if a Stryker company is deployed on C-17s. Deploying by C-17 has advantages with the acknowledgement that there are less C-17s in the USAF inventory and fewer runways capable of landing a C-17. Additionally, our allies have significantly more C-130s than C-17s due to the increased operating cost of the aircraft and its runway requirements. All of this must be kept in mind

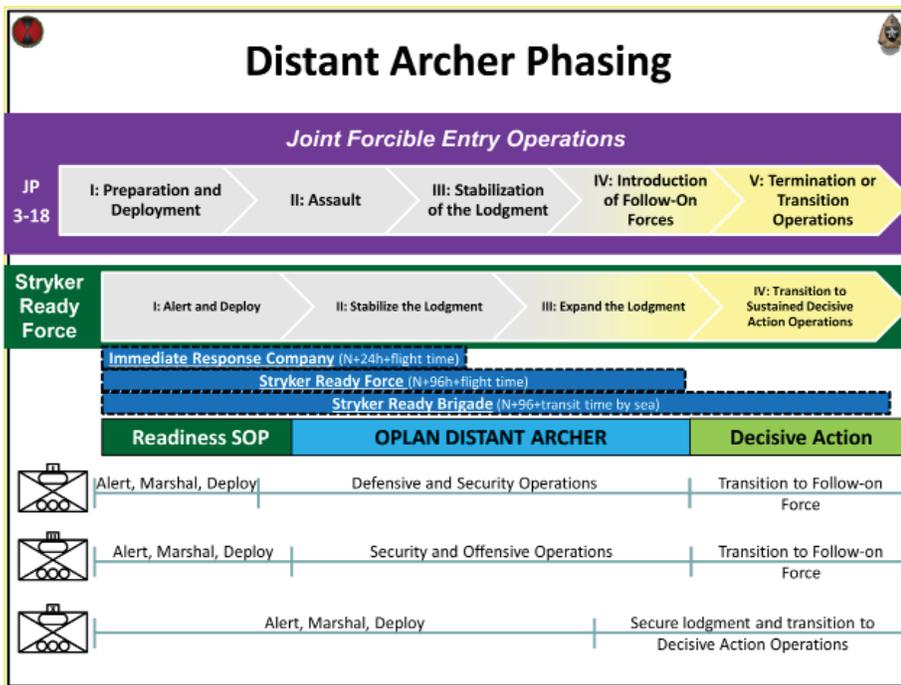


Figure 1 — OPLAN Distant Archer Operating Construct

as we continue to build and train a force conducting multi-national operations.

During MC02, the opposing force (OPFOR) destroyed the majority of A/5-20 IN. In late 2002, critics pointed to this as a failure of the Stryker, but recent decisive action rotations and multiple combat rotations have proven the Stryker as capable of taking the fight to the enemy. With more training on the C-130, the SBCT can prove the concept and increase our abilities as an early entry force.

7th Infantry Division Operations Plan (OPLAN) Distant Archer

Developing a culture of readiness and the capability to fight tonight are key to conducting early entry operations. The 7th ID was activated on 10 October 2012 to instill training and readiness standards for the combat brigades assigned to Joint Base Lewis-McChord, Wash. Upon activation, three SBCTs were stationed at JBLM, coining 7th ID as America's Stryker Division. Based on the unique capability of the SBCT to provide early entry forces to the fight, 7th ID created the training OPLAN Distant Archer to exercise the SBCTs' ability to "fight tonight" and to challenge leaders to anticipate the nature and tempo of the next fight in an expeditionary theater against a variety of hybrid threats.

OPLAN Distant Archer is an unclassified operational concept that prescribes the task organization, key tasks, and phasing for the rapid deployment of a Stryker brigade combat team and enablers. It establishes the enduring framework within 7th ID training cycles to focus leader and collective training to successfully alert, marshal, and deploy by strategic airlift and/or sealift in support of a deployed joint task force. OPLAN Distant Archer describes the initial organizational construct for arrival at an airport or seaport of debarkation following joint forcible entry scenarios and sets

conditions for expansion of a lodgment to conduct of follow on unified land operations.

In addition to providing a training construct, 7th ID developed a readiness standard operating procedure (RSOP) that prescribes out-load support responsibilities across the installation in support of early entry force deployment.

Immediate Response Company (IRC)

Forces Command (FORSCOM) directed that the airborne Infantry brigade combat team (IBCT) global response force (GRF) have one Stryker company attached to it for moment's-notice missions across the world. This mission was originally assigned to the 2nd SBCT, 25th Infantry Division followed by 1st SBCT, 25th ID. Each of these units laid a foundation for the deployment N-hour sequence and mission readiness for the IRC. The 3rd

Battalion, 21st Infantry Regiment (1/25 SBCT) passed on lessons learned and TTPs to the 1st Battalion, 23rd Infantry Regiment (3-2 SBCT) to support A Company, 1-23 IN's assumption of the IRC in support of the 3rd Brigade Combat Team, 82nd Airborne Division GRF on 1 October 2013. 1-23 IN is currently in the process of passing on lessons learned to the next unit which assume the IRC GRF mission on 1 October 2014.

A/1-23 IN redeployed from Panjway, Afghanistan, in November 2012. By June 2013, the company was executing platoon live-fire exercises at Yakima Training Center (YTC) in preparation for the IRC mission. A/1-23 IN executed decisive action training at YTC while learning the mind set of early entry operations and no-notice deployments. YTC prepared A/1-23 IN for Joint Readiness Training Center (JRTC) rotation 13-09 in August 2013. Less than a year from redeployment, A/1-23 IN was fully integrated with 3/82 GRF and prepared for no-notice early entry operations, officially



Photo courtesy of author

A/1-23 IN Soldiers conduct shackle training on a C-17.

assuming the role on 1 October 2013.

A/1-23IN built on the foundation of 3-21 IN, but the IRC mission needs to continue to grow. SBCTs have to continue to train for early entry operations and the next step should be emergency deployment readiness exercises (EDREs) that include fly-away training scenarios. To truly be prepared for the IRC mission, SBCTs need to build a knowledge base, no less than a jumpmaster, on how to work around a variety of aircraft in support of rapid deployments.

Multi-Lateral Exercise

During a November 2013 multi-lateral exercise (MLAT), with the 2nd Battalion, 75th Ranger Regiment, A/1-23 IN expanded the lodgment by C-17 after 2/75 RGR seized the AHL. The Stryker platoon gave the GFC the ability to focus rotary wing assets against the deep fight and keep the Stryker Ready Force for the intermediate objectives around the AHL. This flexibility enabled the GFC to attack intermediate objectives while maintaining the speed to reinforce the AHL depending on the enemy's actions.

A/1-23 IN built up combat power during the day through an air bridge with C-17s. In total, A/1-23 IN had three MGS, one MEV, 12 ICVs, one Command Variant (CV), two Mortar Carrier Variants (MCV), and one Fire Support Vehicle (FSV) on the AHL. A/1-23 IN was capable of relieving two light Infantry companies in defense of the AHL and still had the ability to project combat power. We are not suggesting that one company of Strykers is comparable to two companies of light Infantry, but rather the Stryker's mobility, optics, and weapons systems enable them to defend a larger area. A/1-23 IN exercised C-17 capabilities on an austere airfield but needs to refine TTPs and continue to train in a joint environment.

NTC Rotation 14-03

During NTC rotation 14-03, 3-2 SBCT executed early entry operations. B Company, 1-23 IN executed a simulated air movement to Miami Aerial Port of Debarkation (APOD). There were significant training advantages and valuable lessons learned by executing a Distant Archer scenario at the NTC. In a perfect world, we would have executed with a real air movement, but the force should not discount the lessons that were learned or the training value of the simulated air movement.

During the NTC Distant Archer mission, Task Force Tomahawk infiltrated B/1-23 IN (with battalion mortars) and the battalion tactical command post (TAC) via air to Miami APOD. C Company, 1-23 IN; C Troop, 1st Squadron, 14th Cavalry Regiment; B Company, 1st Battalion, 37th Field Artillery Regiment; and D Company, 1st Battalion, 3rd Infantry Regiment (Old Guard) conducted ground movement from an initial staging base (ISB). B/1-23 IN secured the AHL, and Task Force Tomahawk executed a realistic mission command of two elements separated beyond FM communications range. Task Force Tomahawk trained link-up procedures, forward passage of lines, and battle handover by executing the Distant Archer scenario

at NTC. The NTC Distant Archer mission was not perfect but should be improved during future SBCT rotations.

The Future of Early Entry

Early entry operations are — and will continue to be — just as relevant as they were in 2000. It can be argued that in this current state of perpetual conflict our Army needs to be globally focused and able to fight tonight across the full range of military operations. As the U.S. Army continues to mature its expeditionary mindset, the SBCT provides a rapidly deployable medium force to combatant commanders with the necessary command, control, communications, computers, intelligence surveillance and reconnaissance (C4ISR); weapons; optics; and most importantly, a mobile dismounted Infantry capability. Moment's notice readiness and the ability to fight tonight is a unit mindset that can be inculcated, at echelon, across our formations. Over the coming years, early entry operations need to be trained from the individual to collective level and certified at our combat training centers. The hallmark of great units is their ability to be better than anyone else at that "one thing." Our legacy armored cavalry regiments of the past had the guard mission, IBCT (airborne) units have the forcible entry mission, and the SBCT has the moment's notice early entry mission. Our Stryker brigades are designed to be expeditionary, and leaders must embrace and train this ability to fight tonight.

Notes

¹ Forcible entry operations seize and hold lodgments against armed opposition. Early entry operations immediately follow the forcible entry force and expand the lodgment to enable additional combat power to deploy into the area of operations. Joint Publication 3-18, *Joint Forcible Entry Operations*, 27 November 2012, I-1.

² The Interim Armored Vehicle [Stryker] must be transportable in a C-130 aircraft. The Interim Armored Vehicle must enter and exit the aircraft capable of immediate combat operations." SBCT Operational Requirements Document, 6 April 2000.

³ Lockheed Martin C-130 fact sheet, www.lockheedmartin.com/us/products/c130.html (13 March 2014).

⁴ Jon Lay, "Approval for Airlift of the Stryker Family of Interim Armored Vehicles," Department of the U.S. Air Force Memorandum from the Air Transportability Test Loading Agency, 6 March 2003.

⁵ John Hendren, "Army Holds Its Ground in Battle with Rumsfeld," *Los Angeles Times*, 29 November 2002.

⁶ Sean Naylor, "War Games Rigged?" *Army Times*, 16 August 2002.

⁷ MHE is required for the MGS.

⁸ Airhead line — "a line denoting the limits of the objective area for an airborne assault. The airhead line is bounded by assault objectives that are operationally located to ensure that enemy fires cannot be brought to bear on the main objective and for friendly forces to conduct defensive operations in depth." Joint Publication 1-02, *Department of Defense Dictionary of Military and Associated Terms*, 8 November 2010, 8.

CPT Steve Krippel is currently serving as the commander of C Company, 1st Battalion, 23rd Infantry Regiment "Tomahawks," 3-2 Stryker Brigade Combat Team, Joint Base Lewis-McChord, Wash.

MAJ Chris Ricci is currently serving as the executive officer for 1-23 IN, 3-2 SBCT, JBLM, Wash.

WHEN A RIVER RUNS THROUGH IT:



A team of Soldiers from Company A, 3rd Battalion, 187th Infantry Regiment, 3rd Brigade Combat Team, 101st Airborne Division (Air Assault) patrol the Euphrates River during a demonstration at Patrol Base Kemple, Iraq, on 5 May 2008.

Photo by 1LT Jodi Krippel

RIVERINE OPERATIONS IN CONTEMPORARY CONFLICT

LTC (RETIRED) LESTER W. GRAU AND LTC (RETIRED) LEROY W. DENNISTON

During conflict, control of the rivers is often vital to controlling a country. The Tigris and Euphrates Rivers define Iraq. During the Iraq conflict, the resistance used these rivers as major lines of communication and supply.¹ Yet, the United States and coalition forces never succeeded in dominating these rivers or establishing lasting presence on them. The U.S. Navy deployed a single squadron (12 boats and 200 sailors) for riverine operations in Iraq to control the 2,890 miles of the rivers. Even then, the squadron did not always patrol the rivers; rather it spent considerable time in the Delta and maintaining security on the vital Haditha Dam. The squadron was deployed after the U.S. had already been in Iraq for four years. It came without organic combat service-support assets, so it was incapable of sustaining itself.²

The U.S. Army tried to subdue parts of the Tigris and Euphrates with the use of drones, helicopters, occasional motorized and foot patrols, and even some small boats. There was no comprehensive riverine theater plan, and these attempts failed while the insurgency enjoyed access and use of these rivers throughout the long conflict. Perhaps the conflict could have been shortened if the enemy had

been denied use of these key lines of communication.³ Are the U.S. armed services better prepared to control enemy waterways as a result of this experience? The U.S. Navy has since disbanded part of its small riverine force and the other services do little comprehensive riverine training other than small boat handling. The Army needs to develop the education and training for riverine operations and to develop appropriate equipment.

Amphibious operations are used to gain a bridgehead on land using naval and ground elements. Riverine operations are conducted to control inland rivers, lakes, and waterways. Why should the Army even care about riverine operations? Aren't riverine operations a navy problem? Historically, whenever the United States has conducted riverine operations, the Army has most often supplied the bulk of personnel and resources. There is usually a need for the riverine force to be able to fight ashore or work with a ground force. This is where Soldiers and Marines are necessary. United States riverine operations include:

- **American Revolution** — Lake Champlain campaign
- **Lewis and Clark Expedition** (1804-1806)



Library of Congress Prints and Photographs Division

Figure 1 — Battle of Fredericksburg

- **War of 1812** — Great Lakes campaign; Chesapeake Bay, Patuxent and Potomac Rivers; New Orleans
- **Seminole and Creek Wars** in the Everglades
- **Mexican War** — San Juan Batista and Tabasco River (USMC provided ground force)
- **Civil War** — Failed Union crossing of the Rappahannock River at Fredericksburg, James River, Ohio and Upper Mississippi and Tennessee Rivers Campaign, Vicksburg Campaign, and Red River Campaign
- **Philippine Insurrection** — Malolos Campaign, 1st and 2nd San Isidro Campaign, Zapote River Campaign, and 1904-1905 1-22 Infantry gunboats on Lake Lanao
- **Boxer Rebellion**
- **Yangtze River Patrol** — 1854-1941 (USMC provided round force)
- **Panama Canal** — 1904-1914 construction; 1914-1999 protection
- **World War II** — Solomon Islands, Philippines, and Rhine River Crossing
- **Vietnam** — Mekong River Delta, Co Chien and Han Luong Rivers
- **Latin America counter-narcotics efforts** in 1990s involving USMC small boat units and II Marine Expeditionary Force.

Other countries have also conducted riverine operations (see Figure 1).

Riverine operations are not restricted to the Navy, Army, Air Force, and Marines. Coast Guard, river police, federal agencies, militia, and naval auxiliaries have conducted riverine actions in various countries. Currently, the Texas State Highway Patrol conducts riverine actions on a stretch of the Rio Grande using six armed, fast, shallow-draft vessels in a counter-drug smuggling effort.

Riverine 101

Riverine operations may occur under conditions of war, peace, peace-keeping, or peace-making.⁴ Riverine operations are axial or trans-sectional. They can deal with control of the entire length of a waterway (axial) or with a slice of it, usually for water-crossing (trans-axial). Axial riverine operations may be categorized by situation or mission. The situations are:

1. The force controls both banks.
2. The force controls only one bank.

Figure 2 — Notable Riverine Operations

59 BC-507 AD	Roman occupation of Gaul and parts of Germany using the Danube, Neckar and Rhine River as barrier and supply route
862-1598 AD	Viking penetration, consolidation and rule of Russia along waterways.
845, 857, 861, 865, and 885-886 AD	Viking operations on Seine River against Paris
1520-1521	Spanish siege of Tenochtitlan (modern Mexico City)
1667	Dutch fleet destroys English fleet on Thames and Medway Rivers
1768-1774	Russo- Turkish War actions of Don Military Flotilla
1775	British –French Battle for Quebec
1840-1890	French conquer and control Indochina using Red River and Mekong Deltas
1859-1869	Suez Canal Company builds canal under French direction
1888-1956	Britain protects Suez Canal
1877-1878	Russian and Turkish flotillas contest the Danube
1884-1885	British Nile River War and Siege of Khartoum
1899	Battle of Rio Magdalena in the One Thousand Day War in Colombia
1914-1917	British and German actions on Lake Victoria and Tanganyika during East Africa Campaign
1914-1918	British Mesopotamian Campaign against Turkey
1918-1919	Caspian Sea actions between British/White Russian flotilla and Bolshevik flotilla
1919	British and Bolshevik actions on the Kama River in Siberia
1919	British and Bolshevik actions on Northern Dvina River
1932-1935	Paraguayan fleet during Chaco War with Bolivia
1937-1945	Japanese control of Chinese and Indo-Chinese rivers
1939	Soviet-Japanese Battle of Khalkhin Gol
1939-1942	Soviet Lake Ladoga and Onega Flotillas during Soviet-Finnish War and Siege of Leningrad
1941	Soviet Danube Flotilla defense of Danube and withdrawal
1941	Soviet Pinsk Flotilla defense of Pripiat' River
1941	Soviet Dnepr Flotilla defense of Kiev
1941	Soviet Caspian Sea Flotilla during occupation of North Iran
1942-1943	Soviet Volga River Flotilla during Battle of Stalingrad
1944	Dnepr Flotilla in Soviet Belorussia offensive
1944-1945	Soviet Danube Flotilla at Yasi-Kishenev, forcing of Danube and capture of Bulgaria, Yugoslavia, Hungary, Czechoslovakia and Austria
1945	Dnepr Flotilla in Soviet Berlin offensive
1945	Amur River Flotilla on Amur and Sungai Rivers during Soviet Manchurian operation
1945-1954	French riverine operations in Indochina on Red, Black, Clear, Mekong, Bassac, Dong Nai, Saigon, and Vain Co Rivers
1969	Damanskii (Zhenbao) Island Sino-Soviet clash on Ussuri River
1965-2012	Colombian riverine operations on multiple rivers against FARC



Vietnam Studies: Tactical and Materiel Innovations by LTG John H. Hay Jr..

Armored troop carriers from the Army-Navy Mobile Riverine Force move ashore in Vietnam.

3. The force does not control either bank.
4. The force controls the river but not all banks or sections along the banks.
5. The force controls the river and the banks.
6. The force does not control the river.

The purpose of riverine operations may be to facilitate or prevent river traffic, or the river may be ancillary to the main purpose which is on the banks, not the river itself. Missions may include: naval combat; fire support; landing assault; mine and obstacle removal; reconnaissance; line of communication security; logistics support; ground force movement; line of communication interdiction; raids; patrolling; presence; piracy suppression; smuggling and contraband suppression; suppression of human trafficking (prostitution, slavery, illegal immigration); police support; fishing support; host nation training; vessel recovery; medical support/evacuation; humanitarian aid; and liaison with naval/ground units and local civilians. Trans-axial riverine operations may be categorized by the situations above and include most of the above missions. Historically, the U.S. Army has devoted more thought to crossing rivers

than controlling them until confronted with the opportunity to exploit terrain for maneuver, advantage, and supply.

Riverine operations present their own set of challenges. River navigability can be an issue. Rivers need to be deep, wide, and slow enough. Some mountain-fed rivers run too fast after the spring thaw and are too shallow in the summer and fall. Many rivers change their course or jump their banks and require dredging and channel marking. Rocks, rapids, ice, debris, low bridges, overhanging trees, logs and stumps, fishing traps/nets, and other obstacles can present a problem. River current is not constant but slows down and speeds up with the river's configuration and water volume. Banks, levees, river junctions, whirlpools, quick sand, vegetation, animal life, docks, bridges, fords, water gates, and dams may complicate or ease riverine operations.

River movement is predictable. Watercraft move slower going upstream versus downstream. The deeper the vessel's draft, the more restricted it is to the navigation channels. At river bends, the channel will run close to the bend while the opposite bank is more shallow. The river current accelerates at bends. Predictable speed and the navigation channel facilitate attacking vessels with underwater mines, improvised explosive devices (IEDs), and obstacles. Ambushes often enjoy the advantage of height and overlook.

Riverine operations are usually joint and frequently combined. Whereas most joint and combined operations are usually conducted at fairly senior levels (Army Major Command - MACOM), the coordination of actions and commingling of forces may occur at a fairly low tactical level. These are the levels that have the least experience dealing with the friction and vagaries of interservice and international actions. Setting boundaries and areas of responsibility is difficult since different services and nations have different understandings of what boundaries mean and what responsibility for an area entails.⁵ Further, governments and services may restrict the actions their forces are permitted to undertake. Coordination of fire and movement are frequent areas of difficulty. Command relations are often difficult, tedious, tendentious, and time-consuming. "Turf battles" and parochialism can bring actions to a halt. Another source of friction is usually logistics. Unless the riverine force is well-established and mature, the "tooth-to-tail" ratio is usually skewed to put a lot of firepower forward that is backed by inadequate logistics and maintenance support. The ground force usually ends up supplementing the logistics effort and the "maintenance-lite" posture means that vessels are often down for long periods of time awaiting maintenance.

Riverine operations cover more than the actual river, canal, or lake. They might include the surrounding land,

(especially the civilian communities), communications and transport infrastructure, industry, and trade. In major combat situations, riverine units will frequently work in close support of air and ground forces and will need training in target identification and marking, adjusting artillery and aviation strikes, calling in aerial medical evacuations, loading and unloading weapons and personnel, plus direct fire support of other vessels and units on shore.

Visibility is a problem with many vessels. The banks are higher than the river, and unless the vessel has a superstructure, it sometimes cannot see much of the banks and hostile elements that might be located there. Fortunately, the lower the water level, the harder it is for ground elements to engage the vessel with direct fire without coming right up to the bank's edge or setting up on overlooking ground that is in range and vision of the vessel's weapons. Indirect mortar and artillery fire are an important element of a riverine vessel's lethality. Standard firing practices need to be modified since it is hard to register a weapon from a moving vessel. The old "hip-shoot" artillery mission has been subsumed by global positioning system (GPS) technology, and as long as this technology is working, rounds can be on target quicker and more accurately.

Riverine craft come in a variety of shapes and sizes from jet skis to artillery barges. What works on the Missouri River may not be optimum for the Elbe, Mekong, Vaupes, or Congo Rivers. Fast, shallow-draft, and heavily armed are often the first consideration for riverine craft. However, light-weight, shallow-draft vessels are not usually good artillery or helicopter-support platforms. Communications with other vessels and ground elements is vital and usually requires some superstructure to support antennae and GPS technology. Yet, superstructure is a problem on waterways with low-hanging branches and low bridges. Weed-choked waters require different engine propulsion, such as airboats, than for fast-moving, weed-free rivers. Armor protection reduces speed or requires larger engines that consume more fuel and make more noise.

Riverine tactics are similar to ground movement in that vessels should be mutually supporting and frequently use supporting fire to cover movement. Shock action, firepower, and maneuver may facilitate overcoming heavy enemy defense. Smoke or morning fog may cover movement or hide the enemy. Riverine vessels should work in conjunction with ground maneuver and fire support units in order to conduct an advance to contact, develop the enemy situation, attack the enemy on multiple axes, reinforce success, as well as conduct pursuit and deep penetration. Ground maneuver and fire support units work with riverine units in the conduct of mobile defenses or defenses in-depth and counterattack. Riverine actions are not stand-alone. An accompanying ground force is essential and is frequently in front of the riverine force to prevent ambush since a patrol boat on open water is a target with few places to hide. In addition, riverine forces often provide their own reconnaissance vessels

Riverine actions are not stand-alone. An accompanying ground force is essential and is frequently in front of the riverine force to prevent ambush since a patrol boat on open water is a target with few places to hide.

and forward-looking infrared (FLIR) technology to prevent ambush.

If civilian water traffic is permitted in the zone of contention, problems arise over right of way and the wake created by the riverine craft. Noise is always a problem and the details of riverine operations are difficult to conceal from the local population.

Training for riverine combat is essential. Boarding and disembarking are very routine actions, yet for untrained personnel they are always confused, cumbersome, and slow. Soldiers need training on on-board actions: how to stay out of the way of the vessel crew; how to provide on-board security watch and fires; how to read waterways and shorelines; how to navigate while underway; how to tie up and cast off; how to eat, sleep, and observe sanitary measures on board; how to operate on-board ordnance and communications gear in an emergency; and how to observe proper naval protocol and customs. Soldiers also need training in ground tactics that emphasize conducting on-shore combat while protecting the riverine vessels.

Aviation is an integral part of riverine operations. Satellite, drone, and aerial reconnaissance provide current information for the command, watercraft, ground maneuver forces, and supporting units. Drones and manned aviation may provide fire support and electronic countermeasures. Aviation may move rapid reaction forces in support of the riverine operation. Frequently riverine forces will have their own organic aviation — often helicopters ferried on floating, mobile helipads. Air defense of a riverine force is primarily ground and air-based, yet on-board man-portable air defense systems (MANPADS) and heavy machine guns should be considered depending on the situation.

Riverine operations are often essential but usually not the main effort. Riverine operations are most often supporting efforts that provide fire support, logistics support, rear-area security, and presence.

Soldier-sailors

The U.S. Army owns more than 100 cargo ships, tugs, and landing craft, and more than 2,000 Soldiers and Army Civilians maintain and operate these vessels. They are used to transport cargo and equipment for the Army. These vessels are not optimum for riverine operations, but there is a cadre of Soldiers who know how to pilot watercraft professionally and to "speak Navy." Further, there is a large recreational boat culture in America. Fishermen, water skiers, rafters, and party boaters have a familiarity with inland waters and boating, and many Soldiers in combat arms come with this background and culture.

Occasionally in United States history, Soldiers have been stationed on-board river craft in combat, although this is an extraordinary measure. During the American Civil War, Union Army Colonel Charles Ellet Jr. commanded the U.S. Ram Fleet — nine steam-driven ram vessels that defeated the Confederate River Defense Fleet during the Battle of Memphis. Following his death, the fleet remained under Army

command throughout the Vicksburg Campaign, even when integrated into the U.S. Navy Western Gunboat Flotilla. From January 1967 to July 1969 during the Vietnam Conflict, the 2nd Brigade, 9th Infantry Division was part of the Army-Navy Combined Task Force 117 based out on Dong Tam near My Tho. The brigade was garrisoned on navy barracks ships and conducted patrols, raids, and sweeps from their landing craft. The 9th Division also had an “experimental armor platoon” — a platoon of armed hovercraft that patrolled the reed-covered marshes of the Mekong Delta.

Often in U.S. history, Soldiers have been temporary guests of the U.S. Navy as they moved on navy transport or accompanied the Navy as an amphibious landing force or a rapid reaction force for shore-based contingencies.⁶

Command and control and areas of responsibility are often problem areas in riverine operations. In amphibious operations, the traditional rule was that the naval commander was in charge from the sea to the beach head area defined by the range of naval gun fire and then the ground commander was in charge. The decline of the role of naval gun fire and the growth of naval aviation has blurred this definition. This approach to determining ultimate command authority does not work in riverine operations. Dividing responsibility by land and water is an invitation to snarls at the shoreline

— or if there is no shoreline. There needs to be an overall commander, preferably from the service contributing the most in personnel and material, who understands the sister services. Dedicated air should be included in this command and control arrangement. The overall commander will have responsibility for deconflicting fires and enforcing boundaries and will need a joint or combined headquarters.

Hydrology

Rivers start on high ground and run to lower. Upriver, the river is normally deeper, narrower, and faster. The river valley is V-shaped and the river forms waterfalls, rapids, gullies, and potholes. River erosion is primarily at the river bottom. Mid-river, it widens and slows as the slope lessens. The river valley widens and forms a flood plain. Erosion is from the river bottom and banks. Downriver, it widens more, becoming shallower and slower. The river slope is gradual. The erosion is primarily from the banks. At places the river may split or bend (meander). The river may form terraces, levees, and swamps. Where the river meets the sea or lake, the river may braid over its flood plain, forming multiple channels and islands.

River bottoms tend to change depending where they are on the river. Upriver, the bottom is usually bed rock, and boulders. Mid-river, the bottom is usually gravel and sand in the channel with fine sandy mud over older sediment closer to the banks. Downriver, the bottom is usually mud and fine sand. Where the river meets the sea or lake, the river bed rises and the river becomes shallower from the built-up sediment. River aquatic vegetation increases mid-river and downriver.

Iraqi police patrol the Tigris River in southern Maysan with U.S. Navy advisors from Detachment 2, Riverine Squadron 3 in April 2010. The Sailors are attached to 4th Battalion, 6th Infantry Regiment deployed from Fort Bliss, Texas, to advise and assist Iraqi security forces.

Photo by MAJ Myles B. Caggins III



Rivers are best crossed at bends which loop into the side of the crossing element. This means that the channel runs next to the bank held by the crossing party, and the deepest part of the river is closest to the crossing party. Further, the opposite bank is the shallowest part of the river. Thus the crossing party can deal with the hardest part of the crossing from the adjacent, friendly shore and land on the shallowest.

Canals are man-made, generally straight, of uniform depth, and have steep sides. They are difficult to cross due to the high, steep, often-concrete banks. They have less current than nearby rivers and are primarily located on flat ground. Special locks and other devices are sometimes needed to deal with changes in elevation.

Lake and inland sea shores vary from shallow and sediment-covered to steep and inaccessible due to prevailing winds and geologic formations. Large lakes and inland seas can be treacherous during harsh weather and high winds.

Key terrain in riverine operations includes population centers, industry, bridges, fords, dams, headwaters, river junctures, levees, canals, pumps, effluent stations, and dominating ground that threatens primary movement on or adjacent to the waterway.

Time and the River

Waterways and population centers will be factors in future war. Frequently they will be collocated and will become operational key terrain. They won't be just the Navy's, Army's, Air Force's, or Marine Corps' problem. They will affect all services and other departments, bureaus, and agencies of government. Riverine operations will be a part of future military actions and will be an Army problem. The best way to prepare for a future problem is through study, training, and equipment design and development.

Technology will not readily resolve the difficulties of future riverine operations. A major challenge will be developing the leadership that can function effectively in a joint or combined environment and understands the language, culture, employment, capabilities, and limitations of the sister services or international forces involved in riverine actions. Success in future riverine operations begins in the school house of today.

One of the pioneer American practitioners of riverine warfare, Civil War Flag Officer Andrew H. Foote, was queried as to which was more important in riverine operations, the Army or Navy. He replied, "...the blades of a shears, when properly joined, made an efficient and useful instrument; separated, neither blade was of much use."⁷ It is a lesson needed for the development of doctrine, tactics and the education of future leaders of all the services.

Notes

¹ Interview with British Major Stephen Campbell, 21 September 2012 in Lewis and Clark Building, Fort Leavenworth. "In the Basra area, the enemy used the river with impunity to move men and supplies and we were never able to do anything to prevent it."

² Daniel A. Hancock, "The Navy's Not Serious About

Riverine Warfare," *Proceedings Magazine*, January 2008, Volume 134/1/1.259, <http://www.usni.org/magazines/proceedings/2008-01/navys-not-serious-about-riverine-warfare>, accessed 8 August 2012. The Navy formed three riverine squadrons, but only one was on duty in Iraq at any time. The tour of duty was only seven months. Part of the reluctance of the U.S. Navy to conduct riverine operations is that riverine service is not career enhancing. Navy officers specialize in carrier aviation, the surface fleet, and submarines. Small craft fit in none of these groups. SEALs are highly qualified in special operations, but would not be best used in extended patrolling and presence missions. Consequently, there is no large riverine advocacy group within the U.S. Navy. The Navy prefers the term "brown water navy" to riverine. It should be noted that the U.S. Marine Corps (USMC) deployed a small craft company into Iraq at the start of the conflict. It destroyed an Iraqi reconnaissance company. However, the unit was disbanded after the first year of the war. Interview with USMC COL (Retired) Darrell Combs, 30 October 2012, Fort Leavenworth, Kan.

³ Control of these rivers was an important part of the Iran-Iraq War (1980-1988). Before, during, and after the war, Saddam Hussein conducted other riverine operations to control the restive Shia population along the Euphrates River and conducted a major marsh-reduction program in order to dominate the "marsh Arabs." These successful Iraqi plans were available should the coalition have considered these major lines of communication (LOCs) during the intelligence preparation of the battlefield (IPB) process. In the authors' opinion, control of these LOCs would have slowed the formation of enemy resistance, frustrated their supply, and allowed for faster success in political engagement.

⁴ The U.S. Army Corps of Engineers has been involved in improvement, control, and preservation of the major national rivers and waterways since 1824. Coupled with the Coast Guard, the Corps of Engineers has long been involved in flood management and rescue operations — another form of riverine operations.

⁵ Frequently, rivers are the boundaries between states and countries. The involved governments can either try to patrol half of a river or, more commonly, not patrol it at all. This, of course, gives free rein to smugglers, illegal immigrants and miscreants to use the river as their own.

⁶ Longer-term guests of the Navy are called Marines.

⁷ Bern Anderson, *By Sea and By River, the Naval History of the Civil War* (NY: DaCapo, 1989): 107.

LTC (Retired) Lester W. Grau currently serves as the research coordinator for the Foreign Military Studies Office at Fort Leavenworth, Kan. He served 26 years as an Infantryman and a Soviet foreign area officer. He fought in Vietnam and served most of his duty time overseas in Germany, South Korea, the Soviet Union, and the Netherlands. He is the author of three books on the Soviet-Afghan War, two books on Afghanistan, and another on Soviet guerrilla warfare. He has been contributing articles to *Infantry Magazine* since 1985.

LTC (Retired) LeRoy "Le" Denniston served 23 years as a Military Intelligence officer and a Soviet foreign area officer. He served two tours in Vietnam and at installations throughout the United States, and in Germany, England and the Netherlands. After retiring from the Army, he was employed by Cubic Applications, Inc., as a program manager at the Combined Arms Center, Fort Leavenworth, for 25 years.



THE TACTICAL APPLICATION OF MILITARY MOUNTAINEERING

**CPT RUSSELL MITSCHERLING
CPT MARCUS ELLEDGE
1SG (RETIRED) DAVID O'REAR**

Photos courtesy of 982nd Combat Camera Company

Two Ranger Students rappel from the top of Yonah Mountain, 3 June 2014 during Ranger Class 07-14.

Since the time of Alexander the Great, the battle-ridden mountain ranges of Afghanistan have proven to be some of the most harsh and extreme environments in which empires, warlords, and countries waged war. From the initial Special Operations units deployed in support of Operation Enduring Freedom to present day, countless units reported in their after action reviews (AARs) that the terrain significantly and adversely affected their Soldiers and missions. The rugged mountain terrain consistently challenged a unit's mobility and its ability to resupply while significantly reducing equipment capabilities. Through the training, implementation, and application of military mountaineering, commanders can enhance their units' mobility, capability, and survivability. The Mountain Phase of Ranger School is the only institution in the U.S. Army Training and Doctrine Command (TRADOC) that currently integrates technical mountaineering tasks and combat operations.

Operation Gowardesh Thrust

In the summer of 2006, the 3rd Squadron, 71st Cavalry Regiment of the 3rd Brigade Combat Team (BCT), 10th Mountain Division — also known as Task Force Titan — planned a clearance operation named Operation Gowardesh Thrust in the Gremen Valley located in the mountains of Nuristan, Afghanistan.¹ For this operation the squadron combined a combat observation and lasing team (COLT) section with a sniper section to establish surveillance on target areas and named areas of interest prior to the clearance operation. On the morning of 18 June, the unit began a three-day ascent up mountain 2610 along a narrow and rugged ridgeline, slowly traversing the near vertical terrain. The unit was now faced with the same type of terrain that had previously been the cause of deaths and

significant Soldier injuries due to falls.² Upon arrival at their final destination on 20 June, they established the observation post (OP) and began to conduct surveillance. The arduous movement with mission-essential equipment and 72 hours worth of provisions had taken a substantial toll, forcing the Soldiers to deplete nearly all food and water.³ The clearance of the Gremen Valley was delayed by an improvised explosive device (IED) attack on an adjacent unit, and the squadron chose to postpone the operation for 72 hours, leave the unit in place, and conduct an aerial resupply. That evening an enemy element of approximately 50-70 fighters initiated a coordinated attack with rocket-propelled grenades (RPGs) and sustained fire from PKM medium machine guns. After the 30-minute firefight, the unit sustained two Soldiers killed in action and one critically wounded. Due to the terrain and casualties, the unit was unable to withdraw from the mountain, and a medical evacuation (MEDEVAC) helicopter was launched. During the MEDEVAC, tragedy struck when the litter basket attached to the hoist began to oscillate rapidly causing the hoist cable to snap. The wounded Soldier in the litter basket and the attending medic fell to their deaths. On the morning of 22 June, the unit descended down the mountain on foot after defeating a coordinated attack conducted by a larger enemy element that was well trained and equipped.

The heroic Soldiers of Task Force Titan experienced firsthand the challenges of mountain warfare and the level of complexity combat operations can achieve. One challenge the Soldiers faced was being limited to the ridgeline on their infiltration and withdrawal route due to the complexity and steepness of the terrain. Another challenge was the lack of alternate evacuation assets and employment methods

available when Soldiers were injured on the side of a mountain. However, mobility and evacuation limitations could have been overcome if the Soldiers were trained in basic mountaineering tasks and equipped with mountaineering equipment.

Army Mountaineering Training

It is clear that the dismounted Infantryman feels the greatest effects of Afghanistan's mountainous terrain, an area where few vehicles can operate and the Soldier's basic load is carefully considered. Over the past 12 years, mission requirements forced Soldiers to accomplish tasks ranging from conducting OPs to clearing caves and subterranean water systems known as karezes. This broad spectrum of operations becomes the norm and mandates that units possess a firm foundation in the tactical application of military mountaineering techniques. Mountaineering training in the U.S. Army is traditionally focused on the technical aspect of mountaineering with limited application to combat operations. However, training cannot end with only an understanding of the individual and technical aspects; Soldiers and units must be able to safely and effectively plan, collectively train, and apply this skill set to combat operations.

U.S. Army mountaineering training was formalized in the early 1940s with the establishment of the Mountain Training Center at Camps Carson and Hale, Colo. This center's cadre was predominately recruited from the National Ski Association and from members of the Army with previous mountaineering and cold weather experience.⁴ The training center moved to Alaska in 1948 and eventually became known as the U.S. Army Northern Warfare Training Center (NWTC).⁵ Lessons learned from World War II, such as the 5th Ranger Battalion scaling the cliffs of the Hockerberg through the night to cross the Saar River, demonstrated that continuation of such schools is vital to the effectiveness of the U.S. Army.⁶

This spawned the creation of the Mountain Phase of Ranger School in 1952 and the Army Mountain Warfare School (AMWS) in Jericho, Vt., in 1983 as additional sources of mountaineering expertise.⁷ The NWTC and AMWS progressively train and certify Soldiers in basic and advanced military mountaineering techniques. The two mountaineering qualification levels are basic mountaineer and assault climber. Basic mountaineers are trained in three fundamental areas: traveling and climbing skills, use and care of equipment, and basic medical care and survival techniques. Assault climbers are qualified as basic mountaineers, and their training consists of advanced techniques that provide them the capability to rig complex systems, climb vertical terrain, and "supervise all high-risk training associated with basic

mountaineering."⁸ The focus of an assault climber within a combat unit is to advise commanders on planning and preparation for mountain operations and to lead particularly difficult and very technical mountaineering operations.⁹

The NWTC and AMWS develop and conduct training in both basic and advanced mountaineering, cold weather skills, and tactics employed by Soldiers during all climate conditions.¹⁰ The Mountain Phase of Ranger School teaches and utilizes the same mountaineering techniques to apply combat power in mountainous terrain at the squad and platoon levels. Soldiers who successfully complete these courses have the requisite knowledge to competently advise senior leaders, plan and execute training, and conduct combat operations in a mountainous environment.

Operations in Afghanistan led the Army to re-examine its training and equipping of units preparing for combat in mountainous environments. In 2007, the Army began the development of multiple equipment kits for issue to units as part of a basis of issue plan.¹¹ Each kit builds upon the previous and further increases the capabilities of a combat unit to move in adverse terrain. The High Angle Mountaineering Kit (HAMK) provides equipment and rope for 40 personnel to move through near vertical terrain by allowing Soldiers to set up fixed ropes, hauling systems, and belays.¹² The Assault Climber Team Kit (ACTK) contains all the necessary equipment to establish complex systems for climbing and rescue operations in extremely mountainous terrain.¹³ The Snow and Ice Mobility Kit (SIMK) is a specialty kit that contains the additional equipment necessary for a platoon to operate in an excessively snowy and/or icy environment.¹⁴ The Squad-sized Mountain Leaders Kit (SMLK) contains all necessary equipment for an expert mountaineering team to conduct operations in vertical terrain in all weather conditions.¹⁵ Basic or advanced mountaineer and Ranger-qualified Soldiers are



A Ranger student rappels from an overhang on Yonah Mountain on 3 June 2014.

trained in the proper use of the equipment included in the kits and its employment to traverse otherwise inaccessible mountainous terrain.

The rugged terrain of Afghanistan, seasonal flooding, and lack of infrastructure forced units to rely heavily on aviation assets in order to conduct resupply operations and patrol in their respective areas of operation. Furthermore, these factors forced units to operate and climb in terrain far more difficult and at altitudes far greater than any other location that they previously trained or operated in. Many of these units, just like Task Force Titan, were forced to operate in extremely demanding areas, to include class four and five terrain. The table below classifies the different types of terrain, including the mobility within the respective classes and the skill level required to safely traverse it with mountaineering equipment.

The establishment and occupation of OPs commonly force units to negotiate near vertical and vertical terrain. Throughout their deployment in 2009, the 3rd Battalion, 509th Parachute Infantry Regiment (PIR), 4th BCT, 25th Infantry Division, occupied multiple permanent OPs in the mountains of Paktika Province, Afghanistan.¹⁶ These OPs often required large amounts of provisions and specialized equipment to provide the necessary standoff for protection and early warning. These critical pieces of equipment and provisions were large and heavy, placing a significant strain on Soldiers and the unit to move to the respective OP locations. SFC Joshua Lothspeich, a platoon sergeant in the unit and former NWTC instructor, was tasked with rebuilding, manning, and equipping the battalion's OP 4.

Under his supervision, the platoon restored and utilized an existing steel suspension and traverse cable system with the use of mountaineering techniques and equipment, greatly increasing the platoon's efficiency. During combat patrols, SFC Lothspeich often installed simple fixed ropes during movement to enable his men with their equipment to move up and down steep terrain efficiently, effectively, and safely. Over time, 3-509th PIR overcame the steep terrain of Paktika Province with basic mountaineering techniques, initiative, and the use of limited mountaineering equipment.

Steep terrain is not the only obstacle leaders and units must account for when moving men and equipment. Linear obstacles such as rivers, streams, gorges, and canyons can require Soldiers to move significant distances in order to traverse them. Tragically, there are instances of Soldiers falling into a river and drowning under the weight of their gear. In some instances, these losses could have been prevented with the installation of a basic hand line across the water. The safe havens for the enemy in Afghanistan forced units to conduct high-risk missions clearing caves and karezes in their area of operations without the use of basic mountaineering equipment. Simple additions of mountaineering equipment, such as short ropes and individual sling ropes, can make traversing the hazardous terrain safer and more efficient while significantly increasing the mobility of a platoon.¹⁷

In addition to mobility, mountaineering-qualified Soldiers greatly increase the survivability of casualties. Injuries incurred in this environment can require additional assets

Terrain Classification Table

Class	Terrain	Mobility	Unit Mobility/Special Training Required	Mountaineer Skill Level Required
1	Gentle Slopes/ trails	Walking	<ul style="list-style-type: none"> No special training required other than general environmental acclimation 	<ul style="list-style-type: none"> None
2	Steeper/rugged	Walking, some use of hands may be required	<ul style="list-style-type: none"> Environmental acclimation recommended Unit movement/SOP/battle drill training on steep terrain 	<ul style="list-style-type: none"> Basic mountaineers helpful, but not required
3	Easy climbing/ scrambling	Easy climbing, fixed ropes where exposed or fall risk	<ul style="list-style-type: none"> Environmental acclimation Soldier load management Unit movement/SOP/battle drill training on steep terrain Unit movement on fixed lines 	<ul style="list-style-type: none"> Basic mountaineers are used to install simple fixed ropes and installations
4	Steep exposed	Fixed ropes required	<ul style="list-style-type: none"> Extensive environmental acclimation Soldier load management Unit movement/SOP/battle drill training on steep terrain Unit movement on fixed lines Negotiation of near vertical obstacles Route selection 	<ul style="list-style-type: none"> Basic mountaineers Assault climber may be required to establish anchors, fixed ropes, and hauling systems
5	Near vertical/ vertical	Technical climbing required	<ul style="list-style-type: none"> Extensive environmental acclimation Extensive Soldier load management Assault climbing Technical rope rescue Rope ascending/descending 	<ul style="list-style-type: none"> Assault climbers recommended to advise commanders and supervise complex rope systems

and evacuation teams to move the casualty safely. Minor injuries can become urgent due to harsh weather conditions and restrictive, obstacle-laden terrain that limits dismounted movement routes. Commanders at all levels must plan for the use of evacuation teams that have the training, special equipment, and capabilities to reach, stabilize, and evacuate casualties in mountainous terrain. Units operating in the mountains should be prepared to conduct steep slope (non-technical) and high-angle (technical) evacuations which can require the use of mountaineering-trained evacuation teams known as Mountain Casualty Evacuation Teams for injured and wounded personnel. Methods used by these teams for ascending and descending casualties and negotiating obstacles can range from conducting buddy rappels to establishing high-angle rescue and hauling systems. The teams are able to shorten evacuation routes, increasing the speed of the evacuation and survivability of the casualty. Without the necessary planning, training, and equipping, any injury could become catastrophic in the mountains. Throughout Ranger School, students are also often faced with the evacuation of a casualty from severely restricted terrain. They must be capable of planning, stabilizing, and safely moving the casualty to a suitable extraction site while maintaining security. However, this is only one facet of mountain warfare Ranger students are trained upon at the U.S. Army Ranger School.

Mountain Phase

The Airborne and Ranger Training Brigade produces technically and tactically proficient leaders trained to fight in any environment and under any conditions on the 21st century battlefield. The 5th Ranger Training Battalion conducts the Mountain Phase of Ranger School at Camp Frank D. Merrill near Dahlonega, Ga., to train Rangers to be able to apply combat power in a rugged, mountainous environment. Due to the lessons learned from the mountainous regions of Afghanistan, the Mountain Phase of Ranger School refocused its military mountaineering instruction. Instruction shifted away from the highly technical mountaineering techniques taught in years past to training that focuses on platoon and squad mobility

on vertical and near vertical terrain and includes training on casualty evacuation. Students learn basic mountaineer tasks as well as some assault climber tasks. Ranger students are trained in the fundamentals of mobility and mountaineering techniques necessary to move units safely and efficiently in mountainous terrain. The training is progressive and can be divided primarily into crawl, walk, and run phases. The crawl phase is taught at Camp Merrill and is the most technical phase. This phase consists of basic individual skills such as tying knots, the use and care of military mountaineering equipment, belays, rappels, and basic collective tasks such as hauling systems and rope bridges. The walk phase is taught on nearby Yonah Mountain and is a combination of both technical training and tactical application. At Yonah Mountain, Ranger students are taught basic climbing skills and advanced individual skills such as lead climbing and rappelling from overhangs. They are also taught advanced collective tasks such as squad and platoon mobility, rotary wing hoist, and night mountaineering that includes the negotiation of a fixed rope and a 200-foot rappel under night vision goggles. In addition, Ranger students are taught to recognize and understand the different terrain classifications and their respective limitations to dismounted personnel in order to plan appropriate contingencies. Upon completion of military mountaineering training, Ranger students possess individual and collective skills that enable them to ascend or descend vertical terrain, cross a linear obstacle, or conduct casualty evacuation on vertical terrain. Once they have the necessary skills, they begin to learn how to put them into action.

The run phase occurs during the field training exercise (FTX) where students must apply technical mountaineering techniques to the combat operation in order to complete the mission and meet the commander's intent. Throughout the FTX, students must plan, rehearse, and execute the installation of rope bridges and fixed ropes to negotiate steep terrain and the construction of hauling systems to extract casualties from severely restricted terrain. Currently, four out of the 10 planned missions Ranger students conduct during the FTX require the application of technical mountaineering

Two Ranger Students prepare to conduct the "Balance Climb" on Yonah Mountain, 3 June 2014, during Ranger Class 07-14.



techniques to successfully complete the mission. Ranger students are given the freedom to plan, develop a course of action, and apply the previously learned mountaineering techniques to the tactical scenario.

During the FTX, Ranger platoons conduct a combat search and rescue (CSAR) mission of a downed pilot on steep vertical terrain under simulated combat conditions. Once the platoon locates the crash site, it must secure the area and conduct a search to locate the pilot. Once the pilot is found and discovered to be wounded, they must treat, stabilize, and package the casualty for evacuation. Once he is prepared to move, the platoon will begin movement to a suitable evacuation site. Students quickly realize that moving a casualty only a few hundred meters on near vertical terrain is a very complex task. Moreover the students realize that the traditional two-man aid and litter teams are insufficient to move even a single casualty. They must call upon teams with mountaineering training to assist in the construction of a hauling system to raise or lower the casualty over vertical obstacles. Once the casualty is moved to the extraction point, he can be hoisted, air lifted, or ground evacuated. The evacuation operation is manpower intensive as well as physically and mentally demanding.

As Ranger platoons integrate mountaineering tasks into their combat operations over the course of the FTX, they become more effective in accomplishing their missions and meeting their commander's intent. A Ranger platoon or squad with basic mountaineering equipment is able to effectively and efficiently install simple fixed ropes, execute body belays, safely transport casualties, and haul equipment up or down steep slopes. They are well versed in squad and platoon mobility and have the knowledge and ability to increase the capability of any platoon operating in rugged, mountainous terrain. The 5th Ranger Training Battalion provides Ranger students with the mountaineering skills required for combat operations in a mountainous environment and develops leaders capable of applying doctrine to this specific battlefield.

Critical to the success of any unit in mountain warfare is the proper training of technical mountaineering skills and their tactical application. Incorporating mountaineering tasks into platoon and squad collective training requires a detailed planning process. As teams, squads, and platoons reach proficiency in basic collective tasks for mobility and climbing, mountaineering tasks are added to combat scenarios during FTXs. As the unit trains these tasks, standard operating procedures (SOPs) are developed and refined to improve the unit's ability to conduct these tasks under fire and in adverse conditions. Mountaineering tasks are included in most mission essential task list (METL)-based individual and collective training, and commanders should strive to train and qualify basic mountaineers and assault climbers. Basic mountaineers at the platoon level, with at least one assault climber at the company level, can greatly increase the mobility and survivability of any unit through cross-training programs. Trained mountaineering teams that include basic mountaineers and assault climbers maintained at the battalion level and capable of supporting both battalion and company-level operations provide commanders with an

additional asset capable of traversing any class of terrain. The Army has identified the need to incorporate military mountaineering across its ranks and is currently developing a way ahead for documenting and implementing unit requirements and conducting training.

Military mountaineering training is a specialized skill set that is paramount to the success of combat operations in a rugged, mountainous environment. Throughout history, commanders have been faced with the challenges of maintaining combat effectiveness and efficiency in the mountains. The 5th Ranger Training Battalion integrates technical mountaineering tasks and combat operations to arm Ranger students with the necessary mountaineering skills, working knowledge, and experience to overcome these challenges faced in a mountainous environment.

Notes

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¹⁴ *Ibid.*

¹⁵ *Ibid.*

¹⁶ SFC Joshua Lothspeich, personal interview, 30 May 2014.

¹⁷ Asymmetric Warfare Group, "Mountain Warfare in Afghanistan," 29 February 2008, Powerpoint presentation.

CPT Russell Mitscherling is the commander of Alpha Company, 5th Ranger Training Battalion and is responsible for the supervision and training of more than 30 Ranger Instructors and 850 students annually.

CPT Marcus Elledge is a platoon tactical trainer for A Co., 5th RTBn and is responsible for the technical and tactical proficiency of Ranger instructors and the standardization of instruction.

1SG (Retired) David O'Rear is a training specialist and primary instructor for military mountaineering at the 5th RTBn. He also serves as the Airborne and Ranger Training Brigade executive agent for reviewing military mountaineering doctrine and validating programs of instruction throughout the U.S. Army Infantry School.

Training Notes



A THERMAL EDUCATION:

THERMAL WEAPON SIGHT, NET, AND DO-IT-YOURSELF THERMAL TARGETS

PEO SOLDIER/PM SOLDIER SENSORS AND LASERS

The Army's lightweight AN/PAS-13 Thermal Weapon Sight (TWS) gives Soldiers the ability to spot and engage even a well-camouflaged enemy night or day through dust, smoke, or fog, but attaining proficiency requires training and practice. To ensure Soldiers get the training and practice they need with thermal sensors, Project Manager Soldier Sensors and Lasers (PM SSL) has developed not only an innovative training program, but do-it-yourself (DIY) thermal targets that keep the cost of training with thermal sensors affordable for any unit. This is critically important as we face diminishing budgets and continue to seek efficiencies. Keep in mind that even the Army's most advanced, game-changing sights won't provide Soldiers an advantage if they're left in the arms room, so the first step is to ensure you have the proper kit on hand.

The Sensor

Today's TWS are lightweight systems, which can mount on a weapon rail and operate beyond the maximum effective range of the weapon. New 17-micron technology makes it possible to produce a clip-on TWS for your weapon. Soldiers can use the TWS in the clip-on mode (mounted to a weapon, in-line with a day optic) or in stand-alone mode (mounted to a weapon without a day optic).

An example of the AN/PAS-13's detection capabilities and life-saving effects in theater comes from SGT Joshua Cowan of the 3rd U.S. Infantry Regiment (The Old Guard). "We were

Photos courtesy of PM SSL

coming back one time from a counter-IED (improvised explosive device) mission. My gunner called up and said, 'Sergeant, I think I see something.' We pulled over and stopped. We went up for a look. And from a good 600 meters out, we could see very clearly two individuals digging a hole for an IED while two more armed men pulled security for the diggers. I don't think we would have seen those people — at that distance — with just the night vision goggles."

Shaking Up NET (New Equipment Training)

The TWS is a key enabler to ensure Soldiers acquire, engage, and destroy targets well before the enemy detects them on the battlefield. However, proper training is essential in order to achieve a high level of proficiency employing thermal sensors. PM SSL's NET training includes the highest caliber of instructors, coupled with an emphasis on hands-on range training.



One staff sergeant participating in NET commented in an after action review, "I never operated a PAS-13. So to take a block of instruction, zero, and acquire targets at 800 meters is unreal... This was the best week-long shooting school I have went to (Army or law enforcement)." A sergeant major professed, "The knowledge and experience of the instructors is so vast that they were truly impressive... This scope (TWS) is unbelievable. I was constantly hitting targets at 800 meters in the dark."

With Thermal Weapons Sights on hand and training complete, the remaining roadblock to maintaining proficiency for many units and Soldiers can be the expense of thermal targets. Store-bought thermal target costs add up quickly after a few days at the range. In order to enable Soldiers to train to standard without exceeding the training budget, the NET team developed their own thermal targets. Because even the best marksmen need refresher training, PM SSL is sharing the low-cost thermal target design with the greater Army community.

Making your DIY Thermal Targets

While a standard thermal target costs approximately \$60, a DIY version in raw material — excluding the labor hours set aside to purchase and assemble them — amounts to approximately 24 cents apiece and makes the DIY approach an easy decision. In addition, the DIY thermal targets require no additional power source, giving you flexibility where you use them. This cost-effective training aid can be used both at live ranges as well as an inert training environment designed to sharpen target detection skills. Thermal paper (or tape) has a natural reflective property that makes practice targets visible using a TWS even in near-zero illumination. The idea is to create a simulated weapon-shaped thermal signature across the torso of an E-type silhouette.

Here's what you'll need (Figure 1):

1. E-type Silhouette Target (NSN: 6920-00-795-1806 or NSN: 6920-00-600-6874)
2. Can of adhesive spray glue (NSN: 8040-00-782-0433)
3. Thermal Paper (NSN: 7530-00-523-9981)*
4. Knife or scissors to cut the thermal paper

Note: Cut strips into the following sizes:

- One 2 inches wide x 18 inches long



Figure 1 — Materials Needed for DIY Thermal Target



Figure 2 — Step 1

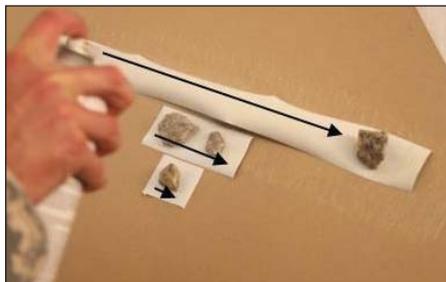


Figure 3 — Step 2



Figure 4 — Final Product

- One 2 inches wide x 4 inches long
- One 2 inches wide x 2 inches long

*You can also substitute aluminum tape (NSN: 7510-00-684-8803) for the thermal paper, eliminating the need for glue and cutting.

Step 1: E-type Silhouette Target

Place your E-type target on a flat surface with the green side up. Approximately 4 inches down on the left side (just below the shoulder area), spray the glue from left to right slightly angled upwards, until you reach the right shoulder. This will eventually be the upper receiver. Your glue pattern should be several inches wide.

About 3 inches in from the left side, spray a 4 inch swath downward so that you can place the 2" x 4" strip on it, which will form the pistol grip.

In the center of the head, spray (either nose or eyebrow level) a 2" to 3" spot for your 2" x 2" piece of thermal tape. Allow to dry to a point that it is still tacky.

Step 2: Thermal Strips

Holding the spray glue about 6 to 8 inches away from the thermal strip, spray the backside. This is the side that has no color.

Step 3: Making the Target

While still tacky, take your 2" x 18" thermal strip (upper receiver) and place it on the target, ensuring that you angle it up to the right shoulder.

Then place the 2" x 4" strip for the pistol grip.

With the remaining 2" x 2" strip, place it in the center of the head to give the shooter a point of reference while making head shot.

If you have done this correctly, your target should look like a man holding a weapon at "Port Arms."

Here are some additional tips for your DIY thermal targets:

▶ In foul weather, place a clear plastic bag over the top of the target but make sure to open the plastic bag. This will keep the integrity of the glue a lot longer.

Note: If you are zeroing the AN/PAS-13, the spotter will still see the impacts of the round through the plastic bag.

▶ Remember that the target needs to be leaned/tilted back at a 10–12 degree angle in order to see the reflection through the thermal weapon sight, AN/PAS-13. Now you are ready to train to proficiency in all operational environments. Hooah!

NTC 14-03 LESSONS LEARNED:

STRYKER SMALL UNIT TRAINING TO DEFEAT A CONVENTIONAL MECHANIZED FORCE

1LT ERIC T. KIM

Sitting under the constant heat of the California sun, out of water and food, two out of my four Strykers destroyed, seven Soldiers dead, and surrounded by four battalions of an enemy mechanized unit, I sat in a wadi unable to move my platoon due to the threat of an enemy T80 or BMP tank near our defensive battle positions. I sensed and saw defeat in my Soldiers' faces, many struggling with the heat's effects in our mission-oriented protective posture (MOPP) suits. Motivated by the wavering morale of my Soldiers and frustrated by our entrapment, I began to brainstorm what my platoon could do to fight off the mechanized enemy. However, the reality we faced was that we could not defeat our mechanized enemy. Despite this harsh realization, I learned a few valuable lessons that could benefit other Stryker platoon-level leaders. Lessons that I hope other Stryker platoons can reflect and grow upon in order to make our small units effective against a conventional and smart enemy. From my experience, I believe the following lessons learned will increase our small unit effectiveness.

LESSON ONE: Stryker platoons must place light infantry fundamentals as the number one training priority and not overly depend on a Stryker's assets.

A Stryker platoon must not get into a mindset that the Stryker will protect it and win its battles. Platoon leadership must emphasize and perfect their knowledge and execution of basic light infantry tactics to be ready to move dismounted in the event that Strykers are incapacitated during the fight.

As my platoon's time during the "force-on-force" phase (the eight-day brigade exercise) of National Training Center (NTC) rotation 14-03 progressed, my platoon lost focus of important light infantry fundamentals. Prior to our unfortunate posture in the wadi, A Company, 2nd Battalion, 3rd Infantry Regiment, had set up a defensive posture on a hilltop. We mounted in our Strykers and moved out of our battalion tactical assembly area at 0300. We dismounted approximately five kilometers from our planned defense position due to the rules of engagement (ROE) restriction of



Soldiers with the 3-2 Stryker Brigade Combat Team from Joint Base Lewis-McChord, Wash., continue their training at the National Training Center, Fort Irwin, Calif., during Decisive Action Training Rotation 14-03, on 22 January 2014.

Photo by SFC Alan B. Owens



U.S. Army photo

A Soldier with the 3-2 SBCT provides security during Decisive Action Training Rotation 14-03 at Fort Irwin.

any vehicles moving past the international border of Atropia (our ally) and Donovia (our enemy). During our dismounted march to our defensive position, I began to notice the degradation of our infantry fundamentals. With close to zero illumination, my Soldiers began to lose proper intervals and spacing during our march. When conducting map checks with my squad leaders, they had no idea of our position unless they used a global positioning system device. My platoon, and truthfully the rest of the company, struggled to communicate our frontline traces dismounted because we didn't have complete PACE (primary, alternate, contingency, emergency) signal plans. These problems exposed our reliance on our Strykers — specifically our reliance on an advanced communication system which automatically identifies frontline traces and served as a communications platform between my platoon, company, and battalion. The Stryker's technological capabilities, light armor, and its ability to move quickly gave my platoon a strong attachment to it. This attachment proved to be detrimental to our operations.

While our Strykers should have been operational enablers, they became our weakness and a primary source of our problems. Our unit became too reliant on the Stryker as our means of transportation and security. As Infantrymen, we know that this concept is fundamentally wrong and potentially dangerous.

In a report written on GEN Walton Walker's Korean command during the first few months of the Korean War, GEN Matthew Ridgway expressed a similar concern on our Army's dependence on vehicles: "Just about everything in his [Ridgway's] report was negative. The troops all too often lacked infantry fundamentals and were not aggressive. They had become prisoners of their machinery, most particularly their vehicles, and thus of Korea's poor and limited system of roads.

They did not counterattack; they did not dig in properly, attempts at camouflage were careless, fields of fire poorly drawn up, communications between units weak..."¹¹

The North Koreans had superior tanks and numbers, but it didn't help that our Soldiers depended too greatly on vehicles which definitely had a negative impact on their infantry fundamentals. These factors directly contributed to North Korea's initial success in penetrating our lines and our embarrassing retreat toward Pusan in the first year of the Korean War.

Small units must ensure they properly train on

and employ light infantry tactics in order to decrease our overreliance on our vehicle platform. Competence in these tactics will allow us to use our Strykers as an enabler on the battlefield without overreliance. However, in order to properly use our Strykers as enablers, we must address small-unit logistical problems.

LESSON TWO: Functional and complete rucksack and assault pack packing lists must be used to combat logistical problems in Stryker platoons.

Logistics is a recurring challenge within a Stryker unit — whether it's getting batteries for the Javelin's CLU (Command Launch Unit), ammunition, fuel, or water.

In order to understand the importance of Stryker logistical support, we need to first understand the purpose and mission of a Stryker Brigade Combat Team (SBCT) as explained in Field Manual 3-21.21, *The Stryker Brigade Combat Team Infantry Battalion*.

"The Stryker brigade combat team (SBCT) infantry battalion's primary mission is to close with and destroy the enemy during full-spectrum operations through close, violent combat. The SBCT infantry battalion is capable of accomplishing all missions historically identified with the Infantry and is organized and equipped to conduct operations in restricted terrain, severely restricted terrain, and urban terrain. The battalion, as part of the SBCT, deploys rapidly, executes early entry operations, and conducts effective combat operations immediately upon arrival to assist in the prevention, containment, stabilization, or resolution of a conflict."²²

If Stryker units are employed as an early entry combat force, logistics will be a challenge for every Stryker platoon

leader. Even in training at Fort Irwin, higher echelon units had a difficult time providing the most basic support to keep our Strykers moving. While defending the Atropian border, Legion Company spent six hours on the hill disrupting the movement of four mechanized infantry battalions, destroying three T80s and 11 BMPs in the process. An impressive feat, yet the enemy's overwhelming numbers and capabilities forced us to move into the military crest of the hill. The compounded effects of marching five kilometers wearing MOPP Level 2 and constantly moving and deploying Javelin rounds and CLUs

to good fighting positions during our six-hour stand depleted our company's supply of Javelin rounds as well as food and water. In order to conduct casualty evacuation and a basic resupply of ammunition, water, and food, we recalled our Strykers to our position. Unfortunately, a T80 in good defilade destroyed half of the company's Strykers while enroute. The enemy's destruction of our resupply efforts effectively neutralized Legion Company as an effective fighting force.

This humbling experience reinforced the importance of having fundamentally sound packing lists. As small unit leaders, we must make sure that we request and pack extra ammunition, extra batteries, two-quart canteens, and Meals Ready-to-Eat (MREs). This way, if we are isolated from Strykers and logistical support, we can sustain ourselves and continue operations. We cannot afford to be fixated on the expected resupply dictated in conventional war doctrine. We must plan for and be able to self-sustain for longer.

LESSON THREE: In order to use our Strykers as enablers, we must consider taking tactical risks with our vehicles as long as we can define and control these risks.

In order to do this, we must first keep in mind that Strykers are our enablers and we must use them as such. The M2 and MK19 weapon systems, though not very effective against a mechanized threat, must be used to augment security for our Javelins and machine-gun systems. While the concept of using our Stryker's weapon system may seem too obvious for discussion, several times during the rotation I found myself dismounting a few kilometers from our objective never to see the Strykers again for a day. We do need to take some tactical risks and use a Stryker's capabilities to aid us rather than dismounting and leaving them out of the fight.

For example, during our defense of Atropia, we dismounted five kilometers away from our battle positions to hide our Strykers from BMP, T80, and Kornet (anti-tank guided missile) threats. When my platoon ended up with



Photo courtesy of author

Soldiers with 1st Platoon, Legion Company, 2nd Battalion, 3rd Infantry Regiment, conduct pre-combat checks at the rotational unit bivouac area at Fort Irwin.

seven casualties after our stand, we needed a way to exfil out of our defensive positions quickly in order to medically evacuate our casualties. If our Strykers were nearby, they could have fulfilled this need and furthermore aided in the movement of my platoon to support adjacent units such as Charlie Company, which was fortifying our battalion's defensive positions. However, the T80 destroyed two of my four Strykers and halted the movement of the rest. Keeping our Strykers near the company's defensive positions would have made them an easy target and may have compromised our defense position. But, if we had used defilade to hide our Strykers and had moved more quickly off the objective (rather than sitting stagnant in our positions for a lengthy six hours), we may have been able to evacuate our casualties and consolidate my remaining Soldiers at other battalion defense positions.

Furthermore, a few days later as the brigade's decisive operation, I took a tactical risk in assaulting a well-secured, suspected CBRN (chemical, biological, radiological, nuclear) compound while mounted in Strykers. Instead of a lengthy dismounted assault of the CBRN compound, I decided to use the Stryker's speed and adjacent unit capabilities to mitigate my tactical risk. Meanwhile our adjacent unit, the Japanese Global Self Defense Force, used tanks to help us destroy the enemy mechanized defensive positions in the chemical compound. Using speed to our advantage, we approached the objective in a diamond formation and quickly dismounted within a short distance of the chemical compound. My platoon successfully cleared two CBRN buildings in MOPP Level 4 and secured the objective without casualties. In this situation, using my Strykers enabled my platoon to effectively and efficiently assault the chemical compound. Most importantly, speed allowed us to maintain the brigade's violence of action as well as my platoon's smooth tempo in clearing through the chemical compound.

Had we not enabled our Strykers, violence of action definitely would have been lost, and my Soldiers would not have been able to quickly prepare for an enemy counterattack.

Enabling our Strykers saved the stamina of my platoon, setting the conditions for us to conduct a thorough clearance and tactical site exploitation of our objective.

Conclusion

In hindsight, I am greatly thankful for the experiences and the lessons that NTC 14-03 taught my platoon. Even after eating mouthfuls of sand and experiencing excruciating moments with our WAG (waste alleviation and gelling) bags, I still thoroughly enjoyed the experience that NTC afforded us. It is truly beneficial for small unit leaders like myself to experience force-on-force training because we have only been exposed to unconventional warfare and counterinsurgency operations in our careers thus far.

Although it is commonly thought that conventional war is not possible in today's world, I think this is a dangerous misconception to have. In the 21 December 2013 issue of *The Economist* magazine, the editor warns world leaders about the disparaging parallels between the pre-World War I era to that of today. He shrewdly points out that the American public was certain that war was impossible due to strong economic connections, globalization, and new technology between both powerful and rising nations.³ In contrast to these popular notions, World Wars I and II raged throughout the early 20th century. As military leaders we will not make the decision to go to war, but it is important that as military leaders we prepare our units to the best of our ability for a conventional war. History suggests that it is essential for small unit leaders to understand how to fight a conventional war. We must better prepare and train our Soldiers, weapons, and equipment, specifically our Strykers, so that we are ready for the next fight. I hope that the three

lessons I learned as a Stryker platoon leader aid other Stryker platoons to be more effective and lethal in fighting a mechanized conventional force.

In conclusion, in order to be more effective against a conventional enemy, small-unit leaders should: focus on light infantry fundamentals, make sound ruck and assault packing lists to fight against logistical headaches, and finally take decided tactical risks that enable Strykers to work for us and to our advantage. I truly believe implementing these lessons learned into training will help ensure the success of our small units on the possible conventional battlefields in our future.

Notes

¹ David Halberstam, *The Coldest Winter: American and the Korean War* (NY: Hyperion, 2008).

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³ "Look Back with Angst," *The Economist*, 21 December 2013: 17.

1LT Eric T. Kim is a platoon leader in Legion Company, 2nd Battalion, 3rd Infantry Regiment, 3rd Stryker Brigade Combat Team, 2nd Infantry Division, Joint Base Lewis McChord, Wash. He graduated from the U.S. Military Academy at West Point, N.Y., majoring in systems engineering with focus on human studies.

A Soldier from 3-2 SBCT prepares to fire a Javelin during Decisive Action Training Rotation 14-03 at NTC on 28 January 2014.

Photo by SGT Paul Sale



GPS AND THE MANEUVER SOLDIER

CPT JERRY V. DREW II

Editor's Note: This article first appeared in the March-June 2014 issue of *Armor*.

Throughout the last decade of continuous conflict, our armed forces have become increasingly dependent on space-based systems. Services like space-based missile warning, satellite imagery and the worldwide relay of communications — much to the credit of operational service-support personnel — have remained largely transparent to Soldiers at the tactical level. We are confident that the “giant voice” will alert us to an incoming missile; that Force XXI Battle Command Brigade and Below (FBCB2) data will be with us on the move; and that relevant imagery will be available when requested.

We often lose sight of the source of these services, and in doing so, we cheat ourselves of an opportunity to leverage a deeper understanding of them. In the current fight, space services have remained largely uncontested, but because our adversaries are becoming increasingly capable of fielding their own space systems while attempting to deny us the use of ours, a functional understanding of space-based systems is more necessary than ever. Despite this reality, Soldiers, officers and staffs at all levels are often not aware of how to leverage space systems and Army space professionals to the maximum benefit of their units.

Although space-based systems and the individuals trained to exploit their capabilities provide diverse services such as those discussed in the preceding paragraphs, the one space-based system that is most vital to the maneuver Soldier is the Global Positioning System (GPS). It is the

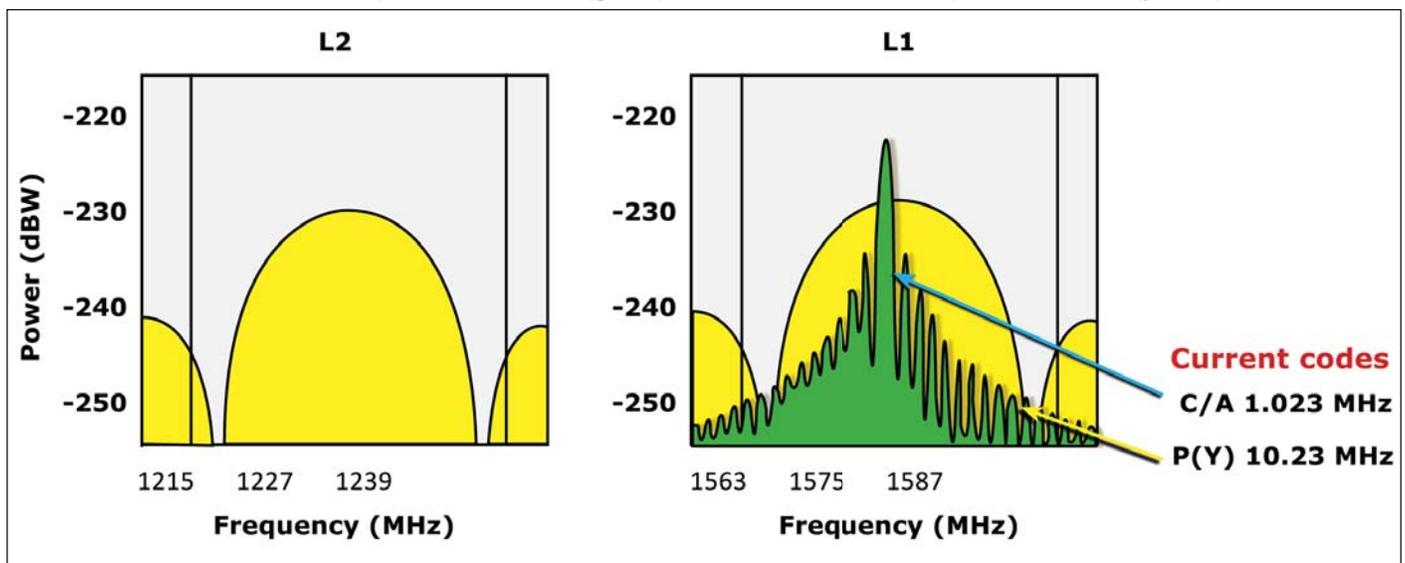
constellation of GPS satellites that provides a Defense Advanced GPS Receiver's (DAGR) positional data, enables navigation through the FBCB2 and provides a time source for radio encryption. These devices are so common and they work so well that we often take position, navigation, and timing (PNT) services for granted. Soldiers rarely, if ever, consider the satellites that provide the data or the possibility that a technologically advanced enemy would be able to deny them the ability to precisely know their position. However, even a basic understanding of GPS capabilities, along with a discussion of some tactics, techniques, and procedures (TTPs), will enable maneuver Soldiers, leaders, and planners at all echelons to more effectively conduct operations.

From a space professional's perspective, there are several things about the GPS constellation and handheld receivers that Soldiers and leaders need to know. First, DAGRs receive two separate radio frequencies, L1 and L2, from any GPS satellite in view. These frequencies contain codes. To acquire precision PNT data, a DAGR must acquire two codes: the coarse acquisition (C/A) code and the precision (P) code. A GPS satellite will typically only transmit the C/A code on the L1 frequency. The DAGR will acquire the C/A code first, which will then allow it to acquire the P code. The P code is normally broadcast on both the L1 and L2 frequencies, and when it is encrypted with the appropriate communications security (COMSEC), the P code becomes a P(Y) code.

Other things Soldiers and leaders should know:

Encrypt your DAGR to ensure protection against jamming. The dual signal itself accounts for part of the

Figure 1 — A DAGR will acquire frequencies in the L1 and L2 bands from any GPS satellite in its field of view. The DAGR will first acquire the C/A code (green), which will allow it to acquire the P code (yellow).



Graphic courtesy of the U.S. Army Space and Missile Command

DAGR's security. While DAGRs will function with no encryption loaded in them, leaders must ensure that Soldiers are loading the proper encryption to allow the receiver the best chance of resisting jamming activity, specifically a type of jamming called spoofing (Figure 2).

To protect your Soldiers and your mission, use only military-grade receivers.

Largely due to shortages in military-grade GPS receivers, the practice of using civilian GPS receivers in a combat environment has been fairly common for the past decade. Individuals should not use civilian GPS receivers in a combat zone (or in training, for that matter). Civilian GPS receivers only receive one frequency, do not support encryption and are not secure. Making matters worse, many civilian GPS receivers actually transmit a signal. An enemy can use the same model of receiver to monitor your channel and determine your location. The risk of endangering your Soldiers and your mission could very well outweigh any benefit gained from the additional situational awareness offered by using commercial receivers.

Even though military GPS receivers are capable of being encrypted, the signals they receive from satellites are relatively weak. In fact, anyone can purchase a GPS jammer from the Internet. (Please note that using a jammer of any kind can lead to extremely serious legal consequences.) Furthermore, adversarial nations understand our dependence on GPS and are equipped with military-grade jammers — equipment that could potentially show up in current areas of operations and will certainly play a large role in future conflicts. What does a Soldier do if he is being jammed or suspects he is being jammed?

If your DAGR loses its GPS signal, attempt to reacquire the satellites' signals. Your GPS signal is coming from the sky, and the jammer is likely ground-based, so any way of blocking the jammer's energy will help keep your DAGR locked on friendly GPS signals. If the jamming signal is extremely strong or extremely near, you must be prepared to conduct operations in a degraded environment. If the jamming signal is weak, place your body, a vehicle, or a terrain feature between your DAGR and the jammer's suspected location. If you are not sure where the jamming is coming from, digging a shallow hole and placing your DAGR in the hole might protect your DAGR enough to allow it to reacquire the GPS signal.

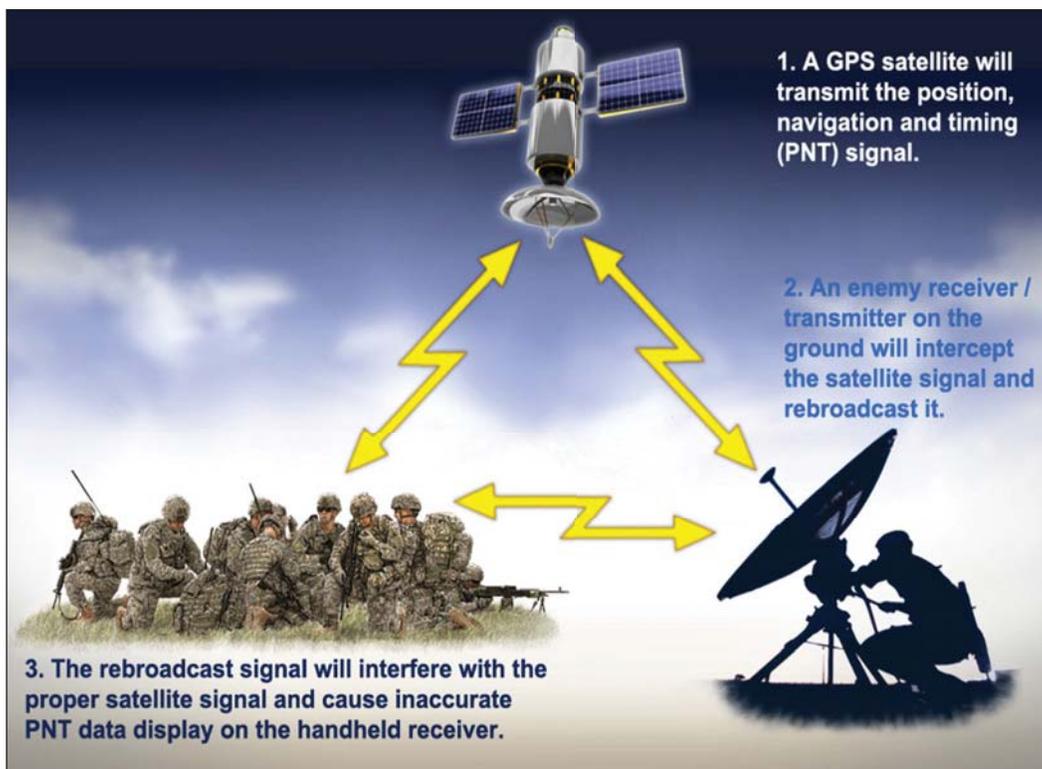


Figure 2 — Spoofing

If you suspect jamming, report it up the chain sooner rather than later. Soldiers tend to dismiss signal loss, nonsensical location or elevation readings, or a jammer warning on the DAGR screen as equipment errors. These are all indications of signal interference. Blue-on-blue (unintentional) interference is common; many U.S. and allied systems (for example, certain radars) emit frequencies that can interfere with GPS receivers' ability to properly receive signals. In these instances, space personnel, in conjunction with other staff elements and government agencies, will be able to assist in deconflicting the interference. If an enemy is responsible for the interference, their jammer may be locatable and targetable.

Prepare for a jamming threat; train with a map and compass. Knowledge of your position is a necessity, and because DAGR and FCB2 systems depend on GPS input, the loss of a GPS signal may mean the loss of situational awareness. Spoofing is a kind of jamming that intercepts friendly GPS signals and retransmits them to your receiver, causing the receiver to lock on to the jammer and not the satellites. This causes the DAGR to report that you are somewhere other than where you actually are. Fire support and medical-evacuation support depend on precision location; a false sense of location could lead to serious consequences. Without the availability of GPS, the map and compass are a Soldier's best bet.

Prepare for a jamming threat; train for degraded communications. The encryption on your radio is probably using the time reference provided by your DAGR (that is to say, the time reference transmitted by the GPS satellites to the DAGR) to stay synched with all the other radios in the

unit. If the timing in your radios drifts and jamming prevents you from receiving the time as provided by an accurate GPS signal, you may eventually be unable to talk in an encrypted mode. If your COMSEC is compromised, you may need to resort to using a Terrain Index Reference System (TIRS) or Grid Index Reference System (GIRS), or you can assume the risk of operating over an unencrypted frequency. Leaders must incorporate training for degraded operations.

In the United States, we are accustomed to commercial GPS receivers that will tell us our location with great precision and great consistency, but when planning and executing missions in austere environments, it is essential to understand that GPS does not always produce a consistent level of precision. The position your DAGR reports may very well be your true position, but it could also be off by 100 meters or more. The reason we enjoy such accuracy in the United States has less to do with the space-based segment of GPS than with the ground-based benchmarks that augment it. These reference emitters know their location and never move. A dashboard GPS receiver, for example, takes the satellite input, compares it to the reference emitter's input, and calculates a precise location for the vehicle by accounting for the difference in the two signals. Countries like Afghanistan do not have this ground-based infrastructure, so GPS positioning there depends solely on space-based assets, which increases the probability of imprecision.

To complicate the matter, GPS satellites are continually passing overhead. Contrary to one common misconception, GPS satellites do not remain over one fixed ground location the way an aerostat blimp might. As a result of multiple satellites passing overhead and dipping below the horizon, DAGRs are constantly losing the signal from one satellite and reacquiring the signal from another. To display a valid four-dimensional solution (latitude, longitude, elevation and time), a DAGR must receive a signal from at least four satellites. More satellites in view of a receiver means increased precision, but the way that the satellites are arrayed in space also affects the DAGR's precision. For example, if you are able to "see" four satellites, but two of them are near the horizon, your solution will be less accurate than if your DAGR is receiving signals from four satellites spaced evenly across the viewable sky (Figure 3).

Similarly, if your receiver is able to "see" four satellites, but they are all directly overhead or if they are all near the horizon, your solution will not be as precise as if you have four satellites spaced evenly across the viewable sky.

Add in the effects of terrain, and the solution worsens. If you are in a valley surrounded by mountains or in an urban area full of buildings, for example, the terrain is blocking the signals of all satellites except those that can "see"

down into the valley (Figure 4); the satellite geometry is unfavorable. Thankfully, planners can mitigate the negative effects of the shortcomings in the GPS system through an understanding of terrain and space support capabilities.

If you suspect a jamming environment, request a navigational-accuracy (NAVAC) model. Division space-support personnel use a software program called the GPS Interference and Navigation Tool (GIANT) to analyze satellite availability, effects of terrain and potential effects of jammers. GIANT will model the accuracy of a GPS signal at a given location at a given time or over a given time period. Commanders and planners will be able to wargame the operational effects of GPS availability and jamming activity.

Although a degraded GPS signal will probably not stop a patrol, it may inform route selection, rehearsals, and the plan for employing precision-guided munitions (PGMs). For example, if at 11 p.m. the GPS signal will provide accuracy only to within 100 meters of the desired impact point, a commander may choose not to employ a PGM at that time. If, however, the satellite geometry at 11:30 p.m. indicates accuracy down to within 10 meters of the target, it may be prudent to wait the extra 30 minutes for the more probable mission success. The employment of Joint Precision Airdrop Systems (JPADS), GPS-guided unmanned aerial systems (UAS), GPS-aided Joint Direct Attack Munitions (JDAMs) or any other GPS-dependent system requires similar consideration.

If you suspect that GPS degradation due to terrain will be a problem, request a Satellite Tool Kit (STK) model. STK, like GIANT, is also a software program space-support personnel can use to model GPS accuracy, but STK's capability for building models is vastly more expansive. In STK, for example, one can build an animated model — a sort of miniature movie — of an MQ-1 Predator flying through a mountain valley in Afghanistan. The simulated Predator can be designed to include, among other attributes, a camera

Figure 3 — Favorable Satellite Geometry
This graphic depicts satellites at varying heights, depths, and horizontal distances relative to the Soldiers. Satellites arrayed throughout a disbursed volume of sky will provide PNT data that is more accurate than a less disbursed configuration.

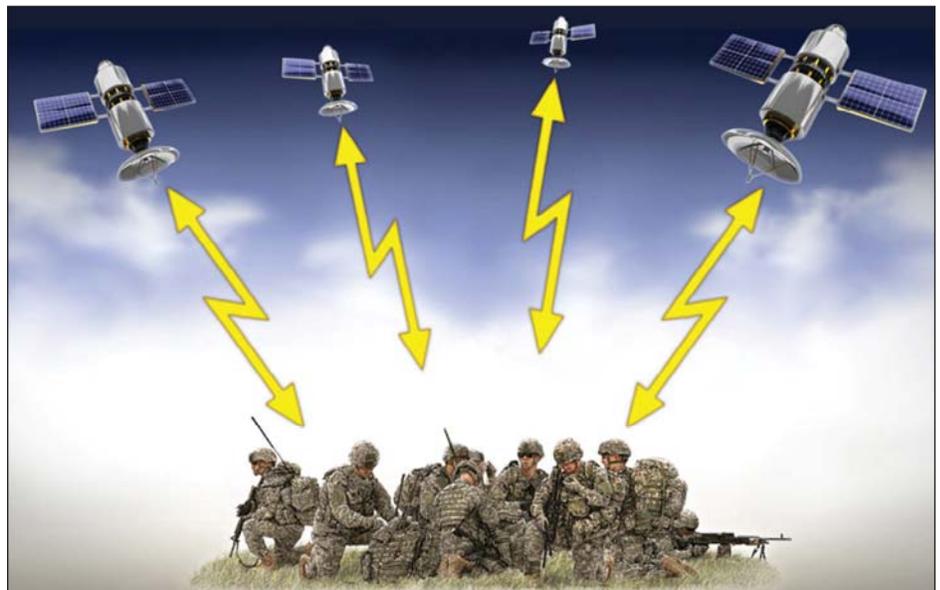




Figure 4 — Effects of Terrain

Naturally occurring or man-made terrain features can block or reflect GPS signals, reducing the number of satellites in view and preventing your handheld device from receiving the data necessary to get a good geo-location. Leaders should address such potential effects during mission planning.

of specified quality, memory storage of specified size and a fuel tank of specified capacity. Also, because the software reads Digital Terrain Elevation Data (DTED) data and allows for imagery overlays, the animation is quite realistic and provides an excellent product for mission briefs and rehearsals. When the GPS constellation is included in the model, STK reports will predict at what point the UAS will lose the GPS signal, and mission planners can adjust its flight path and/or timeline accordingly.

A discussion of STK's full capability is beyond this article's scope. However, STK is a very powerful tool that can be used to model different sizes or types of forces, radio-frequency propagation, and many other battlefield elements.

Conclusion

Although Soldiers use space-based capabilities like GPS every day at the tactical level, we often do so without the level of understanding necessary to maximize the potential of these capabilities. We take capabilities like GPS for granted, but our adversaries understand our dependence on space and will continue to direct training and assets against them. We must be prepared for their eventual success in denying or degrading our space capabilities.

Currently, the first echelon at which a unit has organic space professionals is the division (the space support

element). During deployments, Army space support teams will often augment division and corps staffs, and depending on the organization and the issue at hand, space-support requests may go through operational (S3), intelligence (S2) or signal (S6) channels. This construct, however, should not deceive us into thinking that space-based products and services are only for use by the upper echelons, nor should it discourage a company commander or a battalion planner to request that support. On the contrary, space-based capabilities like GPS were developed with tactical operations in mind, and a leader or planner at any level who understands the military applications of space systems will enjoy greater mission success as adversaries become increasingly capable of challenging U.S. supremacy in the space domain.

At the time this article was written, **CPT Jerry V. Drew II** was attending the Maneuver Captains Career Course at Fort Benning, Ga. His previous assignments include serving as battalion assistant S3, 1st Space Battalion, Peterson Air Force Base, Colo.; commander of Bravo Detachment, 1st Space Company, 1st Space Battalion, 1st Space Brigade, Camp As Sayliyah, Qatar; deputy team leader, Army Space Support Team 6, 2nd Space Company, 1st Space Battalion, 1st Space Brigade, Peterson Air Force Base; and Headquarters and Headquarters Company executive officer and scout platoon leader, 1st Combined Arms Battalion, 5th Brigade, 1st Armored Division (Army Evaluation Task Force), Fort Bliss, Texas.

Book Reviews

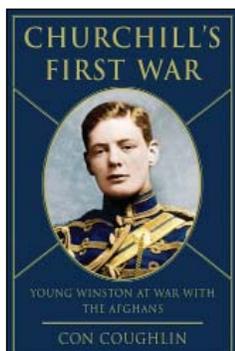


Churchill's First War: Young Winston at War with the Afghans

By Con Coughlin

NY: Thomas Dunne Books,
2014, 320 pages

Reviewed by MAJ Kirby R. Dennis



Followers of Winston Churchill are familiar with the many distinguished titles he held over the course of his life: Member of British Parliament, First Lord of the Admiralty, Chancellor of the Exchequer, and most notably, Prime Minister of Great Britain during World War II. Many do not know that Churchill held another, more obscure title as Colonel-in-Chief of the 4th Hussar Regiment — a point made in Con Coughlin's excellent book *Churchill's First War: Young Winston at War with the Afghans*. Among other things, Coughlin sheds light on the background behind Churchill's history and affiliation with the 4th Hussars in his quest to see battle in the Northwest Frontier of India. In doing so, he provides the reader a unique and fascinating account of one of Churchill's most formative experiences.

Anyone hoping to understand Churchill's conduct and leadership as Prime Minister during World War II should read this book. Coughlin does an excellent job providing the reader insight into Churchill's thinking as a young man — to include his professional motivations, world outlook, and insatiable appetite for adventure. One major theme of this book is Lieutenant Churchill's constant and continuous pursuit of glory, which was a primary reason he found himself fighting on the front with the Malakand Field Force in 1897. Churchill himself states that his boyhood dream of "soldiers and war...[and] sensations attendant upon being for the first time under fire" drove his ambitions to earn battlefield glory. Coughlin repeatedly points the reader to yet another theme in the book, which is that Churchill's pursuit of glory was rooted in a larger aim to ascend the political ladder in London. Despite these loftier goals of political power, Coughlin ensures that the reader understands Churchill's knack for soldiering. The author masterfully tells the story of Churchill's road to enter the ranks of the Malakand Field Force and underscores his reputation as a "very smart cavalry officer" who possessed a renowned "enthusiasm for field work." Most notably, this book highlights Churchill's bravery in what was brutal warfare against Pashtun tribes in 1897. Indeed, the reader will learn of Churchill's carnal desire to kill during battles in the Mohmand Valley, located in what is today the highly contentious border between Afghanistan and Pakistan. These examples are among several in what is Coughlin's larger purpose of giving the reader extraordinary insight into Churchill as a Soldier and leader — an effort in which the author succeeds in accomplishing.

While Churchill was brave and proficient in the field, the reader will no doubt conclude that he was not a very good counterinsurgent during a conflict that required those principles

to be practiced. His belief in British superiority is manifest throughout the book, as is his dislike of British political officers and the mullahs with whom they were charged to negotiate with. In what is one of a series of powerful parallels to modern day counterinsurgency, Coughlin describes a British project to build a major road into a critical base camp, thereby creating a key line of communication and ensuring the ability to spread "the values of the empire." Opponents of the road argued that it would agitate local tribes and "inflame anti-British feelings on the frontier," but Churchill was firm in his support for the road project. The project moved forward and is noted as a critical factor that led to the rebellion against British forces along the Northwest Frontier.

Perhaps Coughlin's greatest achievements in this book are the parallels that he draws with NATO's current conflict in Afghanistan. Coughlin provides ample discussion of terrain and notes that the Royal Imperial Army lost numerous lives in what we know today as the Federally Administered Tribal Areas (FATA) and Swat Valley — a point not lost on the reader given current events in the region. Coughlin also highlights the fact that the Malakand Field Force largely entered conflict with local tribes because both sides misread the other's goals and objectives, a point that any modern-day counterinsurgent will appreciate. Moreover, the Malakand Field Force's misunderstanding of tribal dynamics and its proclivity to hide behind large fortresses parallel two major lessons learned from today's military forces in Iraq and Afghanistan. These concepts come as no surprise to students of modern warfare given the U.S. military's recent counterinsurgency efforts on the battlefield; however, Coughlin's work draws attention to the maxim that history repeats itself and should therefore be understood and applied whenever possible.

The title of Coughlin's book may mislead readers into thinking they will be solely treated to an account of Churchill's exploits in battle as a young officer. In fact, the author covers a range of topics beyond the battlefield that keep the book both interesting and relevant. Coughlin gives a unique perspective on subjects such as British foreign policy at the turn of the century and journalistic efforts to report the war, and does so in a way that bolsters the larger narrative of Churchill as a soldier. To be sure, Coughlin's book is not without its faults. Many more pages are devoted to details aside from Churchill's personal conduct in war that may lead the reader to question the overall purpose of the book. Furthermore, Coughlin only scratches the surface in his analysis of some of the parallels to modern warfare, and often generalizes Churchill's experience with those of today's military forces. Yet on balance, the author provides the reader a unique, detailed, and entertaining account of one of history's greatest leaders and the environment in which he first experienced the exhilaration of combat.

Towards the end of the book, GEN David Petraeus is quoted as saying "What they [British Forces in 1897] did was not something you could do today...They undertook what we would call today a scorched earth policy." At the same time however, Coughlin notes that Petraeus studied the lessons of the British experience in 1897 prior to assuming command in Afghanistan in 2010 given

the many similarities with NATO's effort in Afghanistan at the time. In Churchill's First War, Coughlin deftly weaves the life of Churchill into a larger story of warfare, and in doing so underscores these striking similarities. Any student of Churchill, military history, or modern warfare would do well to read Con Coughlin's fascinating account of one of history's greatest leaders.

The Only War We Had: A Platoon Leader's Journal of Vietnam

**By Michael Lee Lanning
College Station, TX:
Texas A&M Press, 2007
(reprint), 293 pages**

Vietnam, 1969-1970: A Company Commander's Journal

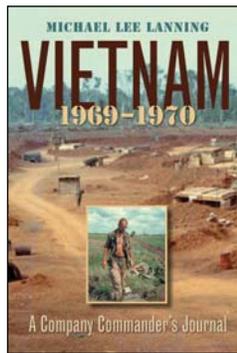
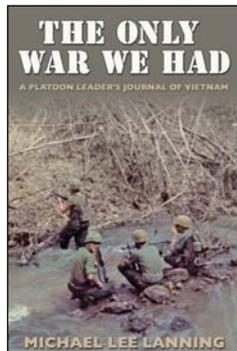
**By Michael Lee Lanning
College Station, TX:
Texas A&M Press, 2007
(reprint), 320 pages**

Reviewed by LTC (Retired)
Rick Baillergeon

As a young Infantry officer (many years ago), I seemingly received advice from everyone. One recommendation was from a senior officer who provided me a list of books he said I must read. Topping that list were two books by Michael Lee Lanning entitled *The Only War We Had: A Platoon Leader's Journal of Vietnam* and *Vietnam, 1969-1970: A Company Commander's Journal*. He said these books would provide me an honest depiction of company-grade combat leadership. As my career progressed, this was counsel I was glad I heeded.

Before discussing the many merits of these books, the story of how the volumes came to print is an intriguing one. Before Lanning deployed to Vietnam, he was advised by his brother (who had just returned from Vietnam after commanding an Infantry company) to keep a journal of his experiences. After initially scoffing at his brother's suggestion, he later purchased some journals and annotated daily during his time in Vietnam from April 1969 to April 1970. It was a tour highlighted by his service as an Infantry platoon leader, a recon platoon leader, and an Infantry company commander (incredibly as a 23-year old first lieutenant).

When Lanning returned from Vietnam, he let his wife and father read the journals and then packed them away. In 1984, Lanning visited the Vietnam Veteran's Memorial and was greatly moved by the experience. Upon his return home, he dug out the journals, read them, and believed they would provide an understanding of Vietnam War through the eyes of a combat Infantrymen. Lanning discovered he had far too much material for one book and determined two books were necessary. In 1987, he released *The Only War We Had* which focused on his first six months in Vietnam as a rifle and recon platoon leader. The following year, he released *A Company*



Commander's Journal which addressed the last six months of his tour. These books were both reissued in 2007 in hopes that a new generation would discover them.

The first thing readers will notice about these books is their organization. Rightfully so, Lanning has organized the book into daily sections. He begins the section with the daily journal entry just as he wrote it in 1969-1970. These are generally short sentences that highlight what occurred in the day for Lanning and the units he led. Following this, Lanning expands on his thoughts after 15 years of retrospection. This expanded discussion may be as short as a paragraph or two or extend to three to four pages.

This period of reflection results in books which inevitably were therapeutic and immensely beneficial to Lanning. They are also books which readers will find extremely powerful. Lanning questions decisions he made and just as importantly, ones that he didn't make. He addresses opinions and thoughts he had as a lieutenant which over 15 years dramatically changed. The binding tie of this reflection and hindsight is the brutal honesty that is displayed throughout each book.

No one would categorize the Lanning books as polished volumes. There are no glossy color photographs; in fact, neither book contains a single photograph. It is also readily apparent that these books did not go through an excruciating editing process. What a reader simply gets is the words and thoughts of a young Infantry lieutenant leading Soldiers in combat in Vietnam.

Within these words, Lanning addresses the highly emotional areas and challenging situations that a Soldier faced daily in Vietnam. These include dealing with the many aspects of fear. Obviously, the fear of personal death or severe injury comes to the forefront, but also the fear of losing a buddy, the fear of the unknown, and interestingly, the fear of boredom. Within the journals, he also speaks on subjects such as the GI rumor mill, the one-year tour, and the disillusionment many had with the support from the homefront.

Lanning also discusses subjects that were pertinent to him personally. These include his tactical decision-making process, his thought process in dealing with issues with the Soldiers he led, and his challenges with understanding the culture. What is most interesting is the dichotomy of how at the same time he has this mentality to kill his enemy, he is waiting impatiently for the birth of his daughter in the States. This struggle between life and death is a continuing theme throughout the two volumes.

What is the value of Lanning's books today? I believe their significance lies in several areas. First, for the general public it provides an excellent "foxhole" perspective of the Vietnam War. With most new volumes on the Vietnam War focused at the strategic or political level, this is an area that is now overlooked. Second, despite the numerous company-level memoirs focused on Iraq and Afghanistan, these volumes will still greatly benefit officers and NCOs at the company level. They are filled with numerous lessons learned that are just as applicable today as they were well over 40 years ago.

It had been more than 25 years since I had read the Lanning volumes. I quickly found that the books were every bit as gripping today as they were then. As I completed the books, I thought back to that recommendation I received many years ago. It is advice I unequivocally pass on today. These books unquestionably provide an honest depiction of company-grade leadership. As an added benefit, they provide a snapshot of the Vietnam War taken at a level that is neglected today in Vietnam War scholarship.

TWO VIETNAM WAR SOLDIERS RECEIVE MoH

CSM (Retired) Bennie G. Adkins and **SPC 4 Donald P. Sloat** were each awarded the Medal of Honor for valor in Vietnam. President Barack Obama presented the medals on 15 September during a ceremony in the East Room of the White House. Adkins was present to receive his medal and Sloat received his posthumously. Dr. Bill Sloat, Donald's brother, accepted it on his behalf.

SPC 4 DON SLOAT

SPC 4 Donald P. Sloat distinguished himself while serving as a machine gunner with 3rd Platoon, Company D, 2nd Battalion, 1st Infantry Regiment, 196th Light Infantry Brigade, Americal Division, during combat operations against an armed enemy in the Republic of Vietnam, 17 January 1970.

D Company operated out of Fire Support Base Hawk Hill in an area of I Corps. They were located south and southwest of Danang providing security for local villages and conducting regular searches for NVA units.

On the morning of 17 January, Sloat's squad was conducting a patrol, serving as a blocking element in support of tanks and armored personnel carriers from F Troop in the Que Son valley. As the squad moved through dense up a small hill in file formation, the lead Soldier tripped a wire attached to a hand grenade booby-trap, set up by enemy forces.

When the grenade rolled down the hill toward Sloat, he had a choice. He could hit the ground and seek cover, or pick up the grenade and throw it away from his fellow Soldiers. After initially attempting to throw the grenade, Sloat realized that detonation was imminent, and that two or three men near him would be killed or seriously injured if he couldn't shield them from the blast. In an instant, Sloat chose to draw the grenade to his body, shielding his squad members from the blast and saving their lives.

CSM BENNIE ADKINS

CSM Bennie G. Adkins distinguished himself during 38 hours of close-combat fighting against enemy forces from 9-12 March 1966. At that time, then-SFC Adkins was serving as an Intelligence Sergeant with Detachment A-102, 5th Special Forces Group, 1st Special Forces at Camp "A Shau," in the Republic of Vietnam.

When Camp A Shau was attacked by a large North Vietnamese force in the early morning hours of 9 March, SFC Adkins rushed through intense enemy fire and manned a mortar position defending the camp. He continued to mount a defense even while incurring wounds from several direct hits from enemy mortars. Upon



learning that several Soldiers were wounded near the center of camp, he temporarily turned the mortar over to another Soldier, ran through exploding mortar rounds, and dragged several comrades to safety. As the hostile fire subsided, Adkins exposed himself to sporadic sniper fire and carried his wounded comrades to a more secure position at the camp dispensary.

SFC Adkins exposed himself to enemy fire transporting a wounded casualty to an airstrip for evacuation. He and his group then came under heavy small arms fire from members of the Civilian Irregular Defense Group that had defected to fight with the North Vietnamese. Despite this overwhelming force, Adkins maneuvered outside the camp to evacuate a seriously wounded American and draw fire away from the aircraft all the while successfully covering the rescue. Later, when a resupply air drop landed outside of the camp perimeter, Adkins again moved outside of the camp walls to retrieve the much needed supplies.

During the early morning hours of 10 March, enemy forces launched their main assault. Within two hours, SFC Adkins was the only defender firing a mortar weapon. When all mortar rounds were expended, Adkins began placing effective rifle fire upon enemy as they infiltrated the camp perimeter and assaulted his position. Despite receiving additional wounds from enemy rounds exploding on his position, Adkins fought off relentless waves of attacking North Vietnamese soldiers.

Adkins then withdrew to regroup with a smaller element of soldiers at the communications bunker. While there, he single-handedly eliminated numerous insurgents with small arms fire, almost completely exhausting his supply of ammunition. Braving intense enemy fire, he returned to the mortar pit, gathered vital ammunition and evaded fire while returning to the bunker. After the order was given to evacuate the camp, SFC Adkins and a small group of soldiers destroyed all signal equipment and classified documents, dug their way out of the rear of the bunker, and fought their way out of the camp.

Because of his efforts to carry a wounded soldier to an extraction point and leave no one behind, SFC Adkins and his group were unable to reach the last evacuation helicopter. Adkins then rallied the remaining survivors and led the group into the jungle — evading the enemy for 48 hours until they were rescued by helicopter on 12 March. During the 38-hour battle

and 48 hours of escape and evasion, Adkins fought with mortars, machine guns, recoilless rifles, small arms, and hand grenades, killing an estimated 135 -175 of the enemy and sustaining 18 different wounds. SFC Adkins' extraordinary heroism and selflessness above and beyond the call of duty are in keeping with the highest traditions of the military service and reflect great credit upon himself, Detachment A-102, 5th Special Forces Group, 1st Special Forces and the U.S. Army.

(This article was adapted from items posted on www.army.mil/medalofhonor)



Photo by SSG Bernardo Fuller

IN THE NEXT ISSUE:

- * **Becoming Alpini: A Top-Notch Broadening Assignment**
- * **The Battery Difference: A Solution to Reducing Soldier Load and Increasing Effectiveness on the Battlefield**

