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GAIN THE INITIATIVE



ARMOR

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CHIEF OF ARMOR'S HATCH

BG David Lesperance
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Transitioning to Large-Scale Combat Operations

We are in the midst of a transition to large-scale combat operations (LSCO). We are working with the Combined Arms Center at Fort Leavenworth, KS, on their study of LSCO to understand what this transition means for our branch in the future. While the Maneuver Center of Excellence has specifically examined reconnaissance and security (R&S) at echelons above brigade and brigade combat team (BCT) lethality and mobility as part of this study, there are implications across the doctrine, organization, training, materiel, leadership and education, personnel, facilities and policy spectrum for our branch.

In April of this year, we conducted an R&S tabletop exercise focused on R&S capabilities and formations required at BCT and division level in support of LSCO. Two of our central findings were: (1) multi-domain-capable R&S formations and capabilities at echelon enable decision-making, shaping with deep fires, and the tempo and synchronization necessary for LSCO; and (2) a robust and capable ground-based R&S force develops the situation by forcing the enemy to commit forces and assets – disclosing his plan and capabilities earlier than he might otherwise intend. What does this mean for us? We must have the capability to understand, protect against and leverage effects in all domains while

simultaneously retaining the ability to operate in a degraded mode with traditional ground-based formations.

These findings also have implications for other formations. We need traditional formations with multi-domain capabilities in the future operating environment. We must be able to operate on advanced satellite-communications-based navigation and computer systems but rapidly transition to a compass and map when required. We need advanced surveillance and reconnaissance systems extending our operational reach while retaining the only all-weather, all-conditions sensor we have: the scout.

What does this mean for our doctrine, organization, training and leadership and education? We need to adapt our doctrine to better account for operations across all domains, including techniques we have forgotten. We need to reorganize formations with added subject-matter expertise to enable understanding of the operational environment across all domains. This won't mean that every battalion or brigade has organic capability in every domain, but it does mean that these units will be able to understand, protect against and request effects in all domains. Maneuver and live-fire training must incorporate the effects of electronic warfare, space and cyber,

including the steps to defend against them. Professional military education will require a more robust incorporation of multi-domain effects and knowledge of planning and synchronization for massing these effects.

We will continue to study the implications of this transition with the other centers of excellence in deliberate fashion with table-top exercises, simulations and experiments. We can also learn a lot from our history on this topic and from current conflicts around the world. I am interested in your thoughts on this topic, especially from those of you currently on or recently returned from operational deployments. Please continue to contribute to the professional dialogue on this topic and what it means for our branch through this magazine and other means – it is important to our future.

Forge the Thunderbolt!

ACRONYM QUICK-SCAN

BCT – brigade combat team
LSCO – large-scale combat operations
R&S – reconnaissance and security

CSM Kevin J. Muhlenbeck
Command Sergeant Major
U.S. Army Armor School



NCOs: Setting the Conditions for Victory!

The 2019 Maneuver Warfighter Conference at the Maneuver Center of Excellence is focused on preparing our Soldiers and formations for large-scale combat operations (LSCO). This edition of **ARMOR** ties into that focus with the theme of "Gain the Initiative." Once a unit is prepared for LSCO, its first job when called upon is to gain the initiative to engage and destroy the enemy on our terms. Armor noncommissioned officers (NCOs) need to understand that our role in setting the conditions to gain the initiative begins in our formations long before the first Soldier is deployed and the first shot is fired.

Multiple ways that demonstrate officer empowerment to the NCO Corps basically mean that NCOs are entrusted to set the conditions so their unit can gain the initiative. First and most critical in setting the conditions is being the foundational blocks of positive leadership we all learned at the Basic Leader's Course. This includes knowing your Soldiers and ensuring they are on a path to success. It also means taking time to assess Soldiers' strengths and weaknesses and having a plan of action to both sustain and improve them. Understand their personal challenges to ensure they and their families are prepared for time apart, and prepare them for the rigors the Armor Branch

thrives on. Doing these things engenders trust and camaraderie among unit members, which is critical to building an effective team.

Concerning training, it is the NCO's primary responsibility to ensure our tankers and scouts are trained in both warrior tasks and drills and their military-occupation specialty's individual tasks at their respective skill levels. NCOs should understand how to leverage installation-training-support facilities and other enablers to enhance individual and collective home-station training in preparation for combat-training-center rotations and operational deployments. The Army provides an accessible, detailed and comprehensive consolidated reference for leader, individual and collective training in the Army Training Network to facilitate doctrine-based training and increase readiness and lethality across the Armor force.

In planning for future operations, officers are the primary leaders who generate the operational orders that facilitate a unit's ability to gain the initiative. NCOs assigned to the staff are encouraged to provide relevant and accurate input during the execution of the military decision-making process and the orders-generation process.

Although Hollywood won't make a movie about the staff in action anytime soon, a cohesive officer-NCO staff team is just as critical to a unit's success as anything else is.

Across all three areas, NCOs are the commander's primary workhorse to build our unit's readiness and lethality. Oftentimes, the tasks associated with building readiness are least glorious to accomplish but most critical. These include maintenance, inspections, accountability, developing unit-level standard operating procedures and other critical processes that allow a unit's smooth operation. None of these tasks are inherently difficult; however, they all require vigilance and insights drawn from our years of experience. We must take pride and ownership in these actions to set the conditions for our units to be successful by gaining the initiative before and after first contact. The unit's success furthers Soldiers' pride in the unit; pride furthers success; and **PRIDE IS CONTAGIOUS!**

ACRONYM QUICK-SCAN

LSCO – large-scale combat operations
NCO – noncommissioned officer

LETTERS

Dear Editor,

The decades-long debate regarding how to best employ mechanized-cavalry scout assets seems to have a fundamental flaw that is significantly impeding the establishment of doctrine and implementation for cavalry scouts and cavalry in general. This flaw is a result of trying to force cavalry functionality onto units that do not have a large speed and range advantage over the main body to which they are attached.

In the instance of the Bradley Cavalry Fighting Vehicle, current ground cavalry does not have a large speed and range superiority over the Abrams and Infantry Fighting Vehicle of typical main-body elements. Without a great mobility advantage, modern cavalry cannot perform traditional cavalry tasks.

Aviation assets do have the speed and mobility advantages. Aviation is the modern equivalent of historical cavalry.

Modern ground cavalry needs a faster “horse” before it can reach its potential. Maybe the Stryker vehicle, instead of being “upgunned,” should be lightened by reducing protection to small-arms-fire level and down-gunned even

to the point of removing the turret entirely. Then this lighter vehicle could be given more fuel and more engine power. A six-vehicle platoon consisting of fast-moving scouts, mortar and command vehicles might be able to fill the role of modern ground cavalry. This might be greatly augmented by the new 155mm artillery now in development.

RETIRED 1LT JOHN HAZEL

Dear Editor,

As a unit trainer and post Army career trainer and training developer, I consider COL Stuart Smith’s article in the Winter 2019 issue of **ARMOR** an outstanding read. He got the business of unit training now and going forward exactly right. His discussion is accurate and to the point on planning and conducting effective mission to standard unit training that will produce deployment-ready units.

COL Smith’s comments on the use of vital resources the Army has developed and made available to support the training effort echoes work the Army team has been doing over the years to make mission-effective training possible. His comment on the Combined-Arms Training Strategy (CATS) was

especially apropos and an echo of much hard work that occurred to create the resource for exactly the reasons emphasized in the article.

The essentially universal thought that underpinned the initial development of CATS by U.S. Army Training and Doctrine Command (TRADOC), the integration centers and the schools with real-time line-Army input at the time echoed in COL Smith’s words. As the lead at TRADOC headquarters for the Army team’s CATS effort, I can say that COL Smith is on target. The intent of CATS was to allow the commander and unit to flexibly, under almost any conditions, train to mission standard and critical readiness.

RETIRED LTC TOM ROZMAN

Former director, Collective Training Directorate
Office of the Deputy Chief of Staff for Training, TRADOC

ACRONYM QUICK-SCAN

CATS – Combined-Arms Training Strategy

TRADOC – (U.S. Army) Training and Doctrine Command

Reconsidering Division-Cavalry Squadrons

Part IV: the Division-Cavalry Task Force

(Editor's note: This is the last in a four-part series that describes the problem, history and potential solutions for the U.S. Army's lack of dedicated division-level ground reconnaissance and security capacity.)

by MAJ Nathan Jennings

Since the U.S. Army adopted tactical modularity in 2004, reorganized its final deployable armored-cavalry regiment (ACR) as a Stryker brigade combat team (BCT) in 2011 and, more recently, restructured its battlefield surveillance brigades without cavalry squadrons, it has lacked dedicated and optimized ground formations to conduct forceful information collection (IC) above the brigade level. Though intended to produce greater combined-arms versatility at lower tactical levels, modular transformation violated the long-held requirement, as argued by VII Corps after Operation Desert Storm, that ground forces require "armed and armored recce at every level ... battalion through corps."¹ This capabilities gap has consequently impaired division and corps ability to execute informed and dynamic expeditionary operations across theaters featuring challenging area-denial networks.²

This deficiency – which stemmed from episodic understanding of the potential for maneuver warfare between peer and hybrid states – can be remedied, in part, by extracting insights from the Army's long record of successfully employing cavalry forces. World War II, the Korean War, Vietnam War, first Persian Gulf War, Afghanistan War and second Persian Gulf War each provided testing grounds for combinations of heavy, medium, light and aerial squadrons as higher commands adapted pre-conflict organizations to the realities of complicated settings and adaptive foes. From the jungles of Indochina to the deserts of Mesopotamia, two lessons have emerged with certitude: division cavalry should optimize for high-end combat relative to threat capabilities, and division cavalry must also be empowered with enablers to maintain demanding tempos

across battlefields of expanded breadth and depth.³

Historical lessons

Looking toward future combat operations, the U.S. Army can potentially incorporate insights from its recent past to design viable options to bridge structural gaps in reconnaissance and security (R&S) capabilities at division level. As illustrated by the 60-year evolution of American cavalry in general, and the performance of units like 1st Squadron, 4th Cavalry Regiment, in particular, two-star headquarters greatly benefited from direct-reporting formations optimized to collect information and defeat enemy scouts in a variety of combat operations. While these squadrons often excelled at shaping conditions during forcible entry, they likewise proved their value, sometimes counterintuitively, during distributed and asymmetric stability efforts.

This historical record yields two foundational insights, among others, that may inform the creation of future division-level cavalry. The first emerges from the enduring debate over stealthy or forceful optimization to achieve high-end capability relative to threat capabilities. In both the Vietnam War and first Gulf War, in addition to World War II, the Korean War and the 2003 invasion of Iraq, general officers – regardless of pre-conflict expectations for narrow utility – ordered their cavalry to conduct a variety of combat actions that required enhanced mobility, protection and firepower. As the Armor Center assessed after Operation Desert Storm, "scouts must be in a hardened vehicle that must be able to move over all types of terrain, shoot and destroy chance contacts, and move through minefields and artillery fire."⁴

The requirement to equip and arm for tactical overmatch during R&S operations holds unique implications for the types of cavalry teams that divisions could potentially task-organize to create advantageous conditions and exploit windows of opportunity. Army cavalries are now both constrained and

empowered by particular armored, Stryker and infantry brigade profiles. They each own variations of materiel advantages and limitations that would inform higher-echelon contributions. Similar to the tactical bifurcation of reconnaissance units that served under armored and infantry divisions during World War II, the current diversity of heavy, medium and light scouts allows commanders to create tailored instruments to combat specific threats.

Beginning with the humvee cavalry of the infantry BCTs (IBCTs), the Army maintains 15 Active Component and 20 National Guard squadrons that perform dismounted, wheeled, airborne and airmobile missions. If selected to directly support division or joint-task-force IC, these scouts – who represent 59 percent of the total ground-cavalry force – would offer stealthier observation and greater strategic mobility.⁵ However, as argued by a U.S. Army Maneuver Center of Excellence (MCoE) assessment in 2014, they often "lack the passenger-carrying capacity, protection and mobility required for [R&S] operations."⁶ While IBCT troopers have been particularly useful during stability operations in places like Bosnia, Haiti and Afghanistan due to their mobility and convenient logistics, they proved generally inadequate for intense combat in Korea, Vietnam and both invasions of Iraq.⁷

Stryker BCTs, as the Army's newest type of maneuver brigade, field scouts with medium-weight platforms. With seven Active Component and two National Guard squadrons, they comprise just 15 percent of the cavalry force.⁸ Because Stryker formations are, according to Army doctrine, "more deployable than the [armored BCT (ABCT)]" and have "greater tactical mobility, protection and firepower than the IBCT," they could provide divisions and joint task forces with a compromise option that possesses moderate capability to fight for information and provide freedom of maneuver.⁹ Similar to the scouts the Army predominantly relied upon in Europe during World War II, Stryker squadrons, especially

select units that have been “up-gunned” with 30mm autocannons, boast ability to defeat lighter enemy forces while defending, under ideal conditions, against adversary armor.¹⁰

The heavy cavalry of the ABCTs represent the Army’s most capable ground R&S formation in high-intensity warfare. As illustrated by the combat record of 1st Squadron, 4th Cavalry Regiment, in settings ranging from open deserts to restrictive jungles, mechanized squadrons provide divisions or joint task forces with the ability to forcefully shape maneuver options with high-tempo reconnaissance and durable security. While the immense weight of their armored platforms, high rates of fuel consumption and large signatures make them less strategically mobile and more expensive, their Cavalry Fighting Vehicles and tanks possess unique potential to deter potential opponents through forward positioning. Armored scouts, representing nine Active Component and six National Guard squadrons, comprise about 25 percent of the larger cavalry force.¹¹

The second insight from the Army’s record of employing cavalry since mechanization centers on the importance of empowering scouts with cross-domain capabilities. While mounting them on appropriate vehicles with requisite mobility, protection and firepower has traditionally defined their maneuver parameters, augmenting squadrons with expanded surveillance, destructive fires, engineer mobility and cyber/electronic warfare means can multiply capabilities. Rotary-wing aviation, as an ideal instrument for extending a supported element’s breadth of frontage and depth of reach, remains among the most important combat multipliers. The placement of attack helicopters in direct support or under operational control of ground cavalry is a primary factor that separates division and corps-level scouts from those that enable brigades with more narrowly defined tactical purposes.¹²

The crucial importance of pairing at least one aviation troop with a heavy division cavalry, or more in the case of an airborne-infantry division or a dispersed joint task force, finds ready historical validation. Retired COL William

Haponski, commander of 1-4 Cav in 1969, emphasized how the “close-in support” by air cavalry with “instant, accurate firepower” empowered his squadron during “extended action” in security efforts in Vietnam. Likewise, 1st Infantry Division’s report from the first Gulf War articulated how integrated rotary-wing assets were “needed to effectively cover the sector normally associated with the division’s frontage” during forced entry.¹³ The uniting of aerial and ground scouts – which unsurprisingly share much of the same organizational culture and traditions – creates air/ground teams capable of conducting expanded screens or extended reconnaissance in zone.

While rotary-wing troopers enhance a squadron’s tactical breadth and depth, joint fires have traditionally provided scouts an outsized ability to disrupt and destroy enemy forward elements. For cavalry to fully enable division maneuver, it requires support from responsive indirect fires – often with precision rockets at extreme ranges – to compensate for limited organic lethality. As Haponski again noted, his troopers in Vietnam “always” had a “specific artillery battery assigned in direct support to fire immediately in the event of contact.” He also emphasized how joint and combined fires, swiftly delivered by Air Force, Navy, Marine and allied attack aircraft, provided “immediate support” with “huge swaths of terrain erupting in a hell that cannot be imagined by anyone who has not seen it.”¹⁴ These kinds of echeloned fires remain particularly critical for enabling light scouts during high-intensity combat.

Cavalry formations, when organized to support joint-forces maneuver, can be empowered with additional enablers to better serve as agile combined-arms teams. Fighting early and forward of the main body, they have historically incorporated air defense, engineers, chemical reconnaissance, high-altitude surveillance, signals collection, human-terrain specialists, civil-affairs teams, forward air controllers and additional operations staff with specialized expertise. As the Army continues to integrate emerging technologies, scouts will increasingly facilitate cyber/electronic warfare, space, human terrain,

special operations and informational efforts to shape operating environments across depth and dimension. Similar to the traditional pairing of air and ground scouts, cyber action teams in particular may increasingly find cavalry troops to be ideal partners for facilitating early-access penetration.¹⁵

Each of the Army’s types of ground squadrons – when empowered with tailored cross-domain capability according to maneuver profile and mission requirements – consequently offer flexible options for divisions and joint forces to attain R&S superiority. The structural diversity of the cavalry force, though currently overly represented by humvee troops, provides a panoply of customizable teams for dominating disruption zones during offensive, defensive and stability operations. This means leaders should select and design division-cavalry teams to achieve tactical overmatch relative to expected enemy capabilities rather than preconceived platform biases. As argued in VII Corps’ report following Operation Desert Storm, effective scouts need to be resourced to “fight for information” and “go in harm’s way,” regardless of intended stealthy observation.¹⁶

Division-cavalry task forces

These insights can potentially inform future institutional efforts to bridge the current R&S capability gaps at higher echelons. The Army could in part mitigate the issue by creating tailored cavalry task forces from assets typically controlled by divisions in both garrison and combat environments. Similar to the Excursion initiative that task-organizes entire BCTs to temporarily serve as corps-level R&S brigades, divisions or modestly-sized joint task forces can create combined-arms teams from assigned aerial, fires and maneuver elements to provide maximally equipped reconnaissance capability.¹⁷ Rather than relying on brigades to “shape the deep fight” as an artificial layer between forward scouts and division commanders – as criticized in 1st Armored Division’s 2015 Warfighting Assessment – the flexible construction of separate cavalry task forces may allow more efficient information collection.¹⁸

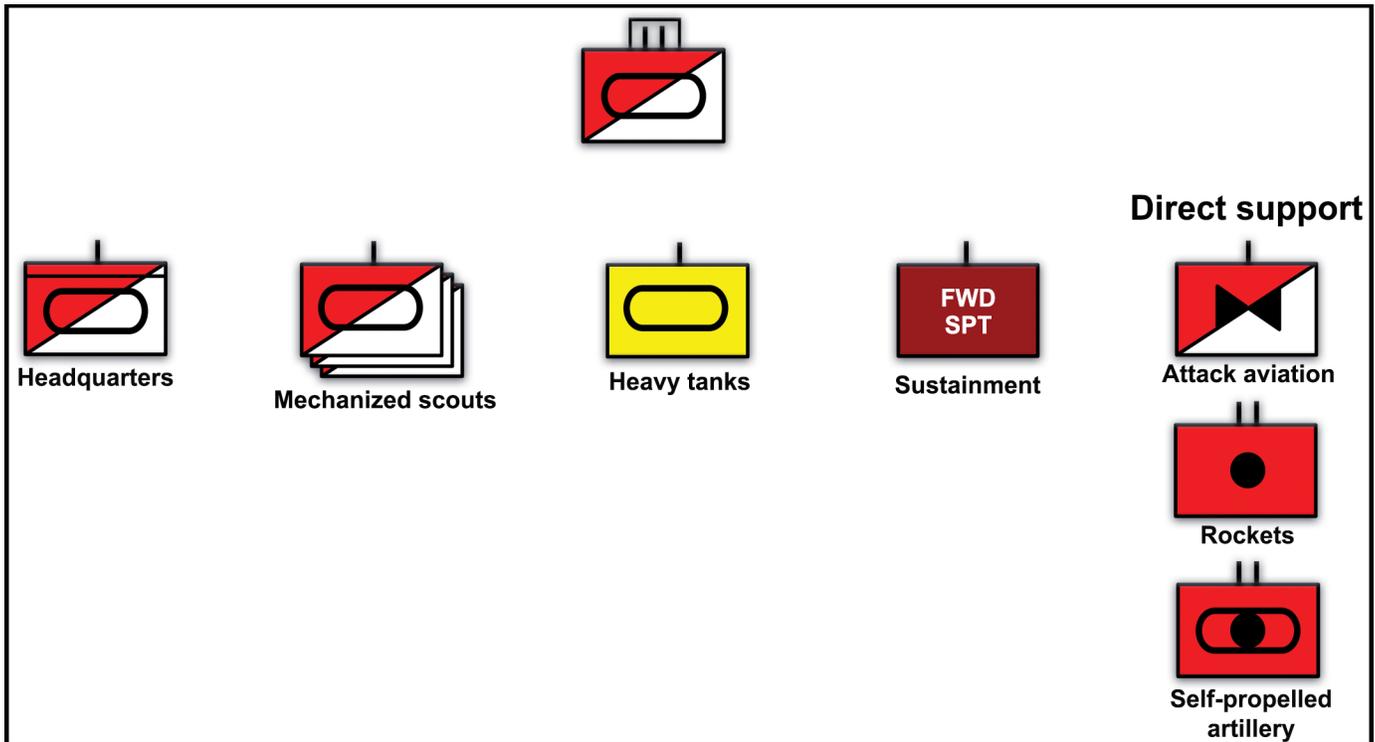


Figure 1. Division-cavalry task force (armored), low augmentation.

The compositions of typical U.S. Army divisions allow myriad possibilities to create tailored R&S teams. An initial and expedient option would be to detach a cavalry squadron from its parent BCT and provide it an attack-aviation company in direct support. The addition of armed rotary-wing capabilities would create, according to historical norms, the minimal air/ground capabilities required to execute more expansive IC and counter-reconnaissance. To create the operational reach, flexibility and survivability to maneuver forward of the main body, the low-augmentation task force would also require direct support of air defense and indirect fires, a liaison officer from the providing combat-aviation brigade and tailored logistical support.

This battalion-sized task force would provide an economized method for divisions to recreate the basic capabilities of the legacy Reorganization of Army Divisions H-series squadrons that fought in Vietnam and defended Europe. Depending on the task force's mechanized, motorized or aerial profile, the air/ground team could execute zone, route and area reconnaissance, or screen and guard operations with minimal preparation. This configuration would potentially allow divisions

to reconnoiter three major routes or maintain a contested screening effort across 40- to 50-kilometer frontages.¹⁹ However, the changes would leave the BCT that provided the squadron with limited scouting capability while compelling aviation, fires and sustainment units to dedicate early resources to support the forward effort.

A second option for creating a more robust division-cavalry task force would be to build on the first template with expanded combat power and cross-domain fires. This medium-level augmentation could include operational control of an additional ground-cavalry troop, an engineer platoon, a chemical platoon and an IC-and-analysis section. To enable adequate tactical reach, it would require support from air defense, extended logistical trains, long-range unmanned aerial surveillance (UAS), cannon or rocket battalions, an attack reconnaissance battalion (air) and, potentially, dedicated cyber/electronic warfare and information-operations teams. It would likely require transfer of staff from providing aviation, artillery and sustainment units to increase squadron mission-command capacity.

This cavalry task force would likewise find recent historical relevancy.

Building on the imposing L-series model that led 3rd Infantry Division's invasion of Iraq in 2003, it would field four ground-cavalry troops, a tank or anti-armor company and organic mortars. It could potentially reconnoiter five major routes or guard some 50 to 70 kilometers of frontage.²⁰ An armor-centric version in particular would also be equipped to, as required by Army doctrine, conduct "aggressive" reconnaissance-in-force "to determine and exploit enemy weaknesses" while destroying enemy scouts.²¹ Though it would stress a squadron's span of control, compel extensive combined-arms training and again require mitigation of the losing BCT's loss of scouting capacity, the concept would allow divisions to achieve early access into contested domains without prematurely committing entire brigades.

A third and more consequential option for enabling division or joint-forces maneuver would be to create a larger and more powerful task force. In a marked departure from the current R&S brigade program that provides modest augmentation to standard BCTs, this initiative would place three cavalry squadrons under a brigade headquarters while removing two of its maneuver battalions to other

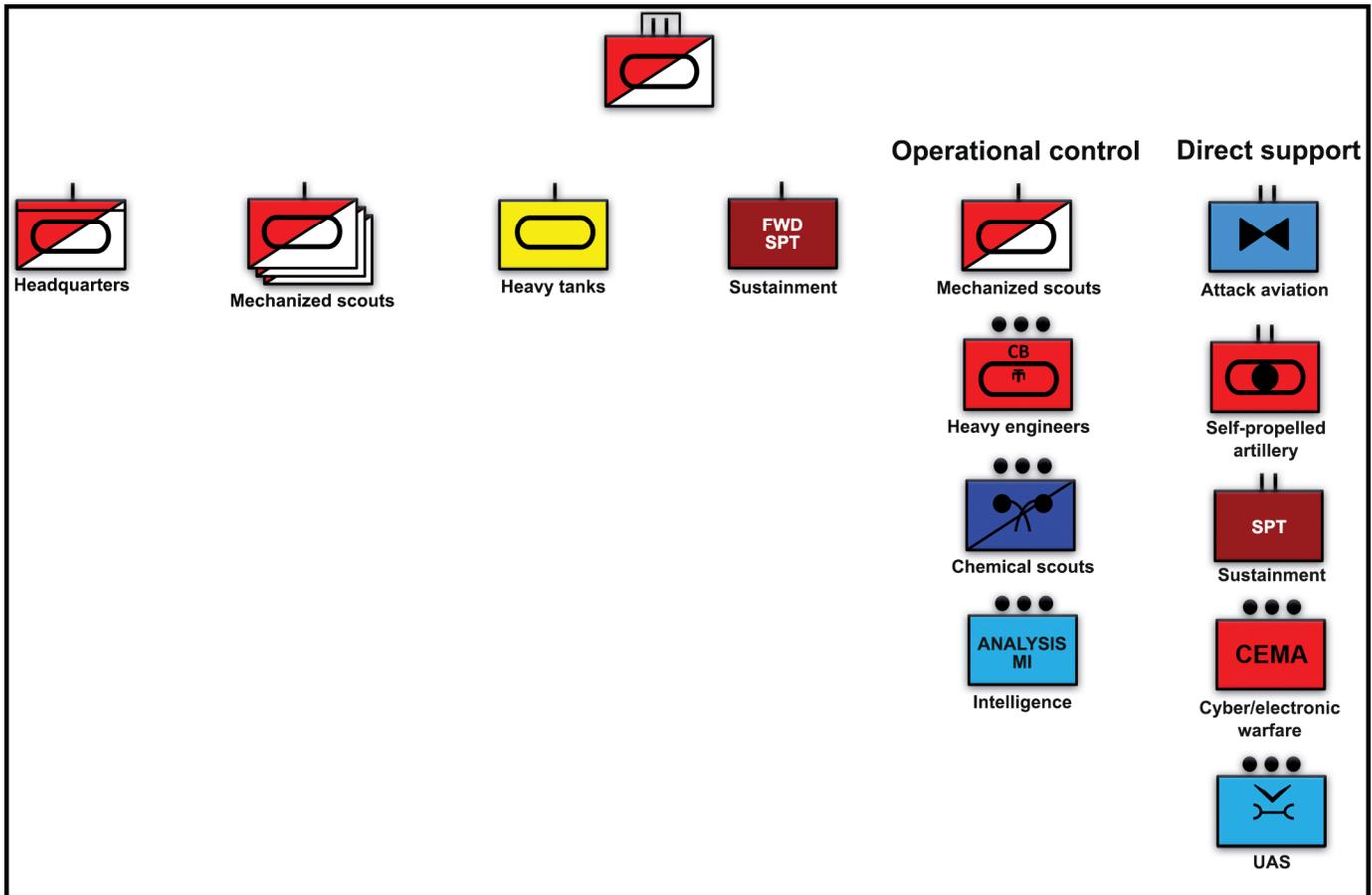


Figure 2. Division-cavalry task force (armored), medium augmentation.

brigades. It would retain control of its organic artillery, engineer, sustainment and remaining maneuver battalion. The team could further benefit from gaining operational control of an attack reconnaissance squadron (air), an air-assault company (air) and two more chemical platoons. It would also require support from a cyber action team, tactical air defense, long-range rocket fires, unmanned and high-altitude surveillance and a tailored forward-logistics element from a sustainment brigade.

An alternate method for creating a brigade-sized reconnaissance team would be for a division to provide its combat-aviation brigade operational control of a ground-cavalry squadron. While this type of force would lack ACR-type ability to execute methodical reconnaissance and durable security actions, it would expand on the capabilities of the air-centric squadrons that once enabled airborne and airmobile divisions – exemplified by 1st Squadron, 9th Cavalry Regiment’s missions in Vietnam – with responsive IC across vast

distances and restrictive terrain.²² Though the brigade’s ground scouts would benefit from increased availability of AH-64 Apache attack helicopter and UAS fires, they would, similar to any cavalry organization, still require robust support by indirect fires, engineers and modified logistical trains.

Task-organized cavalry brigades would replicate aspects of the capabilities demonstrated by 11th ACR in Vietnam and 2nd ACR in the first Gulf War. Depending on the air/ground force mix, they could potentially reconnoiter nine major routes or screen a front 120 to 150 kilometers wide. While the teams would require substantial training, they could provide aggressive advance guard and cover assignments while exploiting the effects of cyber, special-operations forces, fast-moving attack aircraft and informational, cyber/electronic and long-range fires to dominate counter-reconnaissance. As BG John Kolasheski, 50th commandant of the U.S. Army Armor School, noted of a 1st Infantry Division exercise in 2016 that experimented with an air/ground

brigade, it provided “critical reaction time and maneuver space” for “exploiting success and seizing opportunities of our choosing.”²³

Reconsidering division cavalry

While creating permanent squadrons at the two-star level would be an ideal solution to current needs, task-organizing assets already under division control can provide mitigation that is internally resourced, tactically effective and readily available. This could include empowering a detached squadron with attack aviation, creating modest task forces with maximal fires support or forming entire cavalry brigades to – as prescribed by retired LTG David Barno in his report, “The Future of the Army” – provide “division and corps commanders a scalable formation capable of screening and guard missions, as well as a myriad of long-range independent operations in support of other maneuver units.”²⁴ Regardless of composition, tailored teams would offer options to capitalize on emerging

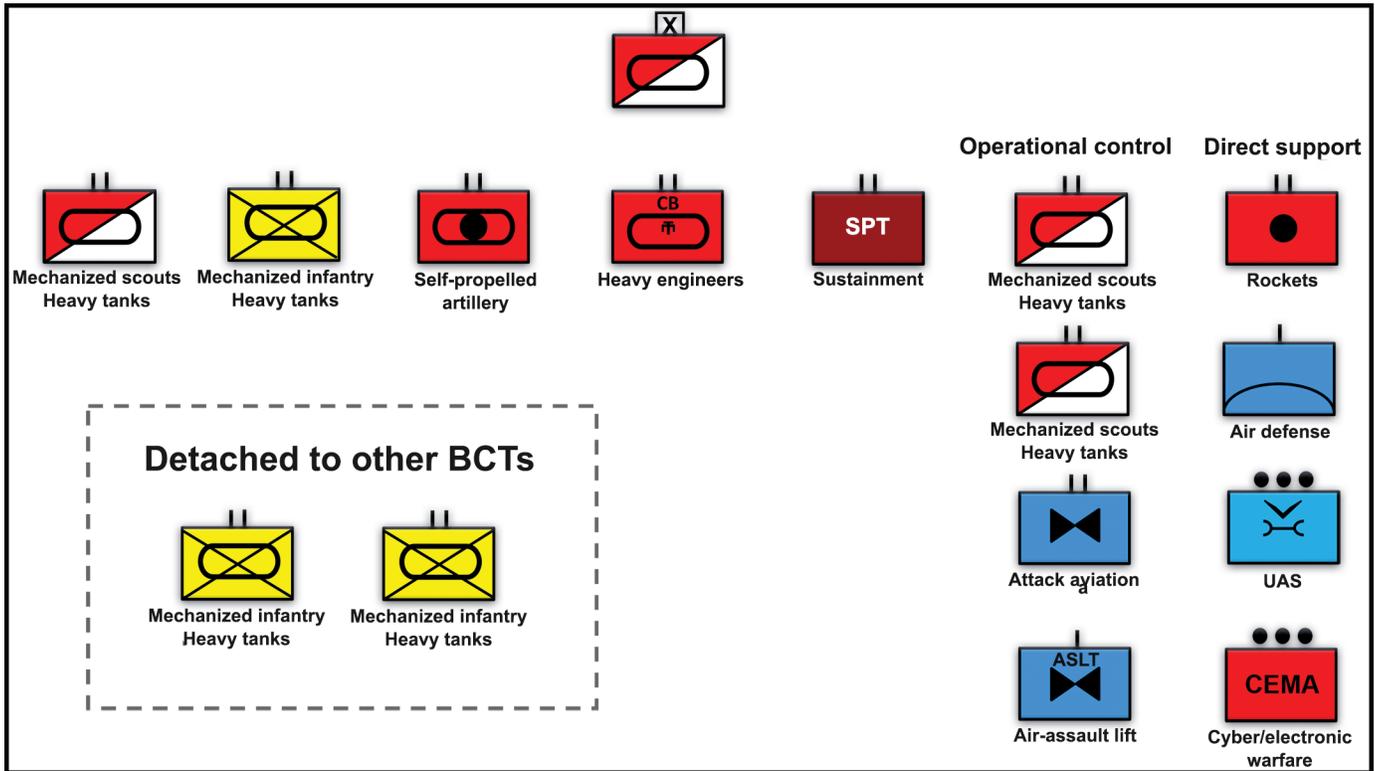


Figure 3. Division-cavalry task force (armored brigade combat team), high augmentation.

cross-domain capabilities to answer higher-echelon information requirements.

GEN Mark Milley, 39th Chief of Staff of the Army, cautioned in the wake of America's large-scale ground campaigns in Iraq and Afghanistan that "the level of uncertainty, the velocity of instability and potential for significant inter-state conflict is higher than it is has been since the end of the Cold War."²⁵ Given this volatility, which is intensifying in regions such as the Middle East, Europe and East Asia where air/ground cavalry teams proved their utility in past wars, divisions must prepare to fight for information as subordinate maneuver elements or as independent joint task forces. This imperative includes organizing to conduct forceful R&S against a variety of near-peer, non-state and hybrid adversaries. While division-cavalry squadrons seemingly outlived their usefulness in 2004, the challenges of the future may demand their return as optimized task forces.

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ACRONYM QUICK-SCAN

AAR – after-action report

ABCT – armored brigade combat team

ACR – armored-cavalry regiment

BCT – brigade combat team

Divcav – division cavalry

FM – field manual

IC – information collection

IBCT – infantry brigade combat team

MCoE – Maneuver Center of Excellence

R&S – reconnaissance and security

UAS – unmanned aerial surveillance

Part I of this series available at: https://mcoepublic.blob.core.usgovcloudapi.net/earmor/2018/summer/3Jennings_DivCav_Part118%20v2.pdf

Part II: https://www.benning.army.mil/Armor/eARMOR/content/issues/2018/Fall/4Jennings_Div_Cav_Part218.pdf

Part III: https://www.benning.army.mil/Armor/eARMOR/content/issues/2019/Winter/1Jennings_DivCav_Part3_19.pdf

Honoring our Armor and Cavalry Medal of Honor Heroes

Derived from Center of Military History information provided at <https://history.army.mil/html/moh/civwaral.html>. Listed alphabetically. Note: Asterisk in the citation indicates the award was given posthumously.

BOURKE, JOHN G. PVT

Unit: Company E, 15th Pennsylvania Cavalry. Place and date of action: Stone River, TN, Dec. 31 1862-Jan. 1, 1863. Entered service: Chicago, IL. Born: Philadelphia, PA. Date of issue: Nov. 16, 1887. Citation: Gallantry in action.

BOURY, RICHARD SGT

Unit: Company C, 1st West Virginia Cavalry. Place and date of action: Charlottesville, VA, March 5, 1865. Entered service: Wirt Courthouse, WV. Born: Monroe County, OH. Date of issue: March 26, 1865. Citation: Capture of flag.

BOWEN, CHESTER B. CPL

Unit: Company I, 19th New York Cavalry (1st New York Dragoons). Place and date of action: Winchester, VA, Sept. 19, 1864. Born: Nunda, NY. Date of issue: Sept. 27, 1864. Citation: Capture of flag.

BREWER, WILLIAM J. PVT

Unit: Company C, 2nd New York Cavalry. Place and date of action: Appomattox campaign, VA, April 4, 1865. Born: Putnam County, NY. Date of issue: May 3, 1865. Citation: Capture of engineer flag, Army of Northern Virginia.

Integrating the Dismounted Reconnaissance Troop into an Armored Brigade Combat Team

by CPT Alexander Boroff

The National Training Center (NTC) is the Army's best proving ground for the ideas, techniques and practices of an armored formation. When 3rd Armored Brigade Combat Team (ABCT), 4th Infantry Division, incorporated the dismounted reconnaissance troop (DRT) from 2nd Infantry Brigade Combat Team (IBCT), 4th Infantry Division, into their operations, this enabled detailed, integrated and reliable collection at the squadron and BCT level, and at the ABCT.

An ABCT typically conducts dismounted reconnaissance near friendly personnel carriers and is deployed for either local security or reconnaissance operations. The attached IBCT DRT was able to extend past the forward-line-of-troops (FLoT) in the Cavalry Squadron and focus its information collection (IC) on deep brigade named areas of interest.

The unique capability the DRT gave to 3rd ABCT cannot be denied, given that the troop's collection teams were consistently postured to answer three to four of the brigade's priority information requirements at any given time during operations.

Deep fight

Currently the doctrinal "deep-close-security" framework defines "deep operations" as those that "involve efforts to disrupt uncommitted enemy forces."¹ This echoes historical doctrinal definitions, seeing "deep operations at any echelon [as comprising] activities directed against enemy forces not in contact designed to influence the conditions in which future close operation[s] will be conducted."²

The "deep fight" was one of the imperative tenets of AirLand Battle, defined by GEN Donn A. Starry as "not a luxury; it is an absolute necessity to winning."³ Each element is responsible for shaping its respective "deep fights" at echelon, enabling the deep attacks required to shape fights against typically numerically superior forces. GEN



Figure1. Critical to the DRT's endeavor is its ability to conduct troop internal movement. Light Medium Tactical Vehicles were used in NTC 19-02 to fill the modified table of organization and equipment shortfall.

Starry defined "the operative tactics which support [this concept]" as requiring the ability to "see deep and begin early to disrupt, delay [and] destroy follow-on/reinforcing echelons."⁴ This asset, especially to an ABCT, is similar to the capability provided by a DRT that focused on deep collection.

As collection asset

The DRT, when deliberately planned into the IC scheme, was able to provide extremely reliable intelligence and early warning to the brigade. This early warning proved critical on several occasions. Furthermore, when integrated into the IC scheme for the BCT deliberate attack, the DRT's maneuverability through heavily restricted terrain allowed them to rapidly identify the enemy reserve, command-and-control nodes, air-defense-artillery systems and field-artillery systems. Shaping the "deep fight" at brigade level became a much simpler concept, in effect, because the DRT was able to retain freedom of maneuver and observe the enemy from positions of advantage in restricted terrain.

The ability to move dismounted through heavily restricted terrain provides an increase in reconnaissance capabilities that cannot be overstated. The biggest advantage the DRT provided was long-distance observation from undetected vantages the enemy did not predict; the DRT was able to

position its forces at elevations that allowed observation out to 15 kilometers, well into the enemy's battle and support zones. Once the supported BCT moved past the DRT's positions, it would reconsolidate, conduct troop-leading procedures and then rapidly execute its next foot insertion. (Although aviation was available, the aircraft's signature degenerates the DRT's ability to achieve stealth through dismounted movement.)

Several IC assets benefit from insertion into the "deep fight," so at NTC, low-level voice intercept teams and an engineer reconnaissance team accompanied the DRT. The DRT proved to be a perfect vehicle for these additional assets, allowing these enablers to drastically increase the relative range of their collection equipment. In conjunction with organic assets, this allowed the DRT to cue or mix assets, painting an even greater picture for the brigade commander.

Deliberate integration planning

While the advantages of this formation's accompaniment of an ABCT are many, several glaring issues surfaced.

One, the ability to move and maneuver in the deep fight is hampered by an inability to rapidly sustain operations. Soldiers moved with extremely high "approach" loads while maneuvering.⁵

Mitigating this somewhat was the decision to remove the Improved Outer Tactical Vest and Enhanced Small-Arms Protective Insert plates from loads; however, the large amount of Class I required to be carried proved to be a limiting factor in the time the DRT could operate before becoming an issue. While aerial resupply is always an option, the large signature generated from such an operation is not congruent with the stealthy and deliberate nature of the DRT's mission.

Another disadvantage (or advantage, depending on how this is viewed) in using the DRT is its lack of dynamic re-task ability. This forces extremely deliberate planning for the DRT. The dawning realization is that in the extremely mobile environment of an ABCT, dismounted operations are relatively slow-paced. This necessitates explicit planning for the DRT's integration. The positive aspect of this is that it forces the actual use of IC as established for the deep fight.

This is truly the third disadvantage to the DRT. Detailed planning is preached at any echelon; the true difficulty is that in practice, especially at crucial events for a unit, it is not always doable. Without deliberate, critically detailed planning, the DRT will not always be successful due to the relatively slow "flash-to-bang" of its effects when paired with an ABCT.

Overall assessment

NTC Rotation 19-02 displayed all of the aforementioned effects through statistics. The DRT came within 250 meters of the opposing force (OPFOR) four times during the rotation and remained undetected at all times during

insertion movement. This modern-day version of "stormtrooper" tactics proved extremely effective.⁶ Once past the FLoT, the DRT was able to kill 30 dismounted enemy Soldiers discreetly and still accomplish its reconnaissance missions. Camouflage proved critical in this endeavor. The OPFOR force at NTC discovered only one squad-sized element from the DRT at any point of the 19-day exercise, but the DRT was able to successfully escape and evade to safety. The DRT's observations were responsible for 56 enemy vehicles destroyed by close air support and fires during 3rd ABCT's deliberate attack – including four 2S19s and one ZSU-23 – ensuring the success of the BCT's overall attack.

Integration of an asset focused solely on dismounted reconnaissance in the open and the observable terrain of NTC proved to be an extreme boon to both the intelligence and fires war-fighting functions. Future elements should consider both the necessity of deliberate dismounted reconnaissance operations in the brigade deep fight and their utility in an ABCT's operations.

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ACRONYM QUICK-SCAN

- ABCT** – armored brigade combat team
- BCT** – brigade combat team
- DRT** – dismounted reconnaissance troop
- FLoT** – forward-line-of-troops
- IBCT** – infantry brigade combat team
- IC** – information collection
- NTC** – National Training Center
- OPFOR** – opposing force

Donovan Research Library,
Maneuver Center of Excellence,
 hosts Armor student papers on various subjects,
<https://www.benning.army.mil/Library/Virtual.html>,
 and back issues (1988-1982) of **ARMOR** magazine,
<https://www.benning.army.mil/Library/CavalryArmorJournal/index.html>
 Back-issue archiving shared with e**ARMOR** (1983 through current edition),
<http://www.benning.army.mil/armor/earmor/>

The Case for a Medium Tank to Be Incorporated into the Joint Force

by MAJ Jeremy Zollin

“It’s the best main battle tank in the world – if you can get it there.” – 1st Infantry Division tank-battalion commander’s wry remark as he stands watching his fleet of 70-ton M1 Abrams heavy tanks sitting, parked, unable to patrol in his area of operations because they are too heavy for the primitive road nets.¹

(Author’s note: The following article is a synopsis of a larger research study into the requirement of the U.S. Army and the U.S. Marine Corps (USMC) to field a medium tank built to operate in future operating environments (OEs) as identified by the Chief of Staff of the Army’s (CSA) Future Studies Group. The full study can be viewed at the Ike Skelton Combined-Arms Research Library Website under the 2018 masters of military arts and science (MMAS) collection. The supporting research from the case studies that determined the requirements is omitted for brevity in this article, which will focus on the study’s conclusions to spark debate into the need for a new medium tank designed for urban and littoral combat.)

The Abrams, although highly successful to date, was built for a different type of warfare and different doctrine, and it has already displayed capability gaps when operating in urban and amphibious environments during the past 15 years. Further, during the 2014 Unified Quest exercise, the CSA’s Future Studies Group predicted that in the future, megacities (cities with more than 10 million people) will dominate the OE. Whether because of the strategic importance of the cities’ location or the operational objectives lying within the cities, these megacities will likely become future OEs.² As these environments increase in importance, size and frequency, it’s probable that a new platform will be needed to fill the gap.

The M1 Abrams main battle tank (MBT) was developed in the mid-1970s to replace the aging M60 MBT. Tanks have served as the centerpiece platform for the U.S. Army and USMC and are designed to provide mobility, protection and firepower to a rapidly advancing force that delivers shock and awe to the enemy. As part of the U.S. Army’s “Big 5” weapons platforms, the M1 Abrams was developed to fight a

defensive battle in Western Europe against overwhelming numbers of Soviet and Warsaw Pact T-72 tanks.

Using AirLand Battle doctrine, the Army’s first commander of Training and Doctrine Command, GEN William E. DePuy, believed the key to success against a Soviet invasion was a decisive early victory.³ Field Manual (FM) 100-5, *Operations* (dated 1976), emphasized this concept, stating, “The U.S. Army must, above all else, prepare to win the first battle of the next war.”⁴ The “Big 5” was designed to provide that initial victory, while the Air Force, Artillery Branch and Special Forces prevented the Soviets from bringing their reserves forward and overwhelming the weakened defenders.⁵

Army’s Abrams experience

During the development of the AirLand Battle doctrine, the U.S. Army had two tanks: the M60 MBT and the M551 Sheridan Light Airborne Tank. The aging M60 MBT, which was falling behind the Soviet MBTs, did not have the required protection to survive the 125mm T-72 fires and anti-tank



Figure 1. M1A1 Abrams MBTs from 3rd Armored Division move out on a mission during Operation Desert Storm. An M2/M3 Bradley can be seen in background. (Photo by PHC D.W. Holmes II, U.S. Navy)

weapons being developed.⁶ With the massive Soviet threat and AirLand Battle doctrine in mind, the XM1 Abrams was built to survive Soviet tank fires and be able to continue engaging the Soviet tanks. These requirements led to a U.S. tank design that is heavily armored to the front, very quiet to maneuver but with extended range, and able to engage enemy tanks accurately with hypervelocity rounds over long distances.⁷

Over time, the M60 MBTs were retired from service in both the U.S. Army and the USMC. The U.S. Army continued to maintain the M551 Sheridan Light Airborne Tank until 1996, when it was scheduled to be replaced by the M8 Buford Armored Gun System (AGS). However, in 1996, both the M551 was retired from service and the M8 Buford AGS procurement was cancelled, making the M1 Abrams the only U.S. tank.⁸

When operating in open fields and with an abundance of fuel and parts, the Abrams has dominated in maneuver warfare. The first and second Gulf Wars have demonstrated how effectively the M1 Abrams can destroy opposing mechanized and armored forces. During the initial invasion in Operation Iraqi Freedom (OIF), 3rd Infantry Division maneuvered through the desert to Baghdad, securing critical lines of communication while continuing north. The 3rd Infantry Division Soldiers isolated cities until infantry and USMC units could replace them.⁹ Once the Iraqi army surrendered, the M1 Abrams entered a new phase: urban and counter-insurgency warfare.

From the inception of the armored force in the 1940s, U.S. Army doctrine stressed that “[a]rmed units avoid defended towns and cities.”¹⁰ FM 100-5, *Operations*, published in 1993, continued to list urban areas under obstacles that “[c]ommanders plan to negotiate or avoid.”¹¹ Following the invasion of Iraq in OIF, commanders could no longer avoid urban areas. During this phase, the M1 Abrams performed adequately and adeptly in urban environments while conducting counterinsurgency operations with periods of high-intensity fighting during the battles of Najaf, Sadr City and Fallujah.

However, these operations identified

several inherent problems with the M1 Abrams’ open-European-battlefield design. The enemy had the ability to choose when and how they would attack, favoring improvised explosive devices (IED), rocket-propelled grenades (RPG) and deep-buried bombs. This allowed them to attack the M1 Abrams against its weaker top, rear and underbelly. For example, on Oct. 29, 2003, the author witnessed the first U.S. tank crewman killed by hostile fire while the crewman was inside the protected crew compartment of an M1A2 Abrams MBT. The insurgents buried 500 pounds of C-4 explosive in a dirt road, detonating it when the tank from Company A, 3rd Battalion, 67th Armor Regiment, rolled over the bomb. This was the first use of a large deep-buried bomb to destroy an M1 Abrams.

Another example of an inherent problem with the M1 Abrams’ open-European-battlefield design comes from Christmas Eve 2005, when an M1 Abrams from 1st Battalion, 64th Armor Regiment, traveling along Route Brewers in East Baghdad, was struck by an IED. The explosively formed penetrator was close enough to travel under the heavily armored Chobham tank skirts and cut a fuel line, burning the tank to the ground.

Combined with the ability of the enemy to circumvent the Abrams’ protection, the size and weight of the tank itself created new difficulties. The width, height and length of the gun tube prevented the Abrams from operating in many of the urban areas in Iraq. Narrow alleys and roads, crowded with parked vehicles, low-hanging power lines and the abundant deadspace (area near the tank that the crew cannot observe) around the M1 Abrams prevented it from operating effectively off the major roads inside cities. When operating on smaller roads, the M1 Abrams’ weight and ground pressure easily damaged the substructure and road networks of the local cities and towns, creating animosity toward the United States. During several deployments, units received complaints from locals about the damage the tanks had caused.

These limitations, combined with its massive fuel requirement, led to the M1 Abrams being used primarily in

static overwatch positions along main supply routes or from the outskirts of urban areas, where it could provide observation. During the limited maneuvers through the tighter neighborhoods, the tank commander was forced to stand well out of the turret to observe the deadspace near the tank and guide it effectively. This exposed the commander to enemy small-arms fire and IEDs.

USMC’s Abrams experience

The USMC also outfits its three tank battalions with the M1 Abrams MBT. The many islands and large waterways of the littoral environment have led to the USMC’s primacy when conducting land operations in the Pacific (Korea being the anomaly). Because of the great distances and the lack of intermediate staging bases, the USMC has maintained most of its forces afloat in expeditionary units capable of conducting amphibious assaults and in prepositioned sites. Their forward-positioned stocks and floating expeditionary units often include companies of M1 Abrams.

Bringing the M1 Abrams ashore in contested or non-established ports requires deliberate and time-consuming operations. Because of the size, weight and large logistical tail of the M1 Abrams, the USMC amphibious-assault commanders have to make special considerations with regard to employing the M1 Abrams. The Landing Craft Air Cushioned (LCAC) can only carry one tank and cannot be pre-boated, while the Landing Craft Utility (LCU) can only carry two tanks if the seas and beach are suitable for the landing and the LCU is not overly worn from age. During the Ssang Yong 13 exercise in the Republic of Korea, the USMC had to build a Trident Pier system to use cranes to offload eight M1 Abrams. Because of the limited number of LCACs, only two M1 Abrams could be brought ashore during the amphibious assault.¹² Due to these limitations, Marine commanders often will choose to forego the M1 Abrams in favor of more amphibious-assault vehicles or Light Armored Vehicle 25s,¹³ greatly limiting the combat power ashore during the most critical portion of an amphibious assault. With a probable increase in



Figure 2. A Marine M1A1 offloads from an LCAC.

amphibious operations as the importance of the littoral regions increases, is the M1 Abrams the appropriate platform for the USMC?

Future warfare

Each year, the U.S. Army Capabilities Integration Center conducts analysis on what warfare will consist of in the future as part of the CSA's Title 10 Future Study Plan. This analysis is used to guide the formation of U.S. doctrinal and procurement planning.

As mentioned, during Unified Quest 2014, the Army predicted that in the future, megacities will dominate the OE. Currently 24 megacities exist, with half a dozen metro areas of 100 million already existing in the Asia-Pacific region. These massive urban areas will account for more than 60 percent of the world's population and 70 percent of gross domestic product by 2030.¹⁴ Unlike the relatively flat and simple cities of Iraq, these urban areas will include many high rises, suburban areas, tunnels, subways and underground complexes, as well as mass-transportation systems and complex terrain.

As these megacities grow in importance, the Army and USMC must consider if its current combat platforms, and specifically the M1 Abrams, are suitable to conduct operations within the new OE, or if a new medium tank – smaller, lighter and more versatile – is required. Design considerations

must include the characteristics of the future battlefield environments that will impact the operation and employment of tanks in relation to mobility, firepower and protection.

To facilitate the conversation, the author conducted a research study analyzing historical cases of tanks and specifically the M1 Abrams in urban and amphibious operations, and then contrasted this with the anticipated future environments. This comparison was used to determine the M1 Abrams' suitability and to identify gaps in its capabilities.

Case studies, research results

The MMAS thesis analyzed the performance of MBTs in multiple battles and compared their primary functions of mobility, firepower and protection to determine strengths and weaknesses of tanks in general in urban battles. These strengths and weaknesses were then compared to the M1 in recent urban battles and finally compared to the anticipated future OE to determine if the M1 is suitable for projected battles of the next decades.

Case Study 1. The first case study was the Battle of Hue. This battle highlighted the capabilities of a heavy tank operating in an urban environment against a determined and effective enemy force. In Hue, the North Vietnamese Army attacked and fought for 33

days against the USMC equipped with the M48 in the city of Hue. The Marines used the tanks' protection and mobility to bring precision low-angle firepower forward to engage enemy strongpoints. The size and weight of the tank limited its use. This case study relied on historical texts and scholarly sources.

Case Study 2. The second case study examined the Israeli experiences in the Second Lebanon War and during Operation Cast Lead. This case study represented a recent offense by similarly equipped heavy armored units into an urban environment against a determined enemy. The evolution of Israeli doctrine between the two battles highlighted the need for all-around protection, mobility provided by tracked vehicles and the need for precision direct fire provided by a tank. This case study also relied on scholarly publications.

Case Study 3. The third case was a set of battles during OIF and provided the comparison of the strengths and weakness of the M1 in urban battles. Although this operation encompassed 10 years and half a dozen independent battles across different cities, the general characteristics of each city in Iraq were very similar and the operations were conducted by similarly equipped U.S. forces. The study examined several battles within OIF for commonalities across the battles. It used both scholarly publications and interviews with



Figure 3. A Merkava (“Chariot”) Mark IVm tank from the Israel Defense Forces’ 401st Brigade patrols the Gaza border. The tank has the Trophy protection system installed. (Photo by Natan Flayer)

U.S. Army and USMC armor officers regarding their observations about the performance and limitations of the M1 Abrams during these battles. These battles highlighted the M1’s dominance with regard to protection, precision firepower and mobility; however, it also highlighted the M1’s weaknesses with regard to all-around protection, size, weight and limited angles of fire from the main weapon systems.

Case Study 4. The fourth case for analysis was recent USMC amphibious-as-

sault exercises. These exercises highlighted the performance of the M1 Abrams as the primary tank of the USMC with superior firepower, mobility and protection once it was ashore. The case also highlighted the limitations of the M1 as an amphibious platform with major considerations regarding the transportation, resupply and landing of the tanks before they can be employed. The study used both USMC after-action reviews and interviews with USMC amphibious-warfare experts experienced with the

deployment of the M1 Abrams during amphibious assaults.

Finally, the study analyzed the future OE for both the USMC and the U.S. Army. The case study examined megacities and their likely impacts on maneuver forces, specifically tanks, operating within them. The case examined the anticipated growth of megacities, the characteristics of megacities and how megacities will influence doctrine and operations. The study evaluated the requirements these impacts will generate for the force. The results are captured and consolidated in Table 1. They highlight the need for smaller, lighter and evenly-armored tracked platforms that still provide precision, direct, high-explosive firepower.

Conclusions

The first four case studies identified examples of urban and amphibious environments where MBTs have operated in similar environments. Each case identified strengths and weaknesses for tanks in the historical environments as listed in Table 2. These

Mobility	-Tracked -Power to push through walls, tow tanks -Breach equipment -Narrow* -- roadways	-Narrow* -- traffic -Fuel – sustain on landing -Light enough*-- terrain -Speed* of vehicle sufficient
Protection	-Armored- anti-tank -All-around armor*	-Little reliance on active defenses
Firepower	-Main gun with HE -Advanced optics with night and thermal sights* -Short barrel* -Super elevate/depress* -Multiple machineguns	-Available on demand -Secondary sights, improved laser targeting -Short-range optics requirement -Target discrimination*
* Denotes requirement that is significantly increased in megacity environment		

Table 1. Requirements for the future OE.

	Previous	Future	M1 Abrams
Mobility	-Tracked -Power to push through walls, tow tanks -Breach equipment @ -Narrow – roadways -Fuel – sustain on landing@ -Light enough – terrain -Light enough – landing@ -Smaller cube space requirement@	-Tracked -Power to push through walls, tow tanks -Breach equipment -Narrow* – roadways -Narrow* – traffic -Fuel – sustain on landing -Light enough* – terrain -Light enough – landing -Smaller cube space -Speed* of vehicle sufficient	S – Tracked S – Power W – Width, buildings W – Width, traffic W – Weight, terrain W – Weight, landing W – Fuel requirements W – Space requirement on ARG <i>S – Speed</i>
Protection	-Armored – anti-tank -All-around armor -Exposure protection	-Armored – anti-tank -All-around armor* -Little reliance on active defenses	S – Withstand anti-tank W – Top, rear, under W – Does not exist
Firepower	-Main gun with HE -Advanced optics with night and thermal sights -Short barrel -Super-elevate/depress main gun -Multiple machineguns -Available on demand	-Main gun with HE -Advanced optics with night and thermal sights* -Short barrel* -Super elevate/depress* -Multiple machineguns -Available on demand -Secondary sights, improved laser targeting -Short-range optics requirement -Target discrimination*	S – Main gun with HE <i>S – Optics, thermals</i> W – Unable to traverse W – Limited vertical capability <i>S – 3 separate machineguns</i> S – Integrated into maneuver forces S – Manual-sights backup S – 3x sight NA – only .50-cal has single-round capability
<p>Notes: W = Identified weakness of M1, S = identified strength of M1. * Denotes requirement that is significantly increased in megacity environment. Bold denotes M1 weakness corresponding with a significantly increased requirement. <i>Italics denotes M1 strengths corresponding with a significantly increased requirement.</i> @ Identifies requirement from amphibious-assault case that remains for future OE.</p>			

Table 2. Comparison of the M1 Abrams to previous and future OEs.

environments shared many of the characteristics of the future OEs. The scale and density challenges of the future environments did not exist in the historical cases and mitigated several of the weaknesses demonstrated by the tanks in those cases.

With regard to mobility, tanks in the previous OEs demonstrated strengths in the ability to traverse rubble and debris, push through buildings and operate along major thoroughfares. However, these tanks each had limitations with regard to size and weight. They were unable to cross bridges and canal causeways or to traverse many of the smaller roadways. The USMC amphibious operations were also limited in the ability to transport tanks to the shore in a rapid and timely manner because of the weight of the tank and the capacity of the landing craft.

The protection aspects of the tanks proved far better overall, with tanks surviving many engagements from IEDs and RPGs. The weakness of all-around armor was identified in each case and had been exploited by the enemy. With regard to firepower, the ability of each tank to traverse the turret laterally and to elevate or depress the main gun was

identified as a weakness. Otherwise, the tanks provided a powerful, available main gun capable of creating large holes in walls, engaging strongpoints and identifying enemy personnel and caches.

The MMAS thesis determined that there were several critical characteristics within the future battlefield environments that would impact tanks' employment. The first set of characteristics, with regard to the mobility of the tanks, affect the size and weight of the tank. The inclusion of "old city" neighborhoods of megacities – urban canyons created by multi-story buildings and many small cross streets and alleyways – all limit the mobility of larger vehicles. The weight-bearing characteristics of roadways, canals, bridges and overpasses will also reduce the ability of large armored vehicles to operate freely.

Concerning protection, the interlaced surface, subsurface and super-surface will create many avenues for threat forces to surround and engage tanks from all directions. This will increase the likelihood of tanks being engaged from the top, rear and underbelly.

Finally, with regard to firepower, those

same elevation changes, old-city walls, reinforced structures and the materials creating blinding surfaces will all affect the ability of weapon systems to effectively engage targets and have effects. The dense civilian populations will also restrict freedom of fires and force tanks to contend with traffic and a threat force capable of blending into the population.

Because of these characteristics, a tank operating in these future OEs will have several design requirements related to mobility, protection and firepower:

- The mobility requirements include having a tracked vehicle able to traverse rubble and debris, with enough power to push through walls and to tow other tanks.
- The tank needs to be narrow and light enough to traffic a sufficient portion of the city.
- The tank must maintain the ability to breach obstacles and maintain enough speed to aid in assaulting objectives.
- The vehicle's protection requires an all-around armor package able to withstand many engagements from anti-tank weapon systems and IEDs.
- Firepower requirements include a main gun capable of super-elevation and -depression, with ammunition able to penetrate reinforced structures and create holes large enough for infantry to attack through.
- The barrel must be short enough to enable lateral traversing to engage targets in narrow streets.
- The requirements remain for multiple machineguns able to focus on more than one avenue of approach and advanced optical systems with thermal and night-vision capabilities.

Future tank needs

The MBTs – and specifically, the M1 Abrams – demonstrated significant capability gaps compared to the future OE (see Table 2). Each MBT demonstrated weaknesses in mobility regarding the width and weight of the respective tanks. The ability to land combat formations from USMC Amphibious Readiness Group vessels and to traverse narrow roadways or cross bridges, causeways and road surfaces will significantly impact the MBT's mobility in future OEs. The other MBTs and M1

Abrams also demonstrated a protection capability gap regarding all-around armor and the ability to survive multiple anti-tank weapon engagements from all angles. Finally, there were firepower capability gaps in the ability to traverse the turret in narrow roadways, or to elevate and depress the gun tube sufficiently to engage targets in the relatively flat urban environments of the historical case studies. This gap increases significantly in the future megacity environment.

Based on the research, the study determined that the U.S. Army and USMC require a medium tank to operate in the anticipated future OEs of the global littorals and megacities. The M1 Abrams is not suited for projected mission requirements. The M1 Abrams proved itself a capable tank when operating in large cities with relatively flat terrain and little to no sub-terrain. Our experience when we encountered the cities of Iraq were relatively wide roads and open spaces with few tall buildings. Even in these environments, the tank's weakness became apparent for elements conducting high-intensity operations in Sadr City, Fallujah, Ramadi and Najaf.

Officers interviewed for this study identified several critical weaknesses that a more determined enemy could have exploited. These weaknesses are the same weaknesses that the megacity environment would naturally exacerbate. Because the M1 is not well suited to the task, if the Future Studies Group firmly believes that the future OE will include megacities, a new tank developed for those environments should be developed.

The tank should make use of new technology to increase protection while reducing the weight of the tank to be able to traverse a sufficient portion of megacity roadways and bridges. The exact weight requirements would need further study of potential future megacity battlefields to determine maximum weight limits. Although there is an all-around threat, most threat attacks still originate from the frontal arc, especially when the tank is moving forward to engage enemy strongpoints.

The Israeli Merkava tank demonstrated

increased crew survivability with the crew located in the hull behind the engine. This design method should be considered. Regardless of the engine placement, the armor should be modified for even distribution from top, bottom, rear and frontal protection of the tank.

The main gun should be capable of super-elevation and -depression. This could be accomplished by removing the turret and suspending the weapon system above the hull with small magazine and ammo located in the hull. The main gun should be short-barreled to maximize lateral movements. To facilitate operations in non-urban terrain, an interchangeable longer barrel could be included. The tank requires a coaxial mounted machinegun as well as a large-caliber machinegun that can be operated by the tank's commander.

The tank requires tracks, but these should be narrow enough to traverse a sufficient portion of future megacity-environment roadways. The exact width and portion of a city the tank should be capable of traversing requires further analysis of possible future megacity OEs. The tank must maintain enough speed to enable rapid maneuver and reduce enemy targeting of the tank with anti-tank weapon systems. Ideally, an engine with a fuel economy similar to the M2 Bradley would greatly benefit the ability of both the U.S. Army and USMC to sustain operations and reduce refuel requirements and logistical tails.

The requirement for open-field battle and long-distance armored combat by the U.S. Army will not be alleviated by the increase in megacities. Based on the current employment of forces in predominantly Middle Eastern countries, Europe and Korea, the U.S. Army should designate one division as a medium urban division, fielded with the new medium tank. This division could test and develop megacity doctrine with platforms designed specifically for the urban megacity fight. Should the expectation for future operations expand in the number of megacity operations, further divisions could be converted. However, the U.S. Army needs to retain the M1 Abrams MBT or a similar heavy tank for large-scale combat outside of cities.

New medium tank

The secondary recommendation of the MMAS thesis is the adoption of the new medium tank by the joint force, specifically the USMC. The USMC would benefit from the lighter, smaller tank platform in the conduct of amphibious operations. With an interchangeable barrel, the USMC version of the tank would be capable of fighting in open terrain where targets may exceed the short distances of urban terrain. These smaller tanks would also increase the landing-craft capabilities to land tanks in pairs or platoons, increasing the ability to land combat formations and rapidly deploy forces from the ship to the objective. The greater fuel efficiency would enable the landing force to sustain operations for a longer period before resupplying. The fielding of a medium tank to the USMC would lower the per-cost unit of each tank, improving development cost.

In addition to the USMC, the Army's airborne and light brigades would benefit from having a medium tank to support operations. Following the removal of the M551 Sheridan from the light brigades and the cancellation of the AGS, the light brigades were left without mobile, protected firepower to augment their formations. The U.S. Army is already working to develop a mobile, protected firepower platform for this role in the airborne brigades. The medium tank could be fielded to these brigades instead, further improving the development cost and per-unit cost of the medium tank and reducing the number of systems required to be maintained by the U.S. Army.

Research and an in-depth analysis of potential future megacity battlefields would help determine the exact requirements required for a medium tank. The weight, size and speed requirements identified in this study are undefined. Analysis of bridge and roadway weight capabilities, roadway widths and tunnel sizes will guide development of specific requirements for tank development.

In conclusion, this research study determined the U.S. Army and USMC require a medium tank to support operations in the future OE. Also, the joint force would benefit from the adoption of a medium tank to augment the

USMC and U.S. Army airborne and light-infantry brigades. The exact specifications of this tank require further research into possible future megacity OEs.

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Bronze Star Medal (three oak-leaf clusters), Meritorious Service Medal two oak-leaf clusters) and the Combat Action Badge. MAJ Zollin deployed six times with ABCTs (positions from platoon leader to battalion executive officer), and he has four deployments to Iraq between 2003 and 2011. He also participated in Operation Atlantic Resolve and served in Kuwait.

Notes

¹ Mike Sparks, "Heavy tanks, helicopter fighter-bombers: an Army in search for battlefield doctrine?" *Combat Reform*, January 2001, www.combatreform.org/heavytankshelicopters.htm.

² Megacities Concept Team, "Unified Quest 2014: Megacities and the United States Army: Preparing for a Complex and Uncertain Future," CSA's Strategic Studies Group, Arlington, VA, June 2014.

³ "Airland Battle," Wikipedia entry, last modified Oct. 31, 2014, http://en.wikipedia.org/wiki/AirLand_Battle.

⁴ Department of the Army, FM 100-5, *Operations*, Washington, DC: Government Printing Office, July 1976.

⁵ Douglas W. Skinner, "Airland Battle Doctrine," Center for Naval Analyses, September 1988.

⁶ Robert Sunell, *Camp Colt to Desert Storm: The History of U.S. Armored Forces*, Lexington, KY: University Press of Kentucky, 1999.

⁷ Kendall D. Gott, *Breaking the Mold: Tanks in the Cities*, Fort Leavenworth, KS: Combat Studies Institute Press, 2006.

⁸ CPT Josh Suthoff, "Strike Now: Why the Armored Gun System Must Be Purchased in This Fiscal Climate," *ARMOR*, March-

June 2014.

⁹ Gregory Fontenot, E.J. Degen and David Tohn, *On Point: The United States Army in Operation Iraqi Freedom*, 1st Edition, Vol. 1, Fort Leavenworth, KS: Combat Studies Institute Press, 2004.

¹⁰ FM 17-10, *Armored Force Field Manual, Tactics and Techniques*, Washington DC: Government Printing Office, March 1942.

¹¹ FM 100-5, June 1993 edition.

² Marine Corps Center for Lessons Learned, 3rd Marine Division's after-action review of Exercise Ssang Yong 2013, June 10, 2013.

³ Andrew Dietz, comments made during classroom instruction on the USMC, Command and General Staff College, Department of Logistics and Resource Operations, Sept. 12, 2014.

⁴ Megacities Concept Team, CSA Strategic Studies Group.

ACRONYM QUICK-SCAN

ABCT – armored brigade combat team

AGS – Armored Gun System

CSA – Chief of Staff of the Army

FM – field manual

IED – improvised explosive device

LCAC – Landing Craft Air-Cushioned

LCU – Landing Craft Utility

MBT – main battle tank

MMAS – masters (degree) of military arts and science

OE – operating environment

OIF – Operation Iraq Freedom

RPG – rocket-propelled grenade

USMC – U.S. Marine Corps

Armored Fighting Vehicles of the World

K2 Black Panther



South Korean main battle tank, first fielded in 2014. Three-man crew, 55 tons weight. Autoloading 120mm L/55 main gun, with fire-and-forget capability. Advanced ERA and NERA armor protection. Advanced fire control and radar warning system. In service with: Republic of Korea Army.

Honoring our Armor and Cavalry Medal of Honor Heroes

Derived from Center of Military History information provided at <https://history.army.mil/html/moh/civwaral.html>. Listed alphabetically. Note: Asterisk in the citation indicates the award was given posthumously.

BRINGLE, ANDREW CPL

Unit: Company F, 10th New York Cavalry. Place and date of action: Sailors Creek, VA, April 6, 1865. Born: Buffalo, NY. Date of issue: July 3, 1865. Citation: Charged the enemy and assisted SGT Llewellyn Norton in capturing a fieldpiece and two prisoners.

BRONSON, JAMES H. 1SG

Unit: Company D, 5th U.S. Colored Troops. Place and date of action: Chapins Farm, VA, Sept. 29, 1864. Entered service: Delaware County, OH. Born: Indiana County, PA. Date of issue: April 6, 1865. Citation: Took command of his company, all the officers having been killed or wounded, and gallantly led it.

BRUNER, LOUIS J. PVT

Unit: Company H, 5th Indiana Cavalry. Place and date of action: Walkers Ford, TN, Dec. 2, 1863. Entered service: Clifty Bruner, IN. Born: Monroe County, IN. Date of issue: March 9, 1896. Citation: Voluntarily passed through the enemy's lines under fire and conveyed to a battalion, then in a perilous position and liable to capture, information which enabled it to reach a point of safety.



Moving Cavalry Forward: Summary of 2019 Gainey Cup Competition

by LTC Jeffrey Barta and
CPT Patrick M. Zang

The Maneuver Center of Excellence (MCoE) hosted the fourth biennial Gainey Cup Best Scout Squad Competition April 22-May 3 at Fort Benning, GA.

This international competition – named for retired CSM William Gainey, lifelong Army leader and the first senior-enlisted adviser to the Chairman of the Joint Chiefs of Staff – featured 25 squads representing each U.S. Army division, separate regiments and six North Atlantic Treaty Organization (NATO) teams (Canada, Germany, the Netherlands and the United Kingdom), competing for the title of the world's best scout squad.

At the conclusion of the nine-day, 10-event competition, the scouts from 5th Squadron, 73rd Cavalry Regiment, 82nd Airborne Division, were the 2019 Gainey Cup champions. Team members were SSG Matthew Brooks, SGT Tyler Kain, SGT Shane Wuchte, SPC Gabriel Cheek, SPC Christopher Lamaita, SPC Austin Thurman, SPC Emery Hanback and SPC Luke Hyland.

Finishing narrowly behind 5-73 Cav was the team from 42nd Reconnaissance Company of the Dutch 13th Brigade and the team from 2nd Squadron, 13th Cavalry Regiment, representing U.S. 2nd Infantry Division.

The initial assessment from this year's competition shows a marked improvement in the skills of the U.S. Army's scout squads to conduct their doctrinal mission "to rapidly and accurately answer critical information requirements in accordance with commander's reconnaissance or security guidance." Areas that need continued emphasis in home-station training and institutional curriculum are:

- Doctrinal knowledge;
- Application of commander's reconnaissance guidance (CRG);
- Call for fire;
- Vehicle identification; and



Figure 1. Scouts from 2nd Cavalry Regiment's squad conduct land navigation. (U.S. Army photo by SGT Scott Peckham)

- Gunnery-skills weapons proficiency.

This year's competition differed from the previous three biennial competitions by including the scout-squad vehicle platforms (Bradley, Stryker, humvee and the Canadian Light Armored Vehicle-6) and a shift away from discrete, individual tasks toward an adherence with the Integrated Weapons Training Strategy. Furthermore, this year's competition showcased how the U.S. Army expects its squad leaders and Cavalry scouts to perform in a complex, ambiguous environment against an adaptable enemy capable of employing multi-domain warfare, using multiple forms of contact simultaneously. This emphasis forced the competing scouts to operate degraded for significant periods during the competition.

The scout squads varied in size based on their brigade combat team (BCT) type of assignment. For example, teams from armored and Stryker brigades were defined as a six-trooper squad (one staff sergeant, one sergeant, four scouts) and their vehicle. Infantry-based teams comprised an eight-trooper squad (one staff sergeant, one sergeant, six scouts) and

two humvees. To the greatest extent possible, the competition's grading was standardized according to applicable Army training strategies and methodologies to ensure a level, competitive playing field to compensate for the inherent differences among the size of the squads and their respective vehicle platforms.

Lessons from 2017

Following the 2017 Gainey Cup, four distinct areas of emphasis were identified and presented to the operational and generating forces as areas of necessary improvement. Those areas were integrated into multiple events throughout the entire 2019 competition.

- **Call for fire** – 29 of 48 scout teams could not begin a call-for-fire within three minutes of target presentation/identification or possessed a target-location error (TLE) greater than 250 meters, thus violating Task Number 061-283-6003, "Adjust indirect fire."
- **Land navigation** – only three of 24 squads found all assigned points during a six-hour, limited-visibility course. Six teams were unable to find a single point.

- **Vehicle identification** – the competitor average was 18 percent correctly identified.
- **Actions on contact** – tactical maneuver to gain and maintain contact with enemy forces was a point of weakness in multiple events during the 2017 competition. Competitor understanding of doctrinal language and, more importantly, the CRG, was lacking.

Assessed tasks, overviews

During the 2019 competition, the squads operated across 200 square kilometers of Fort Benning in a progressive-training strategy while being evaluated on multiple repetitions of 43 Combined-Arms Training Strategy tasks that progressed from individual to small-unit collective. The competition consisted of two distinct phases: Phase I (individual tasks) and Phase II (collective tasks). The Phase I events, while critically important and used to assess squad proficiency, were used for sequencing purposes and, for the event, in an overall tiebreaker.

The entirety of the available points resided in Phase II, commencing with the reconnaissance run the morning of April 29 and concluding with the final charge May 3.

The scouts first applied their doctrinal and technical knowledge with a doctrinal knowledge exam, a vehicle-identification test, a call-for-fire simulation and a gunnery-skills test on weapons and vehicle platforms. Teams then conquered “Carter’s Challenge,”¹ a grueling 20-kilometer dismounted reconnaissance exercise through wooded terrain during a seven-hour period that included day and night conditions to test the scouts’ mental and physical limits. The events continued with the recon run, followed by the “scouts in action” live-fire demonstration.

The squads then deployed to the field for a 72-hour series of missions that tested the scouts’ physical and mental ability to conduct reconnaissance and security (R&S) operations in close proximity to opposing forces while answering the commander’s priority intelligence requirements (PIRs).

Next up was “Romesha’s Honor”² that

challenged the scout squads’ tactical abilities in 12 critical collective tasks across 20 kilometers comprised of four reconnaissance objectives in a complex environment. This part of the competition required the squads to collect key indicators in support of brigade commander’s PIRs while operating against a mobile and adaptive opposing force. This event was modeled after the scout-squad proficiency exercise that originated in 1971.

Then came “Old Bill’s Gallop” that assessed the scouts’ ability to navigate (mounted) to named areas of interest while operating within CRG and employing fires and high-frequency communication systems. “Buford’s Guard”³ then required the teams to provide reaction time and maneuver space for their follow-on forces by implementing direct and indirect fires in accordance with the commander’s engagement criteria in a live-fire scenario.

The Gainey Cup culminated with the “final charge,” a head-to-head 3.5-mile run to Brave Rifles Field in the Harmony Church area of Fort Benning. Once there, the teams completed a relay to establish an observation post.

Heading into the final event, nine teams remained mathematically capable of claiming the championship, a testament to the field’s competitiveness. The competition scoring used a weighted-scale concept, prioritizing critical R&S tasks over sheer physical fitness. The winning squad had to “answer the question,”⁴ providing their supported units the initiative on the battlefield. In keeping with the inaugural 2013 Gainey Cup, the most heavily weighted event in the competition was “Romesha’s Honor.”

Moving forward

The Phase I and II tasks were deliberately and redundantly built into the 2019 competition. They were reinforced with messaging to the force for the past two years to focus home-station training and division-level competitions. As a result, the scouts at this year’s competition performed admirably and exceeded previous results in most areas, especially in land navigation, with more than half the field finding all 12 objectives. Also, one of the most rewarding portions of the

competition was the many Cavalry scouts who conducted their own self-assessment and vowed to take the knowledge learned at the 2019 Gainey Cup back to home station to increase the readiness of the force. To reinforce this effort by the competitors, the Gainey Cup emphasis going forward remains on the following five areas to continue to improve the readiness of our force.

1. Doctrinal knowledge. Three different tests were administered (one each for skill levels 10, 20 and 30). The average score for the tests was 44 out of 100 percent. The test was comprised of 50 questions (operational terms and graphics, R&S doctrine, skill-level specific questions and land-navigation questions). Just less than half of all competitors could not list the R&S fundamentals nor the components of CRG. Anecdotal evidence from multiple teams suggests a reliance on respective unit standard operating procedures (SOPs), tactics, techniques and procedures (TTPs) and operational-employment experience as opposed to a solid, doctrinal foundation.

While it appears proficiency and readiness has increased, a knowledge gap remains. During the past two years, the Center for Army Lessons Learned (CALL) published CALL Handbook 17-01, *Scouts in Contact: Tactical Vignettes for Cavalry Leaders*, CALL Manual 17-12, *Reconnaissance and Security Commander’s Handbook*, and the *Reconnaissance Smart Card* graphic training aide. These publications focused on the section through brigade level to provide useful quick-reference pocket guides to train and educate leaders, whereas the *Scouts in Contact* manual provides many tactical-decision exercises that require nothing more than a sand table and/or whiteboard. The *Reconnaissance and Security Commander’s Handbook* is a synthesis of useful doctrine (e.g., Field Manual (FM) 3-98, *Reconnaissance and Security Operations*, FM 3-55, *Information Collection*, Army Technical Publication (ATP) 3-20.96, *Cavalry Squadron*, FM 3-20-2, *Reconnaissance and Security and Tactical Enabling Tasks Volume 2*, among others).

These publications are a starting point for increased proficiency in Cavalry

operations. Leaders should regularly reach out to the combat training centers, to the schoolhouse (Reconnaissance and Surveillance Leader's Course, Army Reconnaissance Course (ARC) and Cavalry Leader's Course (CLC)) and to the Army Publishing Directorate (apd.army.mil) to ensure the latest doctrine and TTPs are available to their respective formations. Cadre at the Gainey Cup this year observed that while most squad leaders performed above average, a gap exists between the career-path knowledge skills and the attributes expected/required of the staff sergeant in a scout platoon – current doctrinal, technical and tactical knowledge.

2. Application of CRG. It was made abundantly clear to the competitors that the winner of this year's competition would be the squad that could "answer the question," using doctrinal reporting formats and in accordance with the CRG. Many squads were able to successfully accomplish the mission to doctrinal standards. The margin separating the top squads came down to discrepancies on route overlays and timely actions on contact. However, multiple squads relied upon flawed SOPs and TTPs, which resulted in missed indicators and insufficient or

untimely reports. While ATP 3-20.98, **Scout Platoon**, moves its way through the Army's review and editing process, scouts at platoon level must rely on doctrine non-traditionally thought to apply at their echelon.

Doctrinal foundation

In particular, FM 3-98 (Chapters 4, 5 and 6) provides the doctrinal foundation and language necessary for all Cavalry scouts to achieve shared understanding and build trust at echelon. It is acknowledged that the current state of R&S doctrine requires significant improvement; however, for the Cavalry community to increase its proficiency, leaders and troopers at all levels must be able to speak the same language.

According to FM 3-98, Paragraph 4-38, "Commanders provide clear reconnaissance guidance that offers both freedom of action to develop the situation as well as adequate direction to ensure that their organic Cavalry organizations can accomplish stated reconnaissance objectives within the required timeframe. The commander's [R&S] planning guidance provides a clear understanding of the Cavalry organization's task, purpose and objective. [R&S] guidance explains focus, levels of

detail required, levels of covertness, and guidelines for engagement, disengagement and displacement of the organization." This simplistic language, often misunderstood due to a lack of knowledge, must be inculcated among Cavalry troopers to enable the execution of disciplined initiative within the construct of mission command the Cavalry claims to have been executing since its inception.

3. Call for fire. There were 27 of the 50 scout teams that scored an overall zero due to TLE or the time elapsed. The event comprised two call-for-fire missions to destroy or obscure using grid and polar missions. Outside the simulator, squads continued to struggle with TLE in live scenarios due to improper bracketing. Those who struggled reacquired grids with their optics or made inaccurate small adjustments. Repeated instances of this occurred during the competition where competitors relied solely on digital means without conducting a check-and-balance with their analog map and graphics. This over-reliance on comfort technology resulted in hundreds of lost points. To remedy this situation, training at home-station needs to be deliberately planned from individual to large collective tasks, with an emphasis on a return to the basics. This cliché needs to be taken seriously given the likely propensity of known adversaries to possess robust capabilities to contest the electromagnetic spectrum.

Of note in this event is that our international partners placed five squads in the top 10 and continued excellence with live munitions. Future competitions will continue to encourage increased proficiency in this area with the inclusion of more complex fire missions such as obscuration, moving targets and coordinated illumination.

Comments from the 2017 Gainey Cup after-action review pertaining to the state of readiness of our scouts to accurately deliver first round effects still echoed true in 2019.

"It is a matter of faith that the Scout's best weapon is [his] radio."⁵ In reality, it is the lethality provided through fires at the observer's command that gives the scout the ability to have a disproportionate lethal impact on the



Figure 2. SSG Kristofer Sprunger from 5-7 Cav, 3rd Infantry Division, reports information about opposing forces during the Romesha's Honor event. (U.S. Army photo by LTC Jeff Barta)

battlefield. However, competitors performed unevenly when completing an accurate and timely call for fire. As with land navigation, competitors were forced to employ the basic tools of map, binoculars, compass and protractor. Scouts have been empowered with position navigation enhanced laser range finders and digital integration. From the Long-Range Advanced Scout System to the Lightweight Laser Designator Range Finder to the M2/M3 Bradley call-for-fire quick message, scouts have been enabled to initiate and receive precise, accurate and timely fires. The efficiency and precision created should continue to be maximized when possible. However, the likelihood of a threat actor spoofing or denying these systems is high. Expertise in the high-end capability cannot come at the expense of the scout's over-reliance on technology.

A TLE greater than 250 meters accounted for more than half the competition's deductions. ATP 3-09.30, **Techniques for Observed Fire**, notes that while 250-meter TLE is the mean for observers employing map, binoculars and compass, it is unacceptable for a first round fire-for-effect mission or target suppression. Several competitors misestimated the range to the target in excess of two kilometers. Upon debriefing, many proved unfamiliar with the Mil Relation Formula (commonly called the WORM formula), which enables an observer to determine range if known-size equipment is present. While noted that a live event vs. a virtual event is more substantive training, overall competitors did not blame the simulator or their unfamiliarity with the system for their shortcomings.

Call-for-fire deductions

A second large source of competition deductions was the inability to initiate the call for fire within three minutes after being given a five-minute block of time to conduct familiarization with the map and simulator screen.

Unit training can start with getting ATP 3-09.30 into the hands of scouts. In particular, Chapters 3, 4 and 5 provide in-depth discussion of locating, initiating and adjusting timely and accurate fires. Beyond this initial step, an easy point of departure may be borrowing



Figure 3. Members of the German 230th Mountain Reconnaissance Battalion assemble the M2 machinegun during the Final Charge event. (U.S. Army photo by MCoE Public Affairs Office)

training plans from the annual brigade forward observer (FO) certification. It may not be possible to replicate the depth of full FO training; however, scouts must approach the same level of observed fires capability. Copying those who hang their hat on providing timely and accurate observed fires seems like a good idea.

4. Vehicle identification – The vehicle-identification exam was comprised of 50 vehicles, each worth two points, in accordance with current gunnery manuals. The average score was 39 out of 100. While this doubles the 2017 results, it is still an area of weakness that requires improvement in our force as several competitors misidentified threat and friendly real vehicles in the tactical scenarios. The fix for this continued deficiency is simple, yet difficult. Conducting a progressive-training path in preparation for unit gunnery is the answer. In the modern, increasingly complex operational environment, vehicle-identification proficiency needs to return to pre-Global War on Terrorism emphasis. Units should continue to employ recognition of combatants/vehicles in their integrated weapons training strategy and not rely on potentially outdated or overly simple PowerPoint presentations. Nation-states, friend and foe alike, use the same vehicles in the contemporary operating environment. The difference

between success and failure, between life and death, is the ability of a combat-arms Soldier to readily identify nuances, clearly indicating whether the vehicle is friend or foe, through optics and under limited visibility.

5. Gunnery-skills testing – Results suggest that gunnery-skills testing is conducted at varying standards across the force, and it is particularly deficient within infantry brigade combat team Cavalry squadrons and scout platoons. Multiple vehicle commanders and gunners could not properly reassemble their assigned machineguns and perform a functions check. This continued to manifest itself during live-fire when malfunctions prohibited squads from destroying the advancing enemy force. The average live-fire lethality accuracy was less than 2/3 of the targets destroyed.

Former instructors' impact on force

An interesting secondary observation from the 2019 Gainey Cup was the importance of institutional broadening assignments in the career of a non-commissioned officer to prepare him or her for future operational-force assignments. A third of the squads selected by their brigades and divisions were developed at home station by platoon sergeants who were former Advanced Leader's Course or ARC

instructors. Similarly, the winning squad was mentored by a platoon sergeant and first sergeant who had recently left a broadening assignment as an instructor. In these instances, the depth of foundational knowledge gained as an institutional instructor directly improved the operational force's readiness.

Conclusions

The continued partnership with allied nations through competition continues to improve interoperability and shared techniques across different armies. The six international teams that competed in the 2019 Gainey Cup were determined and raised the standard for everyone. Significantly, the average international score beat U.S. teams in six of nine events and tied in three. The only event where U.S. units outmatched NATO partners was the U.S. doctrinal-knowledge test. Future competitions will continue to invite international allies and encourage them to employ their country's reconnaissance platforms.

One of the five premier competitions hosted at MCoE, the 2019 Gainey Cup continues to drive improved performance of Cavalry scouts across the force, and it serves as a biennial assessment of readiness and the focus of instruction conducted within institutional training. Selected as the best of their units, the 25 squads in this year's competition demonstrated improvement across the force in our Army's crucial ability to perform R&S operations to gain the advantage, fight and win in a complex environment.

The observations collected from these squads will continue to be analyzed by institutional experts with the continued goal of informing change both in the focus of home-station training and in the refinement of institutional courses and professional military education at MCoE and across U.S. Army Training and Doctrine Command.

From 2017 to 2019, this competition has provided indicators of marked improvements in the capabilities of Cavalry scouts. Many reports from the combat training centers indicate the

increased proficiency and lethality of scout platoons, which is a true testament to the guidance, direction and training of Cavalry leaders across the force. The preceding observations are presented so that American and allied Cavalry scouts inculcate the lessons they learned at the 2019 Gainey Cup, spread their knowledge at home station, conduct critical self-assessment and continue to raise the bar and push the limits in all training events. Marked improvement has occurred; that is evident. However, there remains significant work to be accomplished.

It is the sincerest hope of the MCoE, Armor School and 316th Cavalry Brigade that this year's competition fueled the fire within scouts across the U.S. Army and allied armies around the world. This year the stakes were raised and complexity was increased, and scouts rose to the challenge, demonstrating change.

More expected from scouts, leaders

Moving forward, more will be expected of Cavalry scouts and their leaders. Units should continue to focus on doctrinal knowledge, application of CRG, call for fire, vehicle identification and gunnery skills/weapons proficiency. Improved performance must be the norm, not the exception. There was tremendous performance all-around from the 176 competitors who comprised the 2019 field. Best of luck to all moving forward, and we look forward to moving the Cavalry forward to 2021.

LTC Jeff Barta is a senior task force trainer (Scorpion) at the National Training Center (NTC) at Fort Irwin, CA. He previously commanded 3rd Squadron, 16th Cavalry, at Fort Benning, the home of reconnaissance, security and combat-power lethality functional courses. His other assignments include BCT S-3 observer/coach/trainer (O/C/T) for NTC Operations Group; maneuver task force S-3 O/C/T for NTC's Operations Group; BCT S-3, 4th Battalion, 101st Airborne Division, Fort Campbell, KY; executive officer, 2nd Battalion, 506th Infantry, Fort Campbell and Khost, Afghanistan; and maneuver task

force S-3 and company O/C/T, Joint Maneuver Readiness Center (JMRC), Hohenfels, Germany; commander and team O/C/T, JMRC's Operations Group, Hohenfels. His military education includes U.S. Army Command and General Staff College, CLC, Armor Captain's Career Course and Armor Officers' Basic Course. He holds a bachelor's of science degree in environmental science from the University of Illinois and a master's of science degree in administration from Central Michigan University. LTC Barta has 46 training rotations as an O/C/T at NTC and JMRC collectively. He holds O/C/T belt buckles from the Bronco, Scorpion and Warhog teams. He is a member of the Order of Saint George – Bronze. LTC Barta is also a spur holder from 1st and 12th Cavalry Regiments.

CPT Patrick Zang is a student in intermediate-level education. He previously served as the course director of ARC for 21 cycles and the Gainey Cup lead planner/officer in charge in 2017 and 2019. His other assignments include commander, Crazy Horse Troop, 2-13 Cavalry, Fort Bliss, TX, and Camp Buehring, Kuwait; assistant S-3, 2-13 Cav, Fort Bliss; and troop executive officer, mortar-platoon leader and tank-platoon leader, 3rd Squadron, 3rd Armored Cavalry Regiment, Fort Hood, and Iraq. His military education includes CLC, Maneuver Captain's Career Course, Infantry Mortar Leaders Course, ARC, Armor Basic Officer Leader Course and Airborne School. He holds a bachelor's of arts degree in political science/history from Indiana University of Pennsylvania. He is a member of the Order of Saint George – Bronze and a spur holder from 3rd Cavalry Regiment.

Notes

¹ Named in recognition of Medal of Honor recipient and Cavalry scout Ty Carter.

² Named in recognition of Medal of Honor recipient and Cavalry scout Clint Rome-sha.

³ Named in recognition of BG John Buford, commander of 1st U.S. Cavalry during the Civil War.

⁴ Initial planning guidance from the Chief of Armor, BG David Lesperance.

⁵ Not attributed to any individual; sage wisdom from generations of senior Cavalry leaders.

eARMOR: <https://www.benning.army.mil/armor/eARMOR/>



Figure 4. 2019 Gainey Cup champions from 5-73 Cav are SSG Matthew Brooks, SGT Tyler Kain, SGT Shane Wuchte, SPC Gabriel Cheek, SPC Christopher Lamaita, SPC Austin Thurman, SPC Emery Hanback and SPC Luke Hyland. They are pictured with Chief of Armor/Armor School commandant BG David A. Lesperance (right), Armor School CSM Kevin J. Muhlenbeck (left) and retired CSM William Gainey (back row center). (U.S. Army photo by MCoE PAO)

ACRONYM QUICK-SCAN

ARC – Army Reconnaissance Course
ATP – Army technical publication
BCT – brigade combat team
CALL – Center for Army Lessons Learned
CLC – Cavalry Leader’s Course
CRG – commander’s reconnaissance guidance
FM – field manual
FO – forward observer
JMRC – Joint Maneuver Readiness Center
MCoE – Maneuver Center of Excellence
NATO – North Atlantic Treaty Organization
NTC – National Training Center
O/C/T – observer/coach/trainer
PIR – priority intelligence requirement
R&S – reconnaissance and security
SOP – standard operating procedures
STX – situational training exercise
TLE – target-location error
TTP – tactics, techniques and procedures

Gainey Cup At a Glance

Phase I – individual tasks

- Vehicle identification;
- Gunnery-skills testing;
- Virtual-based call-for-fire;
- “Carter’s Challenge” (dismounted land navigation); and
- Two physical fitness and scout knowledge events

Phase II – collective tasks

- **Romesha’s Honor.** A 15-hour situational training exercise (STX), comprised of four reconnaissance objectives in a complex environment against a mobile, adaptive opposing force. During the STX, squad leaders had to collect key indicators in support of the brigade commander’s PIR.

Squads were assessed on the following tasks:

- **Old Bill’s Gallop.** A mounted, land

navigation course where the teams established observation posts at five separate NAIs across 40 kilometers, employing field-expedient high frequency communications and call for fire.

- **Buford’s Guard.** A squad live-fire exercise comprising both direct and indirect fire engagements with both mounted and dismounted elements similar to a Table IX.

Evaluated tasks

- 052-195-2101, “Percentage of Slope”;
- 171-300-0037, “Establish an Observation Post”;
- 071-730-0014, “Armed Forces Vehicle Identification”;
- 081-COM-1005, “Evaluate a Casualty”;
- 081-COM-1054, “Evacuate a Casualty”;
- Battle Drill 1, “React to Contact”;

- 031-COM-1007, "React to Chemical or Biological Hazard/Attack";
- 071-COM-0510, "React to Indirect Fire";
- 052-196-2002, "Radius of a Curve";
- 061-283-6003, "Call for Fire";
- 171-COM-4079, "Reporting";
- 081-COM-1001, "Casualty Evacuation";
- 031-COM-1050, "Answer PIR";
- 171-123-1301, "Conduct an Area Reconnaissance";
- 171-123-1300, "Conduct a Route Reconnaissance";
- 052-196-3065, "Prepare a Route Reconnaissance Overlay";
- 171-121-4051, "Prepare a Situation Report";
- 171-121-4074, "Conduct Actions at a Danger Area";
- 171-121-3009, "Control Techniques of Movement";
- 031-COM-1050, "Report Information of Potential Intelligence Value";
- 171-121-4040, "Conduct Tactical Vehicle Navigation";
- 171-123-4013, "Conduct the Reconnaissance of an Obstacle"

LEGENDS OF ARMOR



COMMAND SERGEANT MAJOR BENJAMIN C. PALACIOS

24th Infantry Division
 III Armored Corps
 United States Army Forces Command
 U.S. Forces Korea and 8th U.S. Army

Get the Hell Out of Dodge: Techniques for Company-Level Alerts

by MAJ L. Burton Brender

One of the first things that impressed me when I was assigned to the Republic of Korea was “the alert.” An alert is the rapid, usually-no-notice readying of a unit. Though I had heard of such things, my then-six years in uniform had not prepared me for the rigor and speed of a well-executed alert, especially one conducted only 18 miles from the Demilitarized Zone.

As madcap as my very first iteration seemed, it eventually became second nature by virtue of two things: planning and preparation. As I was learning all this the hard way, I noticed that those who did it the best focused on three areas: the arms room, the motorpool and the headquarters.

Arms room

Perhaps the most important area to prepare for an alert is the arms room, which is the platform from which the unit rapidly equips itself when called to mobilize. Its ability to do this is predicated upon basic organization, and for me this was a system I called “packetization.” This is the grouping of like items into easy-to-manage groups. For example, many humvees are armed with a machinegun. However, for the weapon to function, it requires other items like its night sight, tripod and headspace and timing tool, etc. Since these things must be used together, why not store them together? And, if they are they stored together, why not draw them as a packet?

Using a heavy-duty case or bag, combine commonly-drawn-together items

and then print ahead of time their hand receipts, storing everything inside the container. Then, expand that concept. Group the equipment of crews, squads and platoons together, partitioning off different areas of your arms room as much as space and equipment permit. This process arranges your arms room into several near-identical sections, each of which is composed of little “go bags” of frequently used items.

Admittedly, since like items aren’t all in a single row anymore, you may realize certain inefficiencies when conducting inventories or services. However, in my experience, this is an acceptable price to pay for the speed of drawing this process affords, which can be offset by manning the arms room slightly differently.

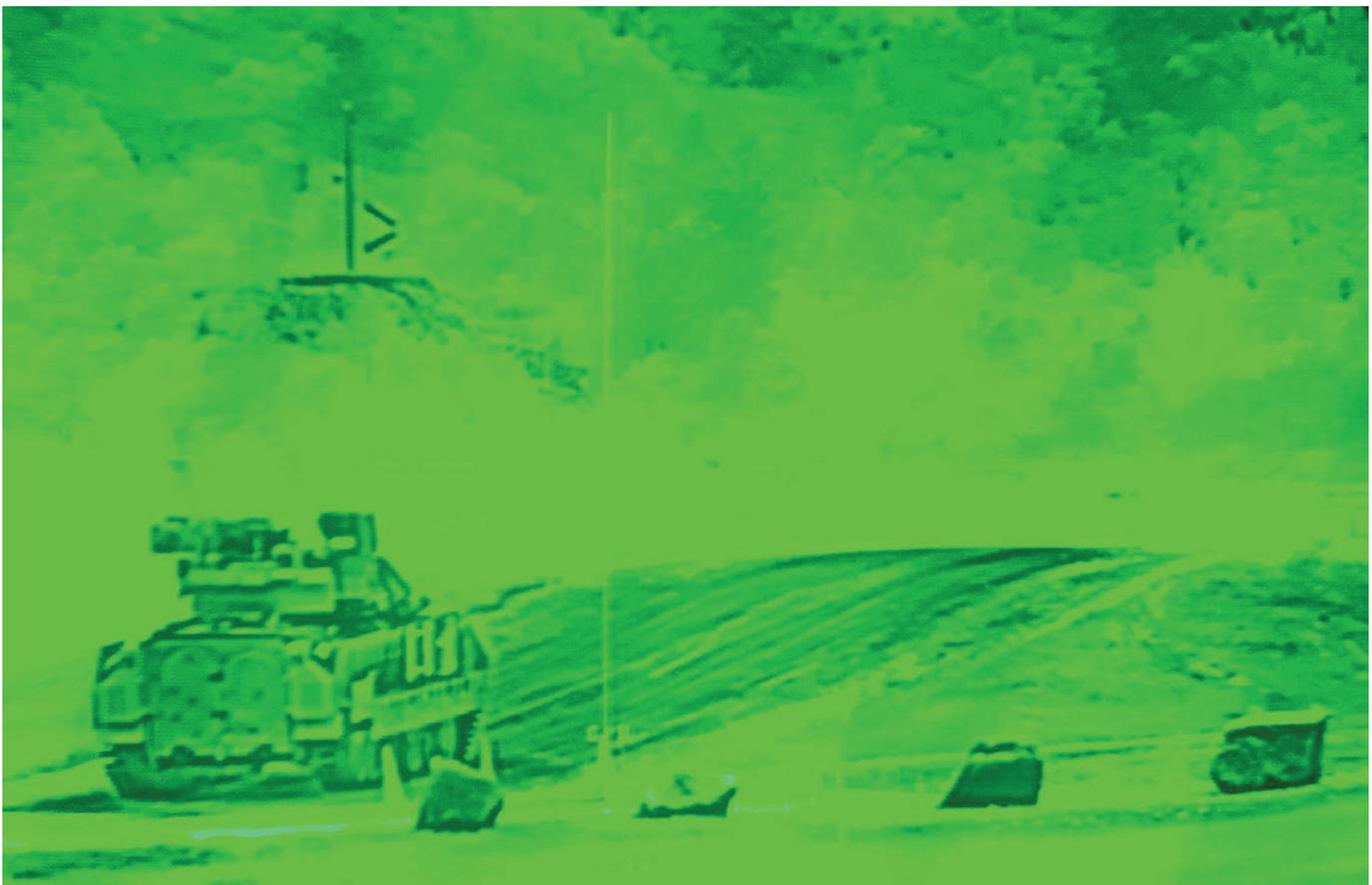


Figure 1. A Bradley Cavalry Fighting Vehicle engages targets on Rodriguez Range in Korea. Practice in armor and cavalry skillsets, including at night, enables units and Soldiers alike to be ready for the no-notice alert.



Figure 2. SGT Johnathan Chappa, Blackfoot Troop, 4th Squadron, 7th Cavalry Regiment, inspects his troops prior to an air-assault training mission.

To make up for the shortage, have your platoons appoint (in writing) their own arms-room assistants. These people's job, in an alert, is to report to the arms room and begin issuing their organization's equipment, freeing the armorer to handle other problems. These platoon armorers are empowered to know their unit's needs and sign out and receive back platoon equipment with familiarity. They become the subject-matter expert about the platoon's equipment.

Unfortunately, chances are your unit will have more equipment than it does people to carry it (and, even if you don't, you **will** have times when you need to store unattended sensitive items). To account for this, units must bring miniature versions of their arms room with them.

Most companies have a cargo truck in complement, such as a light medium tactical vehicle. Reserve about an eighth of its cargo bed for the unassigned sensitive items you must take

and an additional eighth for temporary storage of item, while people are doing other things.

As such, plan to take about a quarter of your sensitive-item containers (rifle racks, equipment cages, lockers). Never make the assumption you can do without them. If you were to find yourself unexpectedly operating for a month, you will quickly find you need them. Have the armorer sketch ahead of time how he or she will arrange and strap down each of these items in the cargo truck.

Motorpool

The second place a commander needs to plan for is the motorpool. The first thing to do is plan for "alert dispatches." Dispatching is a commander's way of giving official permission for a vehicle or towed item to leave a military post. During training, this process can afford to be slow and deliberate. In an alert, however, units do not have that luxury. For this reason, the Army permits alert dispatches, which are

documents that allow vehicles to be immediately and legally put on the roads.

Coordinate with your unit's maintenance leadership to generate these documents *en masse* at the beginning of each month, signing all of them in advance **whether you anticipate needing them or not**. Then, divide these documents by subordinate elements to relieve tedious organizing when you are trying to marshal your forces. Keep them in a secure but accessible place for rapid distribution.

After that, the next best thing you can do is maintain your crew roster. Review your crew or manning rosters monthly and ensure that everyone assigned to the unit is accounted for by seat. Make sure you fill recent losses, plan for anticipated personnel moves and decide where extra people will go (should you be lucky enough to have them). Lists of vehicles with the duty positions or passenger seats listed will often be sufficient.



Figure 3. Blackhawk helicopters arrive for an air movement on Camp Casey, Korea.

Lastly, prepare Soldiers' individual equipment. In a perfect world, "alert bags" containing everything on a Soldier's packing list would be ready to go and secured in a central area all the time. Of course, most Soldiers do not have enough equipment, personal or issued, to maintain alert bags and still participate in daily training.

To mitigate this, create a generic, standardized field packing list based off your anticipated deployment needs. Then, when preparing for a training exercise, deviate from this list as minimally as possible. Enforce this list, even when you know you won't need everything on it. Everyone needs to become accustomed in training with how much they will have to carry, load on vehicles and live with in war.

Headquarters

The No. 1 tool I used to determine how good my unit was at alerts was a three-by-five foot whiteboard in my troop training room. I drew a matrix on this board that listed all my subordinate elements on one axis and everything they needed to do on the other. I specified and sequenced the tasks I wanted done and left out everything I didn't want the unit to waste its time on.

My list looked something like the following. Is the unit:

- **Notified.** Has leadership made telephonic contact with every Soldier, minus those otherwise accounted for?

- **Mustered.** Is everyone who ought to be there present?
- **Equipped.** Are weapons and other arms-room items drawn, properly stowed on their vehicles and tested? Are radios installed and talking; digital mission-command systems operational; and alert dispatches distributed? Are personal bags correctly stowed?
- **Armed.** Is ammunition, if applicable, drawn and distributed?
- **Ready.** Are Soldiers at their vehicles, at the weapons-control status the commander has set, with communications fully operational and prepared to receive orders to move?

Have subordinates write the time they complete each task on the matrix, allowing you to see how long each step takes and where you need to apply resources.

Several documents will be useful when going through these steps. The first is a call roster. People come and go, as do telephone numbers. Only regular updates can keep this product anything like a worthwhile use of paper. I found that the right regularity to update this was monthly, and occasionally it took me (the commander) personally to remind key leaders to make sure they and the company headquarters had current phone numbers.

Another important item was a list of all

the vehicles and towed equipment in the unit and their maintenance status. A simple "roll or no-roll" status for the purposes of an alert is usually sufficient, and it keeps leaders of big organizations from forgetting something.

A third item is the unit training calendar. Alerts should be surprises, but conducting them completely without warning is often counterproductive. To balance these two, put on the training calendar the week in which an alert will occur but keep the day and the hour secret.

This permits units to know when *not* to schedule a major training event, a ball or a key-leader retreat 200 miles away. Knowing the general timeframe an alert will occur allows leaders to plan resource-intensive activities for the weeks they know they will not be alerted.

Lastly, after an alert is over and everyone settles down, conduct an after-action-review (AAR). A prudent commander ensures the unit has had many opportunities to practice this demanding task in a consequence-free environment and to repeatedly reflect on how they do. If at all possible, conduct the AAR the same day as the alert. Begin with the conclusions from the preceding iteration's AAR. What did the group discover last time? Did you make the improvements you identified before and avoid previous pitfalls? Thoroughly review your performance in light of where you want to go and refine your processes.

Conclusion

After applying these ideas, do one thing more: practice. Repetition in a learning environment allows experimentation, underwrites honest failures and rewards improvement. This process builds the skills and confidence to be proficient at alerting.

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Figure 4. Blackfoot Troop, 4th Squadron, 7th Cavalry Regiment, Soldiers clear an underground facility on Camp Stanley, Korea.

1st Battalion, 72nd Armor Regiment, Camp Hovey, Republic of Korea; and commander, Troop B, 4th Squadron, 7th Cavalry Regiment, Camp Casey, Republic of Korea. His military schools include the Command and General Staff College, Red Team Course, Maneuver Captain's Career Course and Maneuver Officer Basic Course. MAJ Brender holds

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ACRONYM QUICK-SCAN

AAR – after-action review

JBLM – Joint Base Lewis-McChord

The Black-Letter Law Behind the Silver Spurs: Judge Advocate's Perspective on Spur Rides

by MAJ Matt D. Montazzoli

"Things like a spur ride, which are intended to show camaraderie, enhance the profession and recognize the history of the organization – those are not hazing events. The difference is that you aren't doing cruel, abusive, oppressive or harmful activities. That's a very significant difference." -Raymond F. Chandler III, 14th Sergeant Major of the Army¹

The Army's esprit de corps is rooted in tradition and history. "Very few American institutions have a history as rich or long" as the Army, and the Armor Branch has a particular abundance of storied and treasured traditions via its Cavalry arm.² These include the Order of the Spur and the associated "spur ride."³ A spur ride is a ceremony to mark the induction of new Cavalry troopers into the Order of the Spur, usually involving several days of Cavalry-related tasks, physical challenges and tests of branch or regimental history and knowledge.⁴

This article will examine the interplay between spur rides and the Army's prohibition of hazing, with an eye toward helping Cavalry leaders continue the proud tradition of the Order of the Spur in a way that complies with regulations. This article is not legal advice, and it is not a replacement for the particular advice of an attorney. Leaders should integrate their servicing judge advocate into spur-ride planning at the early stages.

'Earning spurs'

The tradition of American Cavalry troopers "earning spurs" dates back to the late 19th Century.⁵ After the Civil War, the Army was scattered in small garrisons across the Western Plains conducting frontier constabulary duties.⁶ The recruitment and training programs that characterize the modern military did not exist, and many recruits arrived at their units without any initial-entry training. Cavalry units were largely manned with men from urban areas, frequently recent



Figure 1. A spur holder observes spur candidates from 6th Squadron, 9th Cavalry Regiment, 3rd Brigade Combat Team, 1st Cavalry Division, executing an obstacle course during the squadron's spur ride Jan. 31. The spur ride consisted of an Army physical-fitness test, an obstacle course, 14 testing lanes and a spur ride designed to test the candidates' Cavalry knowledge. (Photo by CPT Scott Kuhn, 3rd Armored Brigade Combat Team, 1st Cavalry Division, Fort Hood, TX)

immigrants.⁷ Many recruits had never sat a horse.⁸ These new men were assigned mounts with their tails shaved to indicate inexperienced riders, and the unit's officers and noncommissioned officers conducted training and exercises to refine skills in horsemanship, shooting and saber drill.⁹ The new "shave tails" were only allowed to employ spurs once they had "earned" them by demonstrating enough mounted proficiency.

A modern spur ride generally consists of multiple days of cavalry tasks and drills. "The Army does not have strict guidelines for how a spur ride is conducted, therefore no two spur rides are exactly the same," writes CPT Scott Kuhn.¹⁰ Some units integrate the spur ride into the unit's training calendar under the auspices of the Excellence in Armor program, while others conduct it as a purely morale-building event. Common features include an Army physical-fitness test; a packing-list

layout (and accompanying corrective training for deficiencies); written tests on knowledge, doctrine and history; practical-skills lanes, often including land navigation; an obstacle course; an extended road march; and an oral board. Sleep deprivation, working as part of a team and physical exertion are part of a typical spur candidate's experience.¹¹

A successful candidate earns the right to wear silver spurs as a symbol that he has "proven to have a level of expertise beyond that of the average cavalrymen."¹²

Army vs. hazing

The Army defines hazing as "[a]ny conduct whereby a service member or members, regardless of service, rank or position, and without proper authority, recklessly or intentionally causes a service member to suffer or be exposed to any activity that is cruel, abusive, humiliating, oppressive,

demeaning or harmful. ... It can be verbal or psychological in nature. ... Without outside intervention, hazing conduct typically stops at an identified endpoint.¹³

Bad actors have occasionally corrupted legitimate spur rides or used Cavalry traditions as a cover for hazing.¹⁴

At first glance, a spur ride seems to check many of the boxes for conduct that would constitute hazing: being forced to shout “Fiddler’s Green” into the night sky while carrying 35 pounds on an unknown-distance roadmarch seems at the very least humiliating, if not oppressive. Things appear even grimmer when we consider that consent is not a defense to hazing.¹⁵

A spur ride also stops at an identified endpoint, but that endpoint involves a

milestone: the award of a set of shiny, silver spurs. Surely, the fact that the indignity carries with it a reward means it cannot be unlawful? In fact, just because an event represents a milestone does not mean it cannot be hazing, which “may result from any form of initiation, ‘rite of passage’ or congratulatory act that includes unauthorized conduct.”¹⁶

Proper spur ride

How can a leader plan a unit event that treats all Soldiers with dignity and respect and will not constitute a violation of the Uniform Code of Military Justice? The key concepts that differentiate a spur ride from hazing are proper authority, organization and supervision.

Spur rides do not constitute hazing

because they are carried out under proper authority, usually that of a squadron or regimental commander. Proper authority brings spur rides under the umbrella of “time-honored customs of the Army ... traditional events that ... are part of our heritage.”¹⁷

Commanders should ensure that spur rides are clearly identified as training events and that the goal of the event is to demonstrate and celebrate Cavalry excellence and pride in the unit and its troopers.

Organization is critical to the success of a spur ride, much like any military operation. When properly organized, traditional events like spur rides “serve to enhance morale, esprit de corps, pride, professionalism and unit cohesiveness.”¹⁸ Commanders should use



Figure 2. Battle Group Poland begins its first multinational spur ride of the year. Spur candidates from the United Kingdom, Romania, Croatia, Poland and the United States attempt to complete multiple Soldier tasks while cold, tired and hungry to earn their silver spurs in the Cavalry-unit rite of passage. The tradition of having to ‘earn your spurs’ reaches back to the beginning of the American Cavalry. When green troopers first arrived at their new cavalry assignments, they were assigned a horse with a shaved tail. This led to the nickname ‘shave tail’ for newly assigned spurless Soldiers. (Photo by U.S. Army SGT Arturo Guzman, 278th Armored Cavalry Regiment, Tennessee Army National Guard)

military planning processes such as the Eight-Step Training Model to ensure that spur rides are appropriately organized.¹⁹ The Eight-Step Training Model is a proven method of preparation for units and leaders.²⁰ The most critical of the eponymous steps for keeping a spur ride on firm legal footing are plan the training; train and certify leaders; and issue an order for the training.

The S-3 or another appropriate action officer should plan the spur ride the same way the unit would plan any other training event.²¹ Techniques such as backward planning and detailed preparation ensure that the “back side” of the event receives appropriate attention, and that resources are coordinated and integrated for the training. Incorporating the unit’s servicing judge advocate into operational planning and in-progress reviews ensures that the commander and the staff receive the benefit of iterative, informed advice throughout the process. The practice of waiting until spur ride planning is already “halfway down the trail to hell” before requesting a legal review increases the chances of an attorney identifying problems that may compromise training at the last minute.²²

Leader certification

Training and certification of leaders is also critical to ensuring that a spur ride does not descend into hazing. Spur holders are often the most senior, proficient and respected Cavalrymen in the formation, but many of them may have earned their spurs under circumstances that would conflict with current Army policy. Spur holders should receive a briefing on the Army’s hazing policy, either from a judge advocate or, even better, from a commander or senior noncommissioned leader.

The practice of leaders explicitly acknowledging that a rite of passage like a spur ride carries with it an elevated risk of hazing and making it clear that hazing is contrary to the commander’s intent for the spur ride likely decreases the chances that hazing will occur. Just as we would not expect Soldiers to execute a machinegun range without pre- marksmanship instruction and completion of crew drills to standard, leaders must train and certify spur holders before executing a spur ride.

The issuance of an order for the training will also enhance organization and reduce the chances of hazing. This can take the form of a standard operations order, complete with synch matrices and appendices, or a less formal concept of operations.

Either way, as part of the orders process, the commander should publish a spur-ride memorandum of instruction (MOI) over his signature block or authority line to clearly indicate that the event is conducted under proper authority. This MOI should specifically forbid hazing by limiting spur holders to the approved training plan and clearly communicating that abuse of candidates is far outside of the commander’s intent.

In addition to organization, supervision is key to a successful spur ride. Cavalry leaders must keep in mind that “[h]azing may occur when otherwise authorized or permissible conduct crosses the line into impermissible conduct.”²³ All leaders must “ensure these traditions and customs are carried out in accordance with Army values and that the dignity and respect of all participants is maintained,” and that spur holders stay within authorized limits.²⁴ This can be achieved by ensuring the appropriate density of cadre to candidates, by ensuring leaders are distributed across the groups of candidates, and by quickly making on-the-spot corrections if behavior veers out of bounds. Even troopers in a candidate status must feel safe and empowered enough to object to content that violates policy or the spur-ride MOI.

Mounted Soldiers carry with them a proud and storied history, and the tradition of the spur ride can do a great deal to indoctrinate and operationalize that lineage. Cavalry leaders do not need a law degree to carry out a spur ride – common sense, leadership and a commitment to treating other Cavalrymen with dignity and respect will ensure a meaningful and appropriate event.

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Germany; administrative-law attorney, 21st Theater Sustainment Command, Panzer Kaserne, Germany; air-operations officer, 3-73 Cavalry, 1st Brigade Combat Team (BCT), 82nd Airborne Division, Fort Bragg, NC; support-platoon leader, Troop D, 3-73 Cavalry, 1st BCT, 82nd Airborne Division, Fort Bragg and Ubaydi, Iraq; and scout-platoon leader, Troop A, 3-73 Cavalry, 1st BCT, 82nd Airborne Division, Fort Bragg and Babil, Iraq. His military schooling includes Judge Advocate Officer Graduate Course, Collateral Damage Estimate Course, Judge Advocate Officer Basic Course, U.S. Marine Corps Expeditionary Warfare School (distance-education program), Scout Leader’s Course, Mounted Basic Officer Leadership Course and Pathfinder, Jumpmaster, Ranger and Airborne courses. MAJ Montazzoli holds a bachelor’s of arts degree in history from Marymount University, a juris doctor degree from the University of Colorado School of Law and a master of laws (legum magister, or LL.M) degree in military law from the Judge Advocate General’s School. His awards and honors include the Order of the Spur (silver and gold) and the Dutch Four Days’ Marching Cross. He is a member of the bar of the state of Colorado, the federal district of Colorado, the Court of Appeals for the Armed Forces, the Army Court of Criminal Appeals, the Air Force Court of Criminal Appeals and the Navy-Marine Corps Court of Criminal Appeals.

Notes

¹ Jennifer Mattson, “Senior Leaders Combat Hazing,” *NCO Journal*, Sept. 5, 2012, https://www.army.mil/article/86713/senior_leaders_combat_hazing.

² Army Doctrinal Publication 1-0, *The Army*, September 2012.

³ Technical Circular 7-22.7, *Noncommissioned Officer Guide*, April 7, 2015, defines tradition as “a customary pattern of thought, action and behavior held by an identifiable group of people” and recognizes Cavalry spurs as an official unit tradition alongside airborne units’ maroon berets.

⁴ U.S. Army Center of Military History, *The Army of the US Historical Sketches of Staff and Line with Portraits of Generals-in-Chief*, 1895, <https://history.army.mil/books/R&H/R&H-Esprit.htm>: “These legends and traditions attached to regiments that have won a name are handed down from generation to generation, and every

youngster joining has to study them up and pass his 'quizzing' on any and all material points, or he is no true soldier."

⁵ Department of Army, *Regulations for the Uniform and Dress of the Army of the United States*, authorizes "spurs, yellow metal" for officers, noncommissioned officers, buglers and "privates of dragoons."

⁶ Mary Lee Stubbs and Stanley R. Connor, *Army Lineage Series, Armor-Cavalry Part I: Regular Army and Army Reserve*, 1969, <https://history.army.mil/books/Lineage/arcav/arcav.htm>: "Among the peacetime problems the Army helped solve, those occurring in the Great Plains and the Far West most needed the services of the mounted arm. By 1868 the bulk of the cavalry was in the west."

⁷ Robert M. Utley, *Frontier Regulars: The United States Army and the Indian 1866-1891*, 1973.

⁸ S.L.A. Marshall, *Crimsoned Prairie*, 1972: "Many of the green rifle replacements had never been in the saddle before."

⁹ See <https://www.cavhooah.com/info/cavalry-traditions/spurs/>.

¹⁰ CPT Scott Kuhn, "Spur Holders Key to Successful Spur Ride," *Fort Hood Sentinel*, Feb. 8, 2018, http://www.forthoodsentinel.com/news/spur-holders-key-to-successful-spur-ride/article_20021c94-0c3c-11e8-a8dd-f340d4498ad4.html.

¹ SGT James Bunn, "Cavalry Spur Ride Brings Soldiers Together," *Army.mil*, July 8, 2013, https://www.army.mil/article/107088/cavalry_spur_ride_brings_soldiers_together: "Operating with little to no sleep, four-man teams of spur candidates navigated through six stations where they demonstrated their knowledge of weapons, land navigation and medical evacuation. They event ended with a 12-mile foot march."

² Ibid.

³ Army Regulation 600-20, *Army Command Policy*.

⁴ John Vandiver, "17 Leaders from Guard Company in Kosovo Removed Amid Investigation of Abuses," *Stars and Stripes*, Feb. 23, 2012, <https://www.stripes.com/>



Figure 3. Spur candidates from 6th Squadron, 9th Cavalry Regiment, 3rd Armored Brigade Combat Team, 1st Cavalry Division, complete a call-for-fire exercise during the squadron's spur ride Jan 31. (Photo by CPT Scott Kuhn, 3rd Armored Brigade Combat Team, 1st Cavalry Division, Fort Hood)

[news/17-leaders-from-guard-company-in-kosovo-removed-amid-investigation-of-abuses-1.169604](#). The Cavalry troop's "problems stemmed from excessive physical demands on soldiers in an attempt to initiate them into the unit."

¹⁵ AR 600-20.

¹⁶ Ibid.

¹⁷ Ibid.

¹⁸ Ibid.

¹⁹ MAJ Matthew R. Little, "The Eight-Step Training Model," *Engineer*, January-April 2012.

²⁰ Ibid.

²¹ Ibid.

²² Of note, the traditional spur dinner and other social events associated with the training should be voluntary and organized by a non-federal entity (NFE), such as a spur holders' committee. Spur candidates who participate in the spur-ride training may not be compelled to participate in the NFE's spur dinner. While the

committee may be made up primarily of personnel from the squadron, those personnel will participate in the NFE in their personal capacities and should not conduct their NFE duties during duty hours or using government resources. A judge advocate can provide advice on interactions between the unit and the NFE, to include arranging for limited logistical support such as color guards and audiovisual equipment, as well as permissible fundraising by the NFE in the unit area and among unit members. Because fundraising policies in particular vary enormously by installation, interactions with spur-related NFEs are beyond the scope of this article.

²³ AR 600-20.

²⁴ Ibid.

ACRONYM QUICK-SCAN

BCT – brigade combat team
MOI – memorandum of instruction

BOOK REVIEWS

Operation Typhoon: The German Assault on Moscow, 1941 by Philippe Naud; Havertown, PA: Casemate Publishers; 2018; 1,128 pages, including maps, photographs, bibliography; \$24.95.

From Moscow to Stalingrad: The Eastern Front, 1941-1942 by Yves Buffetaut; Havertown, PA: Casemate Publishers; 2018; 1,128 pages, including maps, photographs, bibliography; \$24.95.

Casemate Publications continues their World War II series with several new entries. As with the previous entries in the series, the new works begin with a time chart covering the period addressed in the book. French authors Philippe Naud and Yves Buffetaut provide detailed maps, thumbnail commanders' biographic sketches and colored plates of participating tactical vehicles to supplement their narratives. At the conclusion of each volume, a list of reference material for future study is provided.

On June 22, 1941, almost 100 German divisions crossed through Russian-occupied Poland with three massive army groups. Army Group North aimed at Leningrad; Army Group South directed their forces toward the oil regions of the Caucasus; while Army Group Center moved to seize Moscow. Planners anticipated the fall of Moscow within four months of the invasion.

Initial victories seemed to reinforce this timeline as the German forces swept through the major Russian cities of Minsk, Smolensk and Kiev. Thousands of Soviet tanks, aircraft and associated support systems either were destroyed or fell into German hands. An estimated million-plus Russian soldiers became prisoners of war. The situation was truly bleak for the Russians.

As Naud notes, the Russian collapse resulted from a series of blunders by the leader of the Soviet Union, Josef Stalin. As with Adolf Hitler, Stalin believed himself a military genius quite capable of employing his forces in defense of

his country. Initial events exposed many deficiencies in his abilities and those of his army and air forces. Pre-war purges of the military had destroyed the leadership, as many senior officers were either imprisoned or murdered. Without a capable senior military structure, force development lagged far behind peer competitors. The forces that initially faced the German onslaught, for example, lacked communications equipment. Without adequate means to transmit orders and instructions, the entire structure suffered, as units could not coherently coordinate the actions of aviation, artillery, armored forces and infantry.

Adding to the chaos at the tactical level was Stalin's insistence on holding terrain against massive well-coordinated German moves.

It is small wonder that Hitler sensed the imminent destruction of the Soviet military when he diverted forces from his other two army groups to Army Group Center and ordered them to drive toward Moscow. On Oct. 2, 1941, the Germans officially launched Operation Typhoon to destroy the Soviet army groups defending Moscow. As Naud's descriptive narrative explains, the Germans had every reason to believe they would quickly capture the Russian capital.

By restructuring his forces to drive on Moscow, Hitler deprived his other two army groups of armored formations vital for their continued success against the Russian forces defending the northern and southern portions of the Soviet Union. Also, German logistical support went from bad to worse as a combination of factors caused a total breakdown in the supply chain. The lack of adequate support vehicles, the tremendous distances between supply depots and the front lines – along with the terrible Russian road system – ground the German offensive to a halt. The weather added to the front-line misery for both sides. With some units within 50 miles of Moscow, freezing rain, then snow, caught the Germans unprepared for winter warfare.

By Oct. 20, 1941, the situation was

slowly moving in favor of the Russians. Hitler added to the chaos by removing the commander of the German army, Field Marshal Walther von Brauchitsch, over disagreements regarding the ongoing effort against Moscow. At this point, Naud's narrative ends. It is assumed that future books in the series will address the Russian movement of troops and supplies to successfully defend their capital.

Buffetaut's latest work, **From Moscow to Stalingrad**, briefly addresses the situation in and around Moscow. His emphasis is on the actions of Army Group South. Appreciating that Moscow was beyond his grasp, Hitler decided to seize victory by attacking the oilfields of southern Russia. First, the German forces had to survive their first Russian winter and resupply their forces. Furthermore, with the entry of the United States into the war, Stalin was now receiving materiel support from both British and American factories.

Given these circumstances, Hitler decided his best chance for victory lay in disrupting the flow of oil and materiel resources to the Russian military by seizing the areas within southern Russia. Buffetaut believes that the "1942 German offensive is of utmost importance in the history of World War II, as it was the first entirely directed by Adolf Hitler himself after von Brauchitsch's dismissal during the Battle for Moscow."

By April 1942, German forces were on the move again. Issuing his vague Directive 41, Hitler stated his desire to crush the Russian army. How various German commanders interpreted this directive is discussed in detail by the author as German forces were once again realigned to meet Hitler's instructions. At the same time, the Russian high command reorganized its armored forces to meet German might. Several diagrams and explanatory inserts fully describe the changes of 1942 Soviet armored forces.

Throughout the narrative, Buffetaut returns to the Germans' failure to meet logistical requirements for their forces. As an example, he points out that the

German plan to use the railroad from Rostov to Baku was frustrated by the different gauge of track used in Russia. Supplies had to be constantly cross-loaded as track widths either enlarged or diminished, depending on which stretch of the railroad the trains operated. The delays meant that the German forces were constantly short of fuel, which strangled the operations' chances of success.

Supplementing his presentation with many photos of the Russian defenses surrounding the Black Sea port of Sevastopol, the author describes the German assault and capture of this great port city. The book concludes with German forces on the banks of the Volga poised to seize the industrial city of Stalingrad.

The World War II Russian campaign can be a challenge for maneuver commanders seeking to appreciate the varied campaigns and directions the Germans undertook in their futile attempt to conquer the Soviet Union. These two works facilitate an understanding of force structure, commanders' initiative and the vital role of logistics in both offensive and defensive operations. As such, they should be examined as a first step toward appreciating the role a combined-arms team plays in attaining battlefield success.

RETIRED COL D.J. JUDGE

German Armor in Normandy by Yves Buffetaut; Havertown, PA: Casemate Publishers; 2018; 1,128 pages, including maps, photographs, bibliography; \$24.95.

Ardennes 1944 by Yves Buffetaut; Havertown, PA: Casemate Publishers; 2018; 1,128 pages, including maps, photographs, bibliography; \$24.95.

German Armor in Normandy is the fourth book by Yves Buffetaut addressing British, American and German forces fighting in the 1944 Normandy beach area. The author begins this volume with the actions around the French city of Caen. As with the other works in this Casemate series, this volume is profusely illustrated with photo and colored plates of various tactical vehicles, adequate campaign maps and

thumbnail biographical sketches of prominent participants. This volume focuses on German armored commanders and their role in attempting to stop the Allied breakout from the Normandy beach area.

Buffetaut concentrates this work on German army and SS armored units. Ten of these type of panzer divisions were involved in the battles around Normandy. Given the huge demand for resources required to sustain German forces in Russia, the forces in the West relied on ingenuity and innovation to create a credible armor deterrent to the Allies' combined might. Buffetaut examines in detail each divisional and special-unit structure. Organizational charts greatly assist in understanding the various complex structures the Germans created out of necessity.

As the author points out, the Germans had captured an abundance of weapons and vehicles during their campaigns against the 1940 armies of Western Europe. The challenge facing the German commanders in the Normandy area was how best to employ these various armored vehicles and weapons. Appreciating that the bulk of captured French armored vehicles would not survive an engagement with Allied forces, the Germans undertook a massive modification effort that retained the chassis and suspension systems of various French armored vehicles while altering the on-board weapon systems. For example, the Germans modified the French Hotchkiss H39 tank's upper portion to mount their standard anti-tank gun system while retaining the original suspension and engine system.

Throughout the book, photo and colored-plate illustrations display the transformation of previously captured equipment into self-propelled artillery and anti-tank systems.

Having explained the various German armored-force vehicular structures, Buffetaut succinctly addresses the tactical employment of this force. The German force successfully stalled Allied progress to break out from the Caen region. However, as Allied ground power, combined with air supremacy, took a devastating toll on any German movement, the Americans attained a

breakthrough. The book concludes with an interesting assessment of the failed German Mortain counterattack and the Allies' frustrating movement in the Falaise region. Both evaluations provide much food for thought about a tactical commander's coordination and synchronization of combat assets.

While certainly well organized, this volume focuses almost exclusively on the German order of battle rather than on a detailed explanation of German moves to contain the Allied advance. For those desiring an appreciation of the extent to which the Germans went to salvage through organizational and equipment alterations, this information will prove informative. For those desiring a better understanding of the various combat actions, the previously reviewed Casemate-series works on armored activity in Normandy may prove to be more beneficial.

Casemate follows up their appraisal of the actions in the Normandy area with Buffetaut's work on the December 1944 German Ardennes offensive. As the author notes in ***Ardennes 1944***, "For the Americans, the Battle of the Bulge was, and still is today, their biggest campaign of all times, its 600,000 troops committed to battle significantly exceeding Operation Desert Storm's half a million."

Once again, using photos of the battle area, colored illustrations and applicable maps, the battle plan of the Germans and countermoves by the Allies are well laid out by Buffetaut. Of particular interest are the sections on British actions in support of their American allies. Field Marshal Bernard L. Montgomery's employment of forces, while controversial, is handled in an even-handed manner by the author.

While believing that the Allies attained a significant victory over their foe, the author holds that "in terms of the overall Western Front campaign, the Allied failure – particularly Montgomery's – to aggressively pursue and prevent the German withdrawal to their redoubts behind the Siegfried Line clearly added weeks, if not months, to the war."

This is a well-written explanation of the largest land battle fought in the European Theater of Operations. The

skillful use of photos and maps details American actions around the Belgium towns of St. Vith and Bastogne; the impact of Allied airpower on the German forces; the rapid regrouping and counterattack by Third U.S. Army under the command of LTG George S. Patton Jr.; and the role of logistics in support of tactical operations. This book should have a prominent place in the library of those seeking to enhance their appreciation of this great battle.

RETIRED COL D.J. JUDGE

Pershing's Tankers: Personal Accounts of the AEF Tank Corps in World War I; edited by Lawrence M. Kaplan; University Press of Kentucky; 2018; 312 pages; \$50 (hard cover).

The centenary marking the end of World War I generated renewed interest in the perspectives and observations of those who went "over there" to fight in the war to end all wars. In answer to that interest, military historian Lawrence Kaplan researched and edited ***Pershing's Tankers*** to tell the story of the American Expeditionary Force's (AEF) Tank Corps. ***Pershing's Tankers*** is a compilation of articles written in response to BG Samuel D. Rockenbach's (chief, AEF Tank Corps) order for officers to share their personal experiences in the Great War. Restated, this book was authored by the men who were there, in the mud, at the genesis of the U.S. Army Armor Corps.

In recording the history of the AEF Tank Corps, Rockenbach asked his officers to eschew formal reports in favor of vivid, engaging stories containing "all possible local color and human interest." Contributor George S. Patton Jr. took this guidance to heart, showing an unexpected humorous side to his account of leading tanks into battle at the French village of Pannes.

The contributors were not professional authors, and their writing style hails from a different era altogether. The details and true horror of warfare do not always come directly through to the reader. Indeed, the officers frequently went to great lengths to highlight their unit's bravery while minimizing the dangers of war itself.

Individual chapters are arranged by the authors' rank, duty position and unit, with some editing to arrange them by major events such as equipment fielding or battles. However, the book's overall narrative would be improved with additional background providing strategic context to the men's tactical level observations and more-detailed maps. In their absence, ***Pershing's Tankers*** becomes a list of obscure French villages and engagements without a coherent storyline.

Readers who served in uniform may see their own experiences mirrored by those detailed in the authors' descriptions of high-intensity combat or the more mundane military/bureaucratic red tape. They will also recognize the inevitable friction arising between those fighting the war and the remote Washington, DC-based Army staff. In many respects, the only difference between 1918 and 2018 is the absence of PowerPoint slides and unit safety briefings.

Pershing's Tankers holds a key and timeless lesson for the U.S. military as it takes its first, tentative steps into the domains of cyber and space warfare. The men of the AEF Tank Corps could easily attest that introducing new technology and doctrine is not without difficulty, particularly in the midst of a major ground war. Success required bold leaders willing to take risks and challenge the status quo. More simply stated, cyber and space warriors would do well to heed one of tank pioneer Patton's favorite quotes – "L'audace! L'audace! Toujours l'audace!" – as they begin their own their own journey into future war.

LTC CHRIS HEATHERLY

In Memory of Self and Comrades: Thomas Wallace Colley's Recollections of Civil War Service in the 1st Virginia Cavalry; edited by Michael K. Shaffer; Knoxville, KY: The University of Tennessee Press; 2018; 310 pages with illustrations, maps, five appendices, endnotes, bibliography and index; \$47.

In 2016, descendants of Virginia cavalryman Thomas W. Colley (1837-1919) showed up at a lecture given by Civil War historian and professor Michael K.

Shaffer, and presented him a car-trunkload of journals, letters, various other ephemera and a Bible carried by Colley throughout the Civil War. Noted for his previous book, ***Washington County, Virginia in the Civil War***, as well as his ability to tell a good story, Shaffer was floored by the presentation. He immediately recognized the invaluable material as a first-hand account of a Confederate Soldier's entire wartime service, spanning nearly the whole of 1st Virginia Cavalry Regiment's activities. The family members had a request: take the material they presented and tell Colley's story to preserve his memory for future generations.

In Memory of Self and Comrades is part of a larger compendium of material, ***Voices of the Civil War***, edited as a series by Michael P. Gray. The series is intended to "make available a variety of primary source materials that illuminate issues on the battlefield, the home front and the western front, as well as other aspects of this historic era." Colley's writings span a period from April 1861 until shortly before his death in 1919. Though the preponderance of the material included in the volume covers the Civil War service of a bold and opinionated, thrice-wounded Confederate cavalryman – importantly, the portion of the story after Colley's final significant wounding at the Battle of Haw's Shop in May 1864 and amputation of his left foot – is important for modern warriors to take in as well.

The comprehensive autobiographical account written by Colley, and told by Shaffer, is a mature perspective of battle, loss, transition, recovery and, in the end, a productive life fully lived. Replete with maps and illustrations throughout, the book is a tremendous accompaniment to more broad Civil War campaign analyses of the Virginia theater of war, written by legions of authors who have relied principally on second- and third-hand sources to tell their stories. Aside from the Civil War action, the book provides insight into the Reconstruction period and the advent of veterans' fraternal organizations some years after the physical scars of war had healed.

A member of several associations of historians and writers, Shaffer

carefully transcribed the entirety of the material presented to him by Colley's family and edited Colley's writings only for the purposes of clarity. Shaffer deliberately left intact Colley's authentic spellings and remembrances of names, as well as particular circumstances Colley encountered in his travels across Virginia, including his activities after the Civil War. The account Shaffer rendered has a remarkable grit of reality. Not simply a narrative of one man's place on the battlefield for a single battle or a campaign, Shaffer provides a perspective of Colley's front-line tactical actions, but within the context of one of the most notable Confederate militia cavalry regiments of the Civil War.

In Spring 1861, at the time of his accession to the Washington County Mounted Rifles (later twice reorganized as a company in 1st Virginia Cavalry), Colley was a well-known 34-year-old brick mason and plasterer of Washington County, VA. Partly because of his mature assertiveness and his horse sense, Colley was well regarded by the senior members of his command. These attributes provided him the ability and confidence to "lead-up" in the company of cavalrymen he kept. That he was a mature militiaman, one can grasp his sense of loyalty to his unit and the cause for which they fought. I was heartened to read in Colley's writings of his ability to think critically about the secessionist cause and his use of an abundance of restraint before he acted with violence.

Because Colley had a penchant for keeping details in his wartime journal, when I read Shaffer's work, I got a sense of the reality of not just the engagements in which Colley took part, but his palpable fear of being attacked while standing guard on picket detail; his sense of determination to live after being shot through the abdomen and left to die at the Battle at Kelly's Ford; and his personal struggles to transition

to a future following battle that left him wounded in more than one way. Having written my own first-hand account of command in combat, and now aged enough to understand Colley's range of emotions that he expresses throughout his account, I felt a certain connection to Colley as I read the vivid details of battle, of his sicknesses he encountered, and of his life after his transition from the military.

In Memory of Self and Comrades is a tremendous first-person account of Soldiering. I recommend it to those who seek to understand more of a Soldier's perspective of the Civil War. Moreover, it's a recommended read for leaders who want to better understand how to enable successful transitions of their Soldiers and themselves from military service.

COL JOE HOLLAND

The Joint Staff
J-5 Global Policy and Partnerships

Masters of Mayhem: Lawrence of Arabia and the British Military Mission to the Hejaz by James Stejskal; Haverstown, PA: Casemate Publishers; 2018; 304 pages; \$32.95 (hard cover).

The name "Lawrence of Arabia" is synonymous with both T.E. Lawrence's personal account of World War I and the eponymous 1962 movie bearing his nom de guerre. Since its original publication in 1926, his book *Seven Pillars of Wisdom* has long been considered a classic study of insurgency. Author James Stejskal's latest work, *Masters of Mayhem: Lawrence of Arabia and the British Military Mission to the Hejaz*, re-examines Lawrence's role as a military adviser during the Arab Revolt as the genesis of modern British special operations.

Stejskal's opening chapters aptly demonstrate that *Masters of Mayhem* is not simply a revisionist retelling of

Seven Pillars or yet another coffee-table book written to take advantage of the centenary of World War I. Instead, the book delves into Lawrence's use of armored cars in desert warfare, the creation of a supporting operations staff and the unique personalities of the British advisers and their Arab counterparts. It also avoids another pitfall common to military history writing. Far too often military history falls into one of two camps: 1) well-researched books but dry tomes lacking the perspective only first-hand combat experience brings, or 2) veteran-written, engaging stories bereft of academic rigor. Here, finally, is a compelling and documented account of warfare authored by an expert in military operations. (Stejskal spent more than 35 years in U.S. Army Special Operations and the Central Intelligence Agency, putting that experience to good use throughout *Masters of Mayhem*.)

Although Lawrence fought his war more than a century ago, his methodology and practices are still quite relevant to our own conflicts. Lawrence and his fellow British advisers aptly demonstrate the value a handful of disciplined, seasoned professional soldiers may provide in support of conventional military forces, provided they understand their irregulars' culture, language, capabilities and limitations. Stejskal cites many examples of the value of predictive, timely intelligence to the successful conduct of military operations. The book frequently reveals the pragmatic nature of irregular militaries fighting for pay vice nation-representing soldiers – particularly when no sense of nation exists outside Washington, DC.

LTC CHRIS HEATHERLY

ACRONYM QUICK-SCAN

AEF – American Expeditionary Forces

The Fallacy of Logistics Dominance

by MAJ Travis Michelena

Military professionals often echo the importance of logistics but rarely acknowledge or practice the consequences of its loss. Imagine if three of your fuel trucks are destroyed on the way to refueling one of your combined-arms battalions (CABs). You are suddenly short by about 7,000 gallons of fuel for the current mission, and the destruction of fuel assets affects every mission in the foreseeable future. Fourteen tanks sit idle, unable to join the fight, while they wait for an emergency fuel throughput mission from the brigade-support battalion (BSB). The battle plan is derailed before it even starts.

Overconfidence in U.S. Army logistics systems and the abundant availability of supply are likely points of failure in large-scale combat operations. In an effort to mirror successful civilian logistics infrastructures, the Army currently employs a streamlined sustainment pipeline. Supply is delivered on a “just-in-time” program, with only the minimal amount of transportation assets to get it there. There is little room for flexibility within the forward-support companies (FSCs). Instead, today’s Army relies on higher and adjacent units for support if their FSC assets are attrited due to maintenance, enemy action or mission overextension.

Plentiful for training

Supply stocks at both garrison and the training centers are full, close and constantly being restocked. For home-station or training-center exercises, this works with unmitigated success. There are plenty of missteps at the various echelons, but the overall system floods the combat zone with food, water, fuel and ammunition with little interruption. Large-scale war, however, is unlikely to be so generous.

The Army Service Corps produced a review¹ of logistics operations

post-World War II, taking a hard look at the lessons-learned and recommendations for future conflicts: “If any indisputable logistic lesson can be drawn from World War II, it is that in any major war involving industrial powers, no nation can hereafter emerge victorious without substantial and sustained superiority over its enemy in the quality and quantity of its weapons and supporting equipment.”

Do we believe our logistics systems are at a quality and quantity sufficient for large-scale combat operations? The American tradition of war is a testament to the need to conquer distance.² However, recent reports suggest we would struggle to meet a future global threat. The Maritime Administration is concerned with our ability to mass forces³ with a lack of cargo ships, and it cites a gap of nearly 2,000 Merchant Marines to operate them. For reference, during World War II, Germany sank more than 2,700 ships in the Atlantic with U-boats alone.

Current capability questioned

The National Defense Strategy

Commission⁴ paints a grim picture of our current ability to react in multiple theaters across the world: “Because the U.S. military must project power over vast distances, strategic mobility is fundamental to the American way of war. ... The Commission, however, has serious reservations about the Department of Defense’s [DoD] ability to support its global operations, particularly in the event of a high-intensity contingency or multi-theater operations. Inadequate lift and tanker support, a lack of secure communications and insufficient capabilities and infrastructure are impeding strategic mobility. The investments U.S. competitors have made in overseas infrastructure – and, in some cases, their growing ability to target U.S. strategic mobility assets – worsen this trend. [DoD] must invest in a more resilient and secure logistics and transportation infrastructure, especially if it chooses to rely on [dynamic force employment].”

The Army’s memories of delivering and supporting forces across several continents have faded, replaced with experiences of air supremacy, uncontested lines of access and abundant supply.



Figure 1. Slingload operations for logistics are conducted at a National Training Center (NTC) rotation. (Photo by MAJ Travis Michelena)

Recent conflicts in Afghanistan and Iraq have exacerbated this belief in our logistics dominance.

Beyond the larger strategic concerns, we often avoid learning the hard tactical lessons by negating the consequences of logistics losses. Despite enemy actions at the various combat-training centers (CTCs), supply is reconstituted and trucks are pushed through to ensure the frontline combat units have what they need to continue the training fight. However, this degradation of supply lines is a realistic scenario we should address. If logistics elements are destroyed, or even significantly delayed, it is an excellent learning opportunity for maneuver commanders to practice how to deal with a battlefield reality.

We plan and brief priority of supply but with little concern for actual implementation because we never really **have** limited supply. The U.S. Army is largely focused on the tank-on-tank fight and our ability to outperform, outmatch and outsupport any opponent. If the sustainment capability proves less proficient than the other legs of training and equipment, our ability to win against a peer threat threatens to collapse.

Supply lines targeted

Current U.S. and Russian doctrine specifically targets supply lines in the deep fight with special-purpose forces,

artillery and air assets. The sustainment community, however, is not built to sustain many losses before becoming combat-ineffective, nor is it equipped for significant self-defense. The loss of a single fuel truck at an FSC could degrade fuel support capability for a CAB as much as 20 percent, yet this issue is rarely trained. The BSB can only backfill these losses – at the cost of its own mission – for so long before it becomes combat-ineffective.

It is reasonable for a maneuver commander to want maximum firepower at the front line rather than relegated to protecting his rear lines of support. However, given the realities of large-scale combat, commanders need to address a few critical logistics concerns to maintain tactical momentum:

- What are the risks to my lines of communication/supply, and what are the consequences?
- Considering the lack of internal logistics security, do we need to shift combat power to secure the route or provide convoy security?
- Have supply conditions changed the ability to meet the tactical or operational objectives?

Considering these questions help planners shape the operating environment to mitigate risks to tempo, ensure that commanders identify gaps and disrupt the enemy's ability to negatively affect the critical support areas.

The CTCs will need to be the agent of change, forcing acknowledgement of the oft-maligned and hand-waved “logistics problem.” Support-area wargaming is often an assumed risk to ensure the combat power has a “clean” fight. In contrast, trainers should allow, and even encourage, enemy forces to attack supply convoys and brigade-support areas (BSAs) with more than harassing fires. Opposition forces should look to exploit vulnerabilities instead of seemingly random and inconsequential mortar attacks on the BSA entry-control point and a few attacks on convoys. It is imperative for commanders to decide who goes without fuel if and when a convoy of fuel trucks is destroyed, or decide when to have Soldiers eat only two Meals-Ready-to-Eat a day when the stockpile is destroyed at the BSA. They can cause problems that are not detrimental to the overall training scenario for the maneuver units but provide enough discomfort to be a catalyst for solving problems beyond the kinetic fight.

Negating risk

Combat commanders can help negate the risk to their supply lines with a few considerations:

- **Security platforms.** Fight to get gun-platform vehicles to the logistics elements, starting with the FSCs. Ideally this involves a larger structure change for proper vehicles and more personnel, but in the meantime can



Figure 2. A logistics-resupply point during a NTC rotation. Supply lines will be especially targeted by special-purpose forces, artillery and air assets. (Photo by MAJ Travis Michelena)



Figure 3. A unit maintenance collection point during an NTC rotation. The BSA should consider a base cluster system rather than a large support area to present a smaller footprint and target. (Photo by MAJ Travis Michelena)

be a drive for “like items” to replace the current equipment set. Seek out M1151 armored humvees to replace soft-side models to add weapon mounts and communications platforms in tactical convoys, and press mechanics to order and install ring mounts on every compatible vehicle. Understand that manning these security vehicles will take Soldiers away from their given tasks as cooks, mechanics or truck drivers, adding more risk to the support-sustainment mission to lessen the risk to the close fight.

- **Convoy live-fires.** When faced with the “convoy security problem,” maneuver commanders tend to revert to what they know: gunnery – forcing sustainment units to go through the tables as a maneuver unit would without regard for what they need to be proficient at in combat. It would be more advantageous to use convoy live-fire training rather than gunnery to train logistics-security elements. Their mission is to protect the convoy and drive on as opposed to maneuver on the enemy, and communication with the other convoy elements is a difficult task when under fire. Reacting to enemy air, artillery and ambushes are more relevant than

gunnery operations. Understand that security crews are ad hoc and are likely to be broken and mixed often as they serve in their primary jobs as well. There is value in the gunnery process, but it does not fit the needs of the sustainment community for long-term success. On a larger scale, the Army will need to develop a defined gunnery manual for logistics units to better support their combat requirements.

- **Route security.** What are the threats to your lines of communication and supply? That risk must be weighed against the innate desire to push maximum firepower forward. Our training centers have conditioned commanders to leave the supply lines unprotected while they focus on the maneuver fight. However, with the acknowledgement that peer threats are specifically targeting our sustainment, we must think security of supply routes with any available assets. This may be for only a certain window, roving patrols or securing along the route, but any deterrence of enemy action goes a long way in the survivability of vital supply lines. It is not all on the maneuver forces to mitigate risks, however. To deal with a Level 1 threat, logistics units need to improve battle drills (react to

contact, air threats, etc.), internal convoy-security operations, ability to call for support (fires, air support, etc.) and vary routes and convoy times to prevent predictability.

- **Limit exposure.** The best bet for the long-term health of sustainment assets is to limit opportunities for contact with the enemy. For example, the BSA should consider a base cluster system as opposed to one large support area to present a smaller signature (and target). There is risk in creating smaller (and likely more vulnerable) formations, but that risk has to be weighed against the potential catastrophic loss from an artillery or rocket attack on the sprawling sustainment footprint. Use terrain to disperse elements in a way that values survivability over aesthetics: don’t get locked into the idea that the only way to construct a support area is a big circle in a large open field. Emphasize and demand the use of camouflage and terrain to disguise your sustainment capabilities from enemy reconnaissance. Reduce convoy time as much as possible, denying “emergency resupply” fuel requests for negligible amounts and limiting hot meals to one a day. Considering the personnel strains from providing internal convoy

security, the sustainment units will be operating with tight tolerances already without adding the need for more convoys. Don't unnecessarily expose limited logistics assets out of a desire for comfort over actual operational requirements.

Maneuver commanders trust that the supply will be there as it always has been, and for good reason. Logisticians take immense pride in making the magic happen out of sight and out of mind. However, in large-scale combat operations against a peer threat, this blind trust can be faulty and dangerous. It is imperative combat commanders practice limited supply and challenged supply lines, forcing staff and units to address a deeper fight than the one they are used to. We can continue to hope that our sustainment is left untouched, but if the enemy targets supply as expected, it is vital that we prepare for the logistics fight as much as the armor one.

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Notes

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ACRONYM QUICK-SCAN

BSA – brigade-support area
BSB – brigade-support battalion
CAB – combined-arms battalion
CTC – combat-training center
DoD – Department of Defense
FSC – forward-support company
NTC – National Training Center

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The Division's Role in Breaching Operations

by MAJ John Chambers and
MAJ Steven J. Saxion

The 1st Infantry Division crossed the berm into Iraq Feb. 24, 1991, and began its breach of Iraqi defenses to start the ground war of Operation Desert Storm (ODS). In the lead-up to “G-Day,” 1st Infantry Division planned, resourced and executed division-level breaching operations in the absence of established doctrine and training to guide it.¹

This is still the case today, as there is scant doctrine that outlines the division's role in breaching operations. One of these references is Army Technical Publication (ATP) 3-34.23, **Engineer Operations – Echelons Above Brigade Combat Team**, which discusses the role of engineers in offensive operations. It focuses on engineer reconnaissance and the division staff, ensuring brigade combat teams (BCTs) are properly task-organized for their assigned mission.²

Another reference is ATP 3-90.4, **Combined-Arms Mobility Operations**,

which states, “Most combined-arms breaching is conducted by a [BCT]/regimental combat team or a battalion-size task force as a tactical mission, but higher echelons may also execute operational-level combined-arms breaching tasks.”³ However, ATP 3-90.4 doesn't talk in depth about the assets these higher echelons bring to the fight or how they should plan, resource and execute breaching operations. It addresses the role of the G-2/S-2 when outlining the intelligence tenet of breaching operations, but its remaining discussion of the breaching tenets are focused at battalion and BCT levels.⁴

Consequently, given the shift back to the division as “the Army's primary tactical headquarters for decisive action,”⁵ a significant gap exists in our breaching doctrine since it fails to address the division's role in these operations – a role that history has shown a division will absolutely undertake.

Some will argue that this gap is acceptable, as breaching is a brigade- or

battalion-task-force operation. However, as the Army's primary tactical headquarters, there are instances in which the division should play a significant role in breaching operations. Recent historical examples of division and higher breaches include ODS, Egypt's Operation Badr (during the Yom Kippur War) and Operation Iraqi Freedom. Furthermore, with the employment of anti-access/area-denial (A2/AD) strategies by U.S. adversaries, the likelihood of breaching operations at echelons higher than brigade to begin hostilities is exponentially increased.

Consequently, the division will be involved in future breaching operations, and doctrine should address the role of division and higher echelons in these operations to enhance the force's operational effectiveness. To that end, we will use the framework of the breaching tenets to fill this doctrinal gap and address the role the division headquarters should play in planning, resourcing and executing breaching operations.

Current breaching doctrine

As we made clear, there is limited doctrine on how division and higher echelons should plan, resource and execute breaching operations. The closest available doctrinal framework is to apply the division's role in gap crossing to breaching operations. Gap crossing and breaching are similar tasks in the sense that they are both discrete operations complex enough to warrant more planning and resources at all echelons. Their execution involves suppression, obscuration, security, creation of a lane or crossing and seizure of far-side objectives. Furthermore, gap crossing and breaching operations are both means to begin and/or continue an attack.

However, the doctrinal reference for gap crossing in support of maneuver,



Figure 1. U.S. Army Reserve combat-engineer Soldiers from 350th Engineer Company from Bell, CA, work on a combined-arms breach during a combat-support training exercise (CSTX) at Fort Hunter Liggett, CA, July 22, 2018. This rotation of CSTX trained thousands of U.S. Army Reserve Soldiers from a variety of functions, including military police, medical, chemical, logistics and transportation. (U.S. Army Reserve photo by MSG Michel Sauret)

ATP 3-90.4's Chapter 4, does not provide a holistic picture of integrating all available assets to complete a breach. Most of the chapter is focused on intelligence and mission command, with little discussion of protection or sustainment. There is some discussion of integrating fires, but it's not in depth. While it does an excellent job of outlining the role of the division main and tactical command posts (TACs), it doesn't discuss the unique assets the division has to support the gap crossing. Consequently, this framework is inadequate to fully describe the role of the division headquarters in breaching operations.

Similarly, applying BCT-level breaching doctrine at the division level is inadequate given the difference in assets available in a division compared to a BCT. For example, a division has a combat-aviation brigade, a division-artillery headquarters, a sustainment brigade, and (usually) a field-artillery brigade, plus a maneuver-enhancement or engineer brigade. Consequently, the processes are similar, but the difference in available assets – coupled with the ability to leverage higher-echelon intelligence-collection systems – makes the division's role in breaching operations different from that of the BCT. Finally, while a BCT often conducts hasty breaches, a division breach is almost always deliberate.

At its heart, breaching is a combined-arms operation. It is not a tactical task that can be handed off to an engineer officer to plan in isolation; it must successfully integrate all warfighting functions to achieve success. Highlighting the combined-arms nature of breaching is the fact that the Army's doctrinal reference for breaching, ATP 3-90.4, is a 90-series manual as opposed to an engineer-specific 34-series manual, thus reinforcing the combined-arms aspect of breaching operations. It is in this vein that we approach the role of the division headquarters in breaching operations – integrating and synchronizing all warfighting functions to set conditions for a successful breaching operation at brigade and battalion level.

Successful breaching operations must adhere to the tenets of breaching:

- Intelligence;

- Fundamentals;
- Breaching organization;
- Mass; and
- Synchronization.⁶

These tenets are integrated into the planning process and applied throughout execution of the breach. While these tenets, especially the fundamentals of breaching, are generally thought of as applied at lower echelons, we found they could successfully be applied to division-level breaching operations.

Division's breaching role

As the tenets of breaching lead to successful breaching operations, we will outline the role of the division in breaching operations using the breaching tenets. While some may argue that an approach to this problem using the framework of warfighting functions might be better suited to synchronizing a staff during the planning process, using the tenets of breaching highlights how each warfighting function integrates into the framework for successful combined-arms breaching operations, and it ensures all the tenets are integrated into the planning process.

Intelligence. During mission analysis, the division staff must ensure it develops appropriate intelligence

requirements (IRs) in support of the breach. These IRs may include the composition, disposition and strength of enemy obstacles, location of enemy lanes through the obstacles, location of enemy observation posts and fires assets. The IRs may also include the location of enemy assets like chemical, biological, radiological, nuclear and high-yield explosives that can affect the breach area. These IRs, when tied into the division collection plan, will facilitate a better understanding of enemy obstacles as well as the targeting of enemy assets, which can mass effects on the breach area during breaching operations – for example, the use of chemical munitions or rocket artillery to close breach lanes. Further, IR development drives the integration of engineer reconnaissance capabilities into the intelligence, surveillance and reconnaissance plan.

Once IRs to support the breach are developed, the division G-2 has the ability to not only synchronize division internal assets to answer the IRs, but to request and integrate joint and corps intelligence assets into the division collection plan. These assets provide significant capabilities to identify enemy assets that can affect breaching operations. These enemy assets can then be entered into the division targeting cycle to be destroyed during shaping op-



Figure 2. U.S. Army Reserve combat-engineer Soldiers from 374th Engineer Company of Concord, CA, ride through a berm in an M-113 Armored Personnel Carrier on a combined-arms breach during a CSTX at Fort Hunter Liggett, CA, July 22, 2018. (U.S. Army Reserve photo by MSG Michel Sauret)

erations prior to the breach.

Fundamentals. The fundamentals – suppress, obscure, secure, reduce, assault – are generally what comes to mind when people think of breaching operations. At face value, the fundamentals seem tactically oriented and executed at echelons well below the division headquarters. However, the division has significant capabilities it can use to execute the breaching fundamentals and shape the battlefield before the breach.

- **Suppress** – The division – especially the division artillery and the combat-aviation brigade – provides significant assets to suppress enemy long-range artillery between the coordinated fire line (CFL) and the fire-support coordination line, a space that is normally outside the range of a BCT's organic-fires assets. Enemy long-range artillery poses a significant threat to breaching operations because it can be used to mass effects on the breach area to destroy friendly breaching assets, or it can close breaching lanes with chemical munitions or the sheer volume of massed effects. Often these enemy assets must be targeted using rocket artillery or attack aviation, assets available at the division level, to reduce the enemy's effect on breaching operations. In addition to artillery and aviation, the division has the ability to coordinate and integrate cyber-electromagnetic activities (CEMA) assets into the targeting process. These assets can be used to disrupt the enemy's sensor-to-shooter links and, in effect, suppress their ability to mass effects on the breach.
- **Obscure** – Tube artillery and mortars are the only means of delivering obscurity to the far side of the breach. The division may retain some tubed artillery under the control of the division artillery; however, these assets are usually dedicated to engaging targets identified in the division collection plan or given general-support-reinforcing relationships with combined-arms battalions (CABs). Consequently, the division's role in visual obscurity is indirect – it uses its fires assets to shape the far side of the breach area,

which frees up the BCT's fires assets to provide obscurity.

Also, the division is responsible for deconflicting the use of aviation and indirect fires. In this role, the division must ensure that aviation missions are conducted on the far side of the CFL to allow the BCT to use its fires assets for obscurity and shaping within the breach area. The division also has the ability and resources to obscure the breaching main effort by using information operations, deception operations and/or CEMA assets. By running information and deception operations, the division can obscure the preferred point of breach and influence the commitment of the enemy reserve.

Furthermore, CEMA assets can be used to prevent the enemy from achieving an accurate understanding of the division's composition, disposition, strength and the location of engineer assets. This will, in effect, obscure the division's intent and preferred point of breach and increase the main effort's chance of success.

- **Secure** – To secure the breach site, the division must plan for critical friendly zones (CFZs) over the breach lanes themselves or the entire breach area. Also, the division must dedicate air-defense assets to protect forces as they conduct the breach and move through the breach once it's complete. Breach lanes are significant chokepoints for the division as it pushes its attack forward after conducting breach operations. Consequently, the enemy will attempt to close breach lanes by massing fires on the lanes, using chemical munitions, artillery-delivered scatterable mines or attack aviation. By establishing CFZs and assigning air-defense assets to protect the breach lanes, the division can help secure these critical chokepoints. This can ensure a continuous flow of forces and supplies to the far side of the breach.
- **Reduce/assault** – During the reduction and assault portions of breaching operations, there is not much the division can do outside of shaping the fight for the operation's next phase (after the breach). However, the division does play a role in the success of this phase prior to

starting the operation – the division headquarters must ensure that BCTs have enough engineer assets to accomplish their breach and then have enough maneuver forces available to seize the far-side objective.

Breaching organization. In its current form, the brigade-engineer battalion (BEB) does not have enough engineer assets to support all the CABs in an armored brigade combat team (ABCT). Furthermore, the engineer companies within the BEB do not have the same number of sapper platoons. While the companies have the same number of assault breaching vehicles, their breaching capabilities differ when conducting reverse breach planning based on the different number of sapper platoons. Consequently, division planners must ensure that additional enablers from echelons above BEBs (for example, mobility-augmentation companies and sapper companies) are assigned to BCTs to augment their organic breaching capabilities. This analysis must take into account the composition, disposition and strength of the obstacles identified through the collection plan. It must also account for the number of breach lanes each BCT is assigned to create. These factors will drive the amount of additional engineers the BCTs need to accomplish their missions.

Mass. The division's ability to mass on the far side of the breach, conduct a forward-passage-of-lines (FPoL) and conduct follow-on offensive operations is critical to the success of the overall operation. Where this manifests itself in breaching operations is the planning of an adequate number of breach lanes to enable the rapid buildup of combat power. For example, during 1st Infantry Division's breach to start ODS, division planners determined that each brigade would need to breach eight lanes through the enemy defenses.⁷

In addition to ensuring that an adequate number of lanes exist to rapidly build combat power, the division must control the movement of units through the breach lanes to ensure they are able to mass on the far side of the breach to conduct follow-on operations. To accomplish this, the division must ensure military-police units are



Figure 3. U.S. Army Reserve combat-engineer Soldiers use an M-9 Armored Combat Earthmover to clear dirt for a combined-arms breach during a CSTX at Fort Hunter Liggett, CA, July 22, 2018. (U.S. Army Reserve photo by MSG Michel Sauret)

assigned to the BCTs to facilitate the orderly movement of units through the breach. Furthermore, the division must coordinate and establish criteria for a battle handover between the breaching BCT and a follow-on support unit (such as a maneuver-enhancement or engineer brigade) to free the BCT conducting the breach for follow-on offensive operations.

Finally, the division can help its breaching BCTs achieve mass at the point of breach by conducting deception operations. Divisions possess the combat power to conduct deception operations that influence the enemy commander to shift forces away from the breach area or delay commitment of the enemy reserve to the breach area. If successful, these operations allow the BCTs to mass forces at the weakest point of the enemy defenses.

Synchronization. In division-level breaching operations, the division must provide effective mission command and synchronize all elements of the breach. Synchronization starts with the effective use of appropriate graphic-control measures to define unit boundaries, attack positions, the reduction area, the breach area,

objectives, the battle-handover line and the CFL. Also, the division must identify conditions and/or triggers to execute the breach as well as the transition to different phases of the operation. These must be included in an execution synchronization matrix. The division must also facilitate combined-arms rehearsals at the appropriate level to synchronize the breach and follow-on operations to include the FPoL and attack.

In many ways, a division-level breach should be treated as a gap-crossing operation, and the division TAC should be forward-deployed to control the discrete operation. Specifically, the TAC should be employed to coordinate the movement of BCTs into and out of the breach area, including the FPoL at the battle-handover line. After completion of the breach and establishment of breach lanes, the division TAC should gain and maintain control of BCTs as they enter the breach area to conduct a FPoL at the battle-handover line.

Once the FPoL is complete and the BCTs move out to conduct an attack, control of their movement transitions to the division main command post. This type of coordination and

synchronization is comparatively easy when a single BCT from the division conducts the breach and the division conducts an FPoL with its remaining BCTs. However, it becomes more complicated when the division controls multiple breaching BCTs and the FPoLs are happening simultaneously across the division's front. In these cases, division planners will have to closely evaluate the placement of the division TAC and division main to best exercise mission command over the operation. Also, if the breaching division is conducting an FPoL with another division, division planners will have to plan in parallel with corps for the possible employment of the corps TAC.

Way ahead

During ODS 28 years ago, the U.S. Army conducted a division-level breach without the appropriate doctrine and training to provide a foundation for the operation. That lack of doctrine is still the case today as the Army shifts its focus back to decisive action in unified land operations. Today, as in the past, divisions must be prepared to serve as a tactical headquarters and conduct combat actions against near-peer militaries. History has shown us that conflict with near-peer enemies often begins with a breach at division and higher echelons. Furthermore, the employment of A2/AD strategies by U.S. adversaries increases the likelihood of breaching operations at echelons higher than brigade. Consequently, the U.S. Army needs to prepare its divisions to conduct breaching operations.

We recommend the Army update its doctrine to codify the division's roles and responsibilities in breaching operations at the division and higher level. Also, we recommend the Army continue to include division- and corps-level breaching operations in warfighter and command-post exercises to force division staffs to work through this problem set and gain proficiency.

Waiting until the Army is involved in large-scale combat is too late to address the lack of breaching doctrine and proficiency at division level. As the "the Army's primary tactical headquarters for decisive action,"⁸ divisions must be prepared to conduct operations across the full spectrum of combat operations before the next crisis.

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³ ATP 3-90.4, *Combined-Arms Mobility*, March 2016.

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⁶ ATP 3-90.4.

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⁸ FM 3-94.

ACRONYM QUICK-SCAN

A2/AD – anti-access/area denial
ABCT – armored brigade combat team
ATP – Army technical publication
BEB – brigade-engineer battalion
BCT – brigade combat team
CAB – combined-arms battalion
CEMA – cyber-electromagnetic activities
CFL – coordinated fire line
CFZ – critical friendly zone
CSTX – combat-support training exercise
FM – field manual
FPoL – forward-passage-of-lines
IR – intelligence requirement
ODS – Operation Desert Storm
TAC – tactical-command post
USMA – U.S. Military Academy

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Named Areas of Interest Development Needs Refined Process

by CPT William Watts and
CPT Timothy Lee

Small-group leaders teaching at the Cavalry Leader's Course (CLC) have identified an issue with students grasping the concept of named areas of interest (NAI) development – specifically, when the reconnaissance objective is not “threat”-focused. Students tend to draw many NAIs on the map that they, as staff and commanders, want more information about. Unfortunately, this happens with little thought as to how it relates to priority intelligence requirements (PIRs), indicators or the execution decisions on the battlefield. This inevitably leads to an overabundance of NAIs drawn around anything and everything, with the idea that we need to “see everything.”

Observations from across the classroom environment at CLC, the Maneuver Pre-Command Course (MPCC) and the combat-training centers (CTCs) clearly show the lack of understanding of the relationship between PIRs and NAIs. Staffs and commanders frequently confuse what they “want to know” with what they “need to know” to

make decisions. As a result, the information-collection (IC) plan is not developed completely because of issues that arise from the inability to focus IC through proper NAI development.

Unlike engagement-area (EA) development, currently there is no solid methodology to develop NAIs. The process is confusing, as doctrine continues to contradict itself. First and foremost, we must understand what NAIs are and why they are important. Field Manual (FM) 3-98, *Reconnaissance and Security Operations*, defines an NAI as “a geospatial area, systems node or link against which information that will satisfy a specific information requirement can be collected. [NAIs] are usually selected to capture indications of adversary courses of action, but they also may be related to conditions of the operational environment.” In short, we understand from this definition that the NAI is developed to help focus our IC on a multitude of different aspects of an operation.

A collection overlay (see FM 3-55, *Information Collection*, Figure 4-2), coupled with the IC matrix (Figure 4-1 in

FM 3-55), is vital to the development of the Cavalry squadron's scheme of maneuver. The placement of these NAIs will develop the brigade's collection scheme and, depending on the reconnaissance technique being used, will either drive an execution or adjustment decision for the operational commander. Just as commanders would not haphazardly place EAs, we should not randomly place NAIs. Collection doctrine is not fully developed to support reconnaissance and security (R&S) operations for the Cavalry squadrons.

This article will further describe the methods to define NAIs for terrain, infrastructure and civilian objectives by applying EA development within the existing intelligence preparation of the battlefield (IPB) process.

NAIs in current doctrine

Army Techniques Publication (ATP) 2-01.3, *Intelligence Preparation of the Battlefield*, explains that the development of an NAI is based on Step 4 of the IPB process. Figure 1 demonstrates what to do when our reconnaissance objective is threat-focused.

Using the various enemy courses of action (CoA) developed and overlaying them over one another, we look for differences or indicators among the multiple CoAs. Where those differences occur would then be developed as NAIs. The staff would not place an NAI over any area that has the same templated enemy within those areas, as they are not indicators of a specific CoA.

However, what happens when the reconnaissance objective is not threat-based and the focus is terrain, infrastructure or society? Drawing NAIs around multiple locations that indicate whether the enemy is committing to his most likely or most dangerous CoA would serve little use if our focus is terrain and our reconnaissance objective is the identification of friendly battle positions. The method outlined in ATP 2-01.3's Figure 6-8 (represented in Figure 1) is useful, but it is not

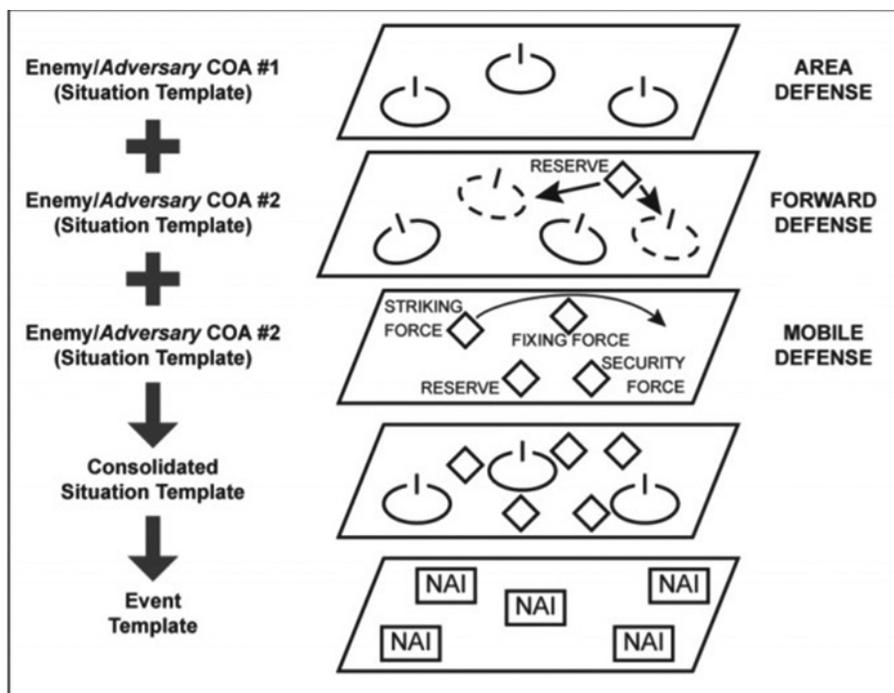


Figure 1. Example of an event template. (Based on Figure 6-8, ATP 2-01.3)

thorough enough for the development of a complete IC plan. In a time-constrained environment, this method could be effective if, and only if, the reconnaissance objective is threat-focused. Otherwise, it tends to generate an excess amount of NAIs to collect, and it actually detracts from a complete process to focus reconnaissance.

NAI development

The newly published IPB manual acknowledges that NAIs can be focused on the operational environment. However, the doctrine does not address how to develop an NAI that is not threat-focused. This gap in development forces us to interpret and piece together our own methodology by first understanding the relationship among NAIs, PIRs and ultimately the decisions the commander may have to make.

“Reconnaissance operations allow commanders to understand the situation, visualize the battle and make decisions,” states Chapter 1-1 in FM 3-98. “Security operations provide reaction time and maneuver space to enable decisions and protect the force from unanticipated danger.”

The common and critical word in the first paragraph of the first chapter of FM 3-98 is “decisions,” as we ultimately conduct R&S operations to help the commander make decisions to retain his or her position of relative advantage on the battlefield. We accomplish

this task by answering PIR and enabling the commander to make timely decisions and direct forces to achieve mission success (see FM 3-98, Chapter 1-24). Chapter 1-25 from FM 3-98 elaborates on this by stating that PIRs identify information about the enemy, terrain, weather and civil considerations the commander considers most important and have impact on future decisions.

In short, we understand that R&S operations are conducted to help the commander make timely decisions on the battlefield by answering questions about the entire operational environment, not solely on the threat as ATP 2-01.3 leads us to believe. The NAI is subsequently developed as the geospatial area where indicators for a PIR will be identified. But which comes first? The NAI? Or the indicator?

NAI development process

We at CLC propose a process to be instituted in the development of NAIs akin to development of an EA. One of the most important aspects of this model is the development of PIR and the identification of the associated decisions to be executed upon answering the PIR. If the staff has not tied these PIRs to decisions the commander could make during the operation, the NAIs developed may trend toward more of what the commander “wants to know” (information requirements) vs. “needs

to know” (commander’s critical information requirements) and detract from the actual collection of intelligence.

For this article, we will use a terrain-focused reconnaissance objective with the stated PIR: “Is Objective Red suitable for a battalion-size assembly area?”

Step 1: PIR breakdown to indicators.

The key output for this step is the development of indicators and identification, not placement, of possible locations for those indicators. Like Steps 1 and 2 of EA development, Step 1 of NAI development requires analysis. This step will largely call on what the staff develops during mission analysis and subsequently IPB. In EA development, the subordinate unit would first determine avenues of approach and the enemy scheme of maneuver. The NAI development process requires input for this step by first identifying the PIR and then breaking down that PIR into indicators and specific information requirements (SIRs). (Refer to Figure 4-5, FM 3-98.)

Like EA development, identifying the PIR up front enables the unit to identify what it’s trying to collect, giving context and purpose to the operation before drawing NAIs randomly on the map. Through the parallel-planning process, both higher and lower will refine the PIR down to indicators and SIRs.

PIR	NAI	NAI location	Indicators (what are you looking for?)	SIRs	Collection asset												Timings			Related to	
																				On	Off
1			500m x 1200m																		1
			360-degree unobstructed field of view																		1
			Avoids being adjacent to higher surrounding terrain or building																		1
			HNSF are willing to support our occupation of the area																		1

Table 1. NAI development process Step 1 output.

PIR	NAI	NAI location	Indicators (what are you looking for?)	SIRs	Collection asset												Timings			Related to	
																				On	Off
1			500m x 1200m	Scouts/optics, full-motion video (EO/IR)														2300		1	
			360-degree unobstructed field of view	Scouts/optics, full-motion video (EO/IR)														2300		1	
			Avoids being adjacent to higher surrounding terrain or building	Scouts/optics, full-motion video (EO/IR)														2300		1	
			HNSF are willing to support our occupation of the area	Scouts/optics, full-motion video (EO/IR), SIGINT, HUMINT														2300		1	

Table 2. NAI development process Step 2 output.

In our example in Table 1, we had already identified the PIR while conducting reconnaissance for a tactical assembly area (TAA) and now must break it down into indicators. Breaking down the PIR into indicators will allow us to collect across the entire operational environment, including infrastructure, terrain and society, while remaining focused on the actual reconnaissance objective. These indicators must be specific enough so that the Soldier or asset collecting it can determine easily, with little doubt and room for interpretation, what they are seeking.

Simply stating “area must be defensible and suitable” for a battalion assembly area is not nearly specific enough as an indicator. However, by stating that we will have to account for an area that “must be 500m x 1,200m, has a 360-degree unobstructed field of view, avoids being adjacent to higher surrounding terrain or building (ATP 3-37.10, Table E-1) and host-nation security forces (HNSF) are willing to support our occupation of the area,” we now understand what indicators to look for in the area of operations (AO). Now that we understand what the indicators associated with our PIR are, we can start working on where we will be able to identify it within the AO. In this first step of the NAI development process, we begin to build our IC matrix.

Step 2: Best plan for collection. The key output for this step is determining which available assets are best to confirm or deny indicators that are anticipated to be in the AO. Now that we have identified what we are collecting on (Table 1), we must now determine what capability can collect on them. During this step, staffs should refine indicators down to SIRs, which will facilitate tasking of capabilities based on the information requirement. The result will facilitate the staff tasking units within the reconnaissance methods of dismounted, mounted, aerial or reconnaissance by fire and determining if the Cavalry squadron has the resources to answer the PIR. (See Table 2.)

It is important to note that ATP 2-01, *Plan Requirements and Assess Collection*, uses SIRs as more specific indicators and not the actual asset or capability that will facilitate tasking based on the information requirement. FM 3-98 uses SIRs as the actual asset/capability that facilitates tasking. For this article, we use the definition outlined in FM 3-98.

Step 3: Determine where to collect. The key output for this step is the placement of NAIs on the map. Similar to Step 3 of EA development, our process of NAI development in Step 3 would call for the actual placement of the NAI. To complete this step, we

must take into account the indicators previously identified in Step 1 of the NAI development process and are now specifically looking at a place or area where the indicators will be collected.

In our example, the local populace is assumed to be large and the Cavalry squadron will not be able to conduct reconnaissance of the area before the latest time information is of value (LTIoV), so the NAI must be placed on a specific area where the reconnaissance can be focused. The NAI (NAI 2b) will be placed where the indicator is the most likely to be identified. In this example, we would use political centers, police stations and military bases.

Step 4: Assign asset collection. Key output for this step is the assignment of reconnaissance assets to collect on specified NAIs. Similar to Steps 5 and 6 of EA development, we now assign specific reconnaissance assets to collect on specified NAI through the further refinement of our SIR. This will ultimately drive the refinement of the on and off times as well as the LTIoV. The staff must determine which assets will conduct reconnaissance of which NAIs.

Using our given example, we already identified that an indicator to be collected on is the willingness of the HNSF to support our occupation of the TAA. We know that both ground and aerial

PIR	NAI	NAI location	Indicators (what are you looking for?)	SIRs	Collection asset										Timings			Related to				
																		On	Off	LTIoV	DP	PIR
1	1,2		500m x 1200m	Scouts/optics, full-motion video (EO/IR)																2300		1
	1a		360-degree unobstructed field of view	Scouts/optics, full-motion video (EO/IR)																2300		1
	1a, 2a		Avoids being adjacent to higher surrounding terrain or building	Scouts/optics, full-motion video (EO/IR)																2300		1
	2b		HNSF are willing to support our occupation of the area	Scouts/optics, full-motion video (EO/IR), SIGINT, HUMINT																2300		1

Table 3. NAI development process Step 3 output.

assets can collect so we identify these as potential methods of collection. However, while aerial-reconnaissance methods such as unmanned aerial systems (UASs) -- i.e., Shadow – can observe the government building and the amount of traffic going into and out of that area, it would not actually be capable of determining the willingness of the population to support a TAA as there is zero human interaction. In this situation, based off the identified indicator, using dismounted and mounted methods of reconnaissance – such as the all-weather scout with signals intelligence (SIGINT)/human intelligence (HUMINT) (multi-functional team) capability – are the best assets and capabilities to collect the desired information.

Once the first four steps of the NAI development process is complete, the IC matrix and overlay are also complete.

Step 5: Assess risk to collection. The key output of this step is the implementation of reconnaissance management. While Step 7 of EA development rehearses operations in the EA, Step 5 of the NAI development process assesses the risk to collection. The staff looks at the completed IC overlay and matrix and determines where, if any, risks to collection exist. Then, the staff develops a plan to mitigate the risks as needed.

In our example, if a UAS was tasked to observe NAI 2b (the government building identified in Step 3), it could gather information and later cue the dismounted reconnaissance element or the SIGINT/HUMINT team to the refined location with the appropriate reconnaissance tempo.

Example summary

Throughout this article, we used a terrain-focused reconnaissance objective and the PIR of “Is Objective Red suitable for a battalion-size assembly area?” The steps we developed are:

- Step 1 of the NAI development process helped us refine our PIR into indicators of an area measuring 500 meters x 1,200 meters, with a government building in the vicinity.
- Step 2 helped us determine that scouts/optics, UAS and SIGINT/HUMINT can collect against these indicators.
- Step 3 used Step 1 and 2 to develop the actual NAI on the map, in which we determined NAI 2b was most suitable.
- Step 4 helped us assign specific assets guided by the SIR identified in Step 2 to each NAI. It also helped us understand that SIGINT/HUMINT assets are better suited for collecting against the willingness of HNSF.
- Step 5 helped us see the complete

picture and determine that if we used UAS to collect in NAI 2b, we may have to use cueing to help answer our PIR.

Had we used the current threat-focused doctrine in ATP 2-01.3’s Figure 6-8, we would never have come to the conclusion that NAI 2b was the ideal location for a battalion-size TAA, as we would have become focused on the threat that exists in the AO and not the actual terrain-based reconnaissance objective.

Conclusion

The NAI development process is a proposed methodology based on observed trends at CLC, MPCC and CTCs to address an existing gap in doctrine. Current doctrine accounts for collection that is threat-focused, but it is not applicable for terrain, infrastructure or terrain-based reconnaissance objectives. Therefore, current doctrine tends to lead toward an overabundance of irrelevant NAIs due to the lack of understanding of the relationship among PIR, indicators and NAIs.

We are proposing this simple five-step process that uses existing doctrine (IC collection overlay and IC matrix) but specifies and provides more clarity to the actual desired output. By breaking down PIR into indicators, planning for the best method of collection, determining where to collect, assigning

PIR	N A I	NAI locat ion	Indicators (what are you looking for?)	SIRs	Collection asset										Timings			Relate d to				
					Troop A	Troop B	Troop C	Raven	Prophet	HUMINT	ERT	Q-53	Q-50	Shadow	CBRN platoon	O n	O ff	LTI oV	D P	PI R		
1	1 , 2		500m x 1200m	Scouts/ optics, full-motion video (EO/IR)	X	X	X	X								R		1 5 0 0	2 3 0 0	23 00		1
	1 a		360-degree unobstru cted field of view	Scouts/ optics, full-motion video (EO/IR)	X	X	X	X								R		1 9 0 0	2 3 0 0	23 00		1
	1 a , 2 a		Avoids being adjacent to higher surroundi ng terrain or building	Scouts/ optics, full-motion video (EO/IR)	X	X	X	X								R		1 5 0 0	2 3 0 0	23 00		1
	2 b		HNSF are willing to support our occupatio n of the area	Scouts/ optics, full-motion video (EO/IR), SIGINT, HUM-INT	X	X	X	X		R								1 8 0 0	2 1 0 0	23 00		1

Table 4. NAI development process Step 4 output.

assets to collect and then assessing risk to collection, commanders and staff will ultimately ensure each NAI is properly developed.

NAIs are developed only after indicators are developed and not before. By doing this, we can narrow the actual focus of the reconnaissance operation (threat, infrastructure, terrain or society) and then draw our NAIs. This will inevitably help collection assets answer PIRs and help the commander make decisions to retain his or her position of relative advantage on the battlefield.

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Bronze Star with oak-leaf cluster, Meritorious Service Medal and the Combat Action Badge.

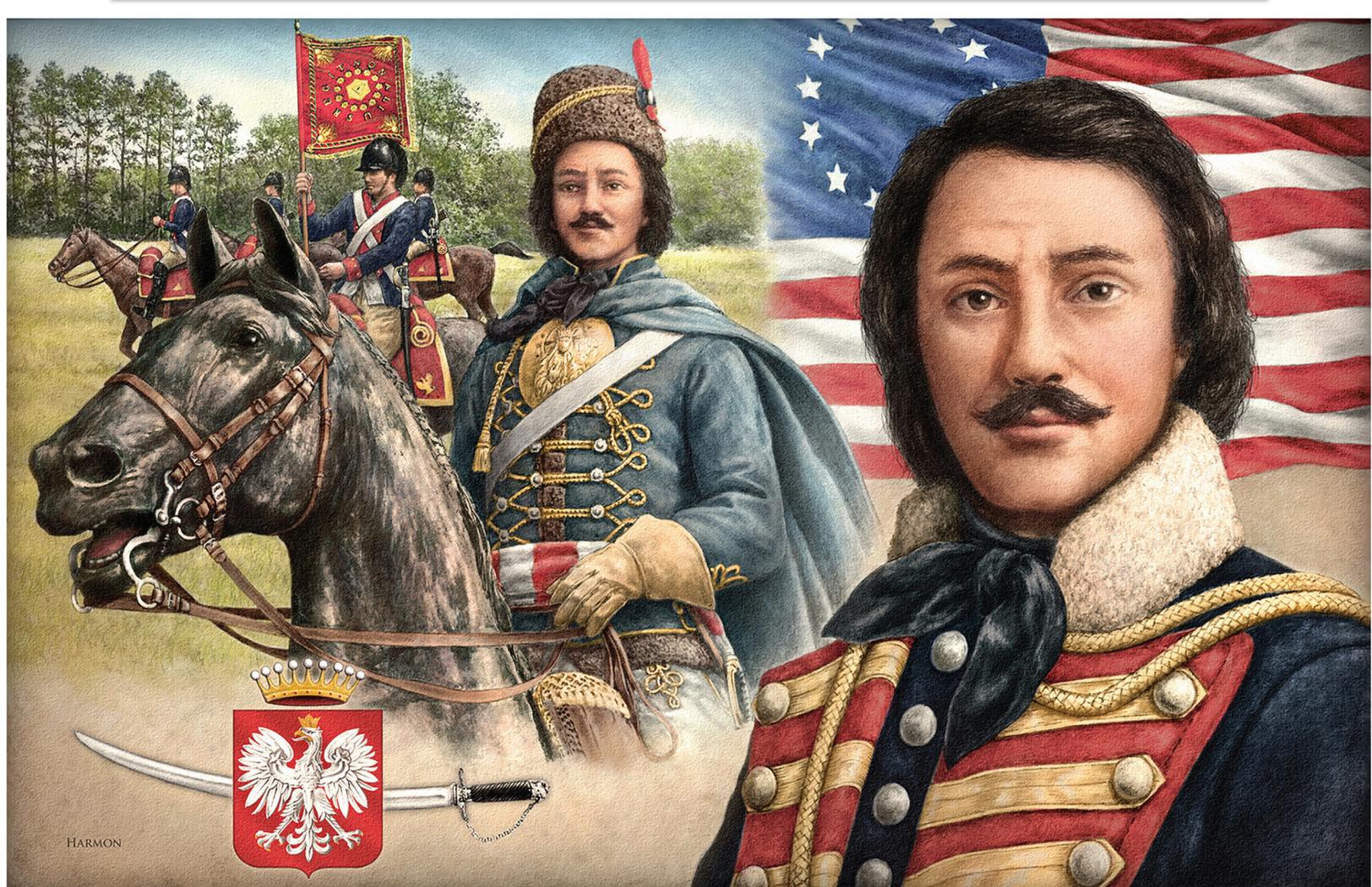
ACRONYM QUICK-SCAN

ACR – armored cavalry regiment
AO – area of operations
ATP – Army techniques publication
BCT – brigade combat team
BOLC – Basic Officer Leadership Course
CBRN – chemical, biological, radioactive and nuclear
CLC – Cavalry Leader's Course
CoA – course of action
CTC – combat training center

EA – engagement area
EO – electro-optical
FM – field manual
HNSF – host-nation security forces
HUMINT – human intelligence
IC – information collection
IPB – intelligence preparation of the battlefield
IR – infrared
LTioV – latest time information is of value

MPCC – Maneuver Pre-Command Course
NAI – named area of interest
PIR – priority intelligence requirement
R&S – reconnaissance and security
SIGINT – signals intelligence
SIR – specific information requirement
TAA – tactical assembly area
UAS – unmanned aerial system

LEGENDS OF ARMOR



BRIGADIER GENERAL CASIMIR PULASKI

“The Father of American Cavalry”

The Bar Confederation
Battle of Brandywine
Siege of Savannah

The Reconnaissance Objective: Not a Physical Location

by CPT William Watts, CPT Timothy Lee and CPT Bradley Y. Winsted II

Soldiers understand the importance of priority intelligence requirements (PIRs). The members of staffs understand the importance of mission analysis during the military decision-making process. Understanding how to link the two components is nuanced. The Cavalry squadron will not have a defined objective on the map to orient on. Orienting on the reconnaissance objective is vital in understanding the role of the Cavalry squadron in information collection.

It is essential to break down the meaning of the words in use. *Reconnaissance* is defined throughout Field Manual (FM) 3-98, **Reconnaissance and Security Operations**, and is reinforced by FM 3-90-2, **Reconnaissance, Security and Tactical Enabling Tasks Volume 2**. Throughout this article, the term is used as the mission conducted to obtain information for a commander about the terrain, threat, infrastructure or society. A commander uses the information collected during a reconnaissance mission to facilitate timely decision-making.

Army Doctrine Reference Publication 1-02, **Terms and Military Symbols**, defines *objective* as “the clearly defined, decisive and attainable goal toward which an operation is directed.” Using this definition allows flexibility, and it is the conceptual idea of why an operation is conducted. The same concept is then applied to the combination of these words.

Therefore the reconnaissance objective is not a specific location in the operational environment. “Orient on the reconnaissance objective” is a fundamental of reconnaissance, and it does not specify a specific location on the

ground. Instead, a named area of interest (NAI) orients the Cavalry squadron on a specific location to collect indicators and answer PIRs. However, the reconnaissance objective is the broader perspective of the operation and must be written as a statement.

An example is a terrain-focused area reconnaissance of a river crossing. It is not enough to say that the unit will only conduct reconnaissance of the bridge in that area, just as it is not enough to say the reconnaissance is terrain-focused. If the bridge is not there or is impassible, the reconnaissance is not complete and the commander’s endstate is not met. Instead, the commander should define the reconnaissance objective as “determine viable wet gap crossings,” which leaves the statement broad enough to allow mission command and still relay the most important result of the reconnaissance effort. The unit could miss the larger purpose of the phase or operation if the commander is too specific with the reconnaissance objective.

FM 3-98 clearly establishes that the purpose of the reconnaissance objective is to allow mission command. During mission analysis, the staff breaks down the commander’s critical information-requirement indicators and specific information requirements (SIRs) to focus those collection assets through the information-collection matrix. A direct result of the mission analysis is the development of the focus of the collection effort framed by the threat, infrastructure, terrain and/or society (see FM 3-98). Leaving the focus as a single word to define the reason for the operation is insufficient. Therefore, the staff must take one more step in analysis to develop the reconnaissance objective, which must support the commander’s endstate

and link with the PIRs. The staff can then use the indicators and SIRs to assign NAIs to focus collection during the operation.

Likewise, limiting the reconnaissance objective to a specific place limits the organization’s ability to understand the importance of reconnaissance. It is the responsibility of the commander and staff to focus the collection of information to drive informed timely decisions in the operational environment. The reconnaissance objective acts as the guiding purpose in conducting these operations and allows subordinate units to exercise good mission command while achieving the commander’s endstate. Ultimately this will establish conditions for brigades to seize, exploit and retain the initiative.

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ACRONYM QUICK-SCAN

ABCT – armored brigade combat team
ACR – armored Cavalry regiment
ARC – Army Reconnaissance Course
BCT – brigade combat team
BOLC – Basic Officer Leadership Course
CLC – Cavalry Leader's Course
FM – field manual
MCCC – Maneuver Captain's Career Course
NAI – named area of interest
PIR – priority intelligence requirement
SIR – specific information requirement

Honoring our Armor and Cavalry Medal of Honor Heroes

Derived from Center of Military History information provided at <https://history.army.mil/html/moh/civwaral.html>. Listed alphabetically. Note: Asterisk in the citation indicates the award was given posthumously.

BRUTON (BRATON), CHRISTOPHER C. CPT
 Unit: Company C, 22nd New York Cavalry. Place and date of action: Waynesboro, VA, March 2, 1865. Entered service: Riga, Monroe County, NY. Born: Unknown. Date of issue: March 26, 1865. Citation: Capture of GEN Early's headquarters flag. Confederate national standard.

BURKE, THOMAS PVT
 Unit: Company A, 5th New York Cavalry. Place and date of action: Hanover Courthouse, VA, June 30, 1863. Born: Ireland. Date of issue: Feb. 11, 1878. Citation: Capture of battle flag.

CADWELL, LUMAN L. SGT
 Unit: Company B, 2nd New York Veteran Cavalry. Place and date of action: Alabama Bayou, LA, Sept. 20, 1864. Born: Broome, NY. Date of issue: Aug. 17, 1894. Citation: Swam the bayou under fire of the enemy and captured and brought off a boat by means of which the command crossed and routed the enemy.

Improving Company Trains

by CPT Timothy Russell and
CPT Thomas Blaschke

While serving at the National Training Center (NTC), we observed that many units have little to no standard operating procedures (SOPs) for the critical sustainment actions they do every day. Battalion and company SOPs should cover a few battle drills in detail: logistics release point (LRP) operations, battalion-level resupply point procedures, logistics status (LOGSTAT) and other reports, and section/platoon sustainment actions in a tactical assembly area (TAA).

In this article, we provide some examples of battle drills, informed by

observations at NTC, to incorporate into your SOP as you see fit.

'35mm cycle' battle drill

The "35mm cycle" simply means rotating your sustainment assets and Soldiers through your sections/platoons to address critical sustainment needs in an orderly manner. The cycle addresses the need to refuel (Class III), rearm (Class V), see to Soldier medical issues and maintain combat platforms and equipment.

In Figures 1 and 2, a company is established in a TAA oriented on the direction of travel, and it maintains 360-degree security. (See Army Technical Publication (ATP) 3-90.1, *Armor and*

Mechanized Infantry Company Team, for more on "laagers" and general TAA organization.) This affords leaders the ability to retain 360-degree security or rapidly deploy to another location as needed. Depending on the amount of time available before the next operation, the commander can direct either a hasty, time-constrained or a deliberate cycle of resupply, and he issues an order with focus areas for each part of the cycle.

The "35mm cycle" model helps create efficiency and expedites actions in the TAA, ensuring everyone down to the Soldier level understands the priorities of work. At the first station, the company-level master gunner oversees

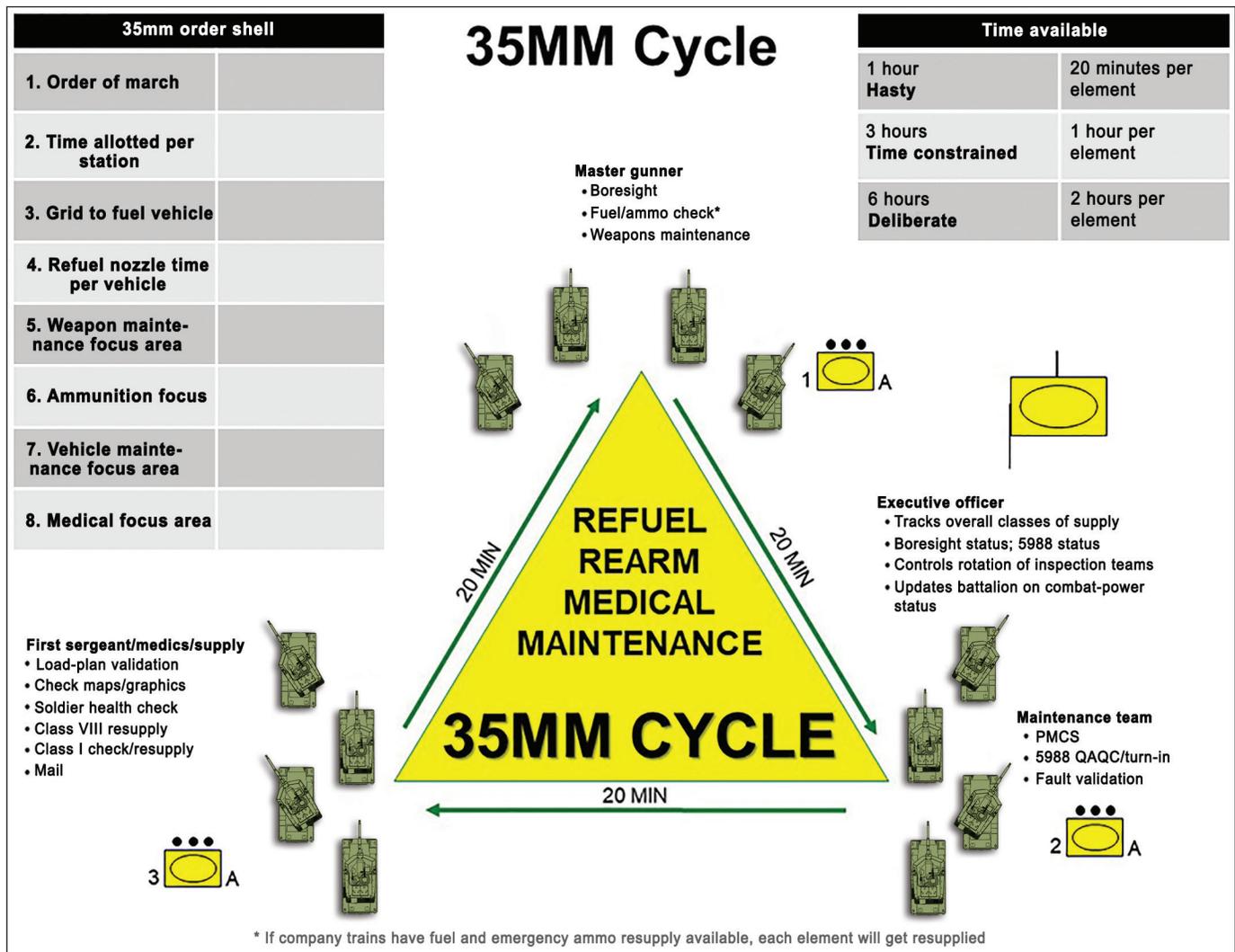


Figure 1. 35mm cycle.

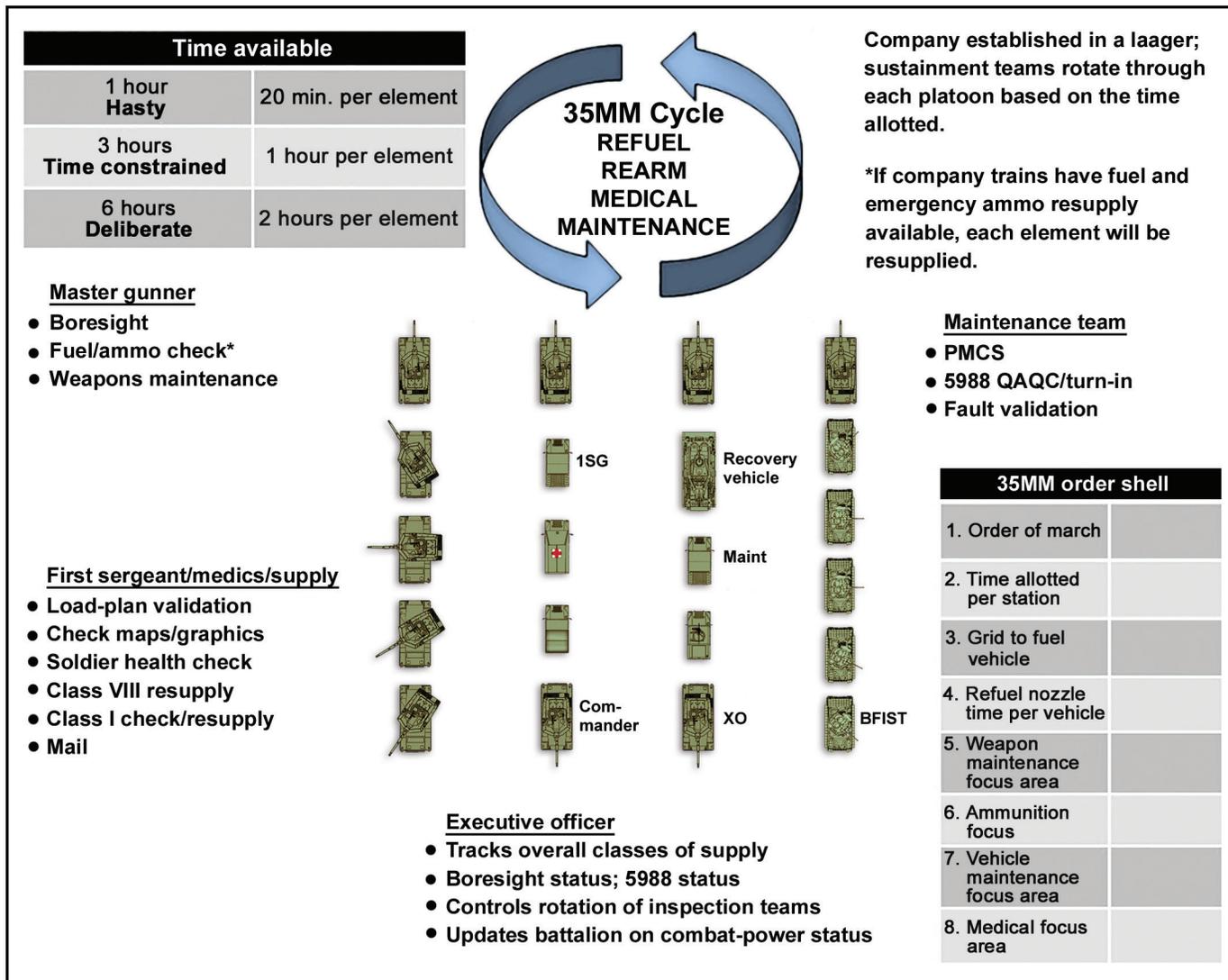


Figure 2. Tank-company laager. (Adapted from ATP 3-90.1, Figure 5-4)

boresight checks and weapons maintenance, and checks the status of ammunition of one of the platoons in the company. The master gunner will attempt to fix any weapons issues that exceed Level 10 and will document these malfunctions for submission to the company executive officer on Form 5988E. If fuel is available, then two vehicles, one section at a time, will move to the company trains for service-station refuel while the rest of the platoon is conducting weapon checks and ammo counts.

Simultaneously, at the second station, the maintenance contact team assigned to the organization will work with a different platoon to assess equipment faults and provide quality control on preventative-maintenance checks and services (PMCS). This ensures that maintenance subject-matter

experts get an opportunity to personally assess equipment issues and faults. Once complete, the maintenance-team chief provides updated 5988E equipment inspection reports to the company executive officer.

The final station is led by the company first sergeant with the support of the company medics and the supply sergeant. They use the time allotted to validate load plans, resupply Class I and execute Soldier health checks. The company executive officer tracks the overall status of the resupply operation, controls the rotation of the three inspection teams and submits an updated LOGSTAT to battalion when complete.

LRPs

Efficient, rehearsed and organized LRP are the cornerstone of battalion

logistics. A well-executed LRP allows the battalion to resupply all its formations quickly and allows the trains to resupply themselves quickly to set conditions for maximizing the battalion's operational reach. Poorly executed LRPs cause delays to maneuver operations, expose vulnerable logistics assets to enemy contact and can disrupt the entire brigade's resupply efforts. An LRP is just a point on the ground where the battalion's dispersed elements link up with its logistics package (LOGPAC), conduct sustainment actions, receive and escort its LOGPAC to its company trains/platoon bivouac and return to the LRP when complete.

At NTC we observed that LRPs are often an afterthought to the battalion's plan. It usually falls to the S-4/forward-support company (FSC) to figure out LRPs on the fly instead of as a

rehearsed battalion-level operation that is informed and planned by a deliberate military decision-making process. For example, some common problems we observed at NTC are:

- LRPs at NTC are often arrayed in a “motorpool” or “ducks in-a row” style instead of being tactically dispersed.
- Security is often minimal to non-existent.
- LRP link-ups at NTC are often confused by a lack of planning or SOPs for communications between the distribution platoon and the first sergeant/executive officer/supply sergeant, who link up at the LRP.
- The LOGPACs at the LRP aren’t marked in any way that allows vehicles to quickly identify and link in with their intended unit.
- Battalions often fail to incorporate attachments and specialty platoons (scouts/mortars) into the LRP.

The pre-LRP order is a critical step in

synchronizing the battalion LRP operation. Ideally, the S-4 will receive LOGSTAT reports, analyze them and the battalion’s operational common operating picture, and then send out the pre-LRP order four to six hours before the LRP link-up time. All subordinate units and command posts in the battalion, to include any attachments, receive the order and provide acknowledgement and confirmation or any corrections as needed.

Robust company trains

Companies at NTC have been successful using a technique we call the “robust company trains” concept. The basic concept is to simply attach logistics assets directly to the company trains. For a combined-arms battalion’s (CAB) FSC, this equates to each company’s field-maintenance team, an M978 fuel truck and an assault kitchen (AK) team. The company manages its own logistics timeline in accordance with its plan instead of a resupply schedule dictated by battalion or brigade. This is

especially helpful for the company when serving hot meals. Instead of racing the pickup and return of mermits (insulated meal containers prepared in the containerized kitchen by the FSC) at an LRP, with a four-hour window to consume, the company cooks prepare and allow Soldiers to eat in the company trains when convenient.

The average LRP at the NTC takes about six hours to complete if the fuel trucks have to go from an LRP to the company trains and back. We observed two CABs cut this time to less than 30 minutes by attaching fuel trucks to the company and then simply swapping an empty fuel truck for a full one at LRPs. The companies then had a much larger window to refuel themselves, and the distribution platoon had more time to cross-level fuel and move to link up with the brigade-support battalion to resupply themselves.

A common argument against attaching the logistics assets forward to the companies is the fear of exposing the fuel

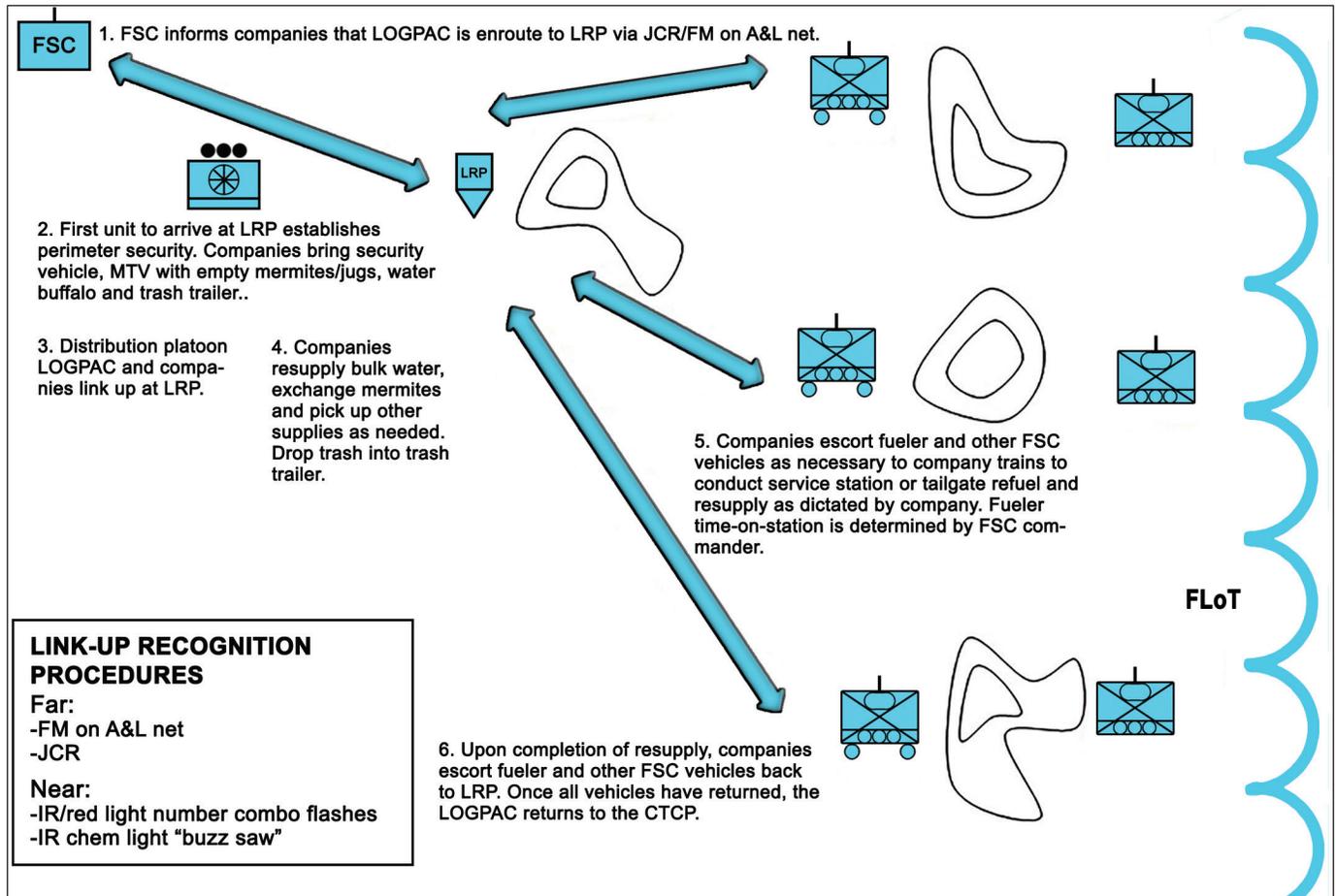


Figure 3. LRP SOP. LRP is pre-planned and centrally located behind cover/concealment. It is detailed in the battalion concept of support. Company trains are located one terrain feature from forward-line-of-troops (FLoT).

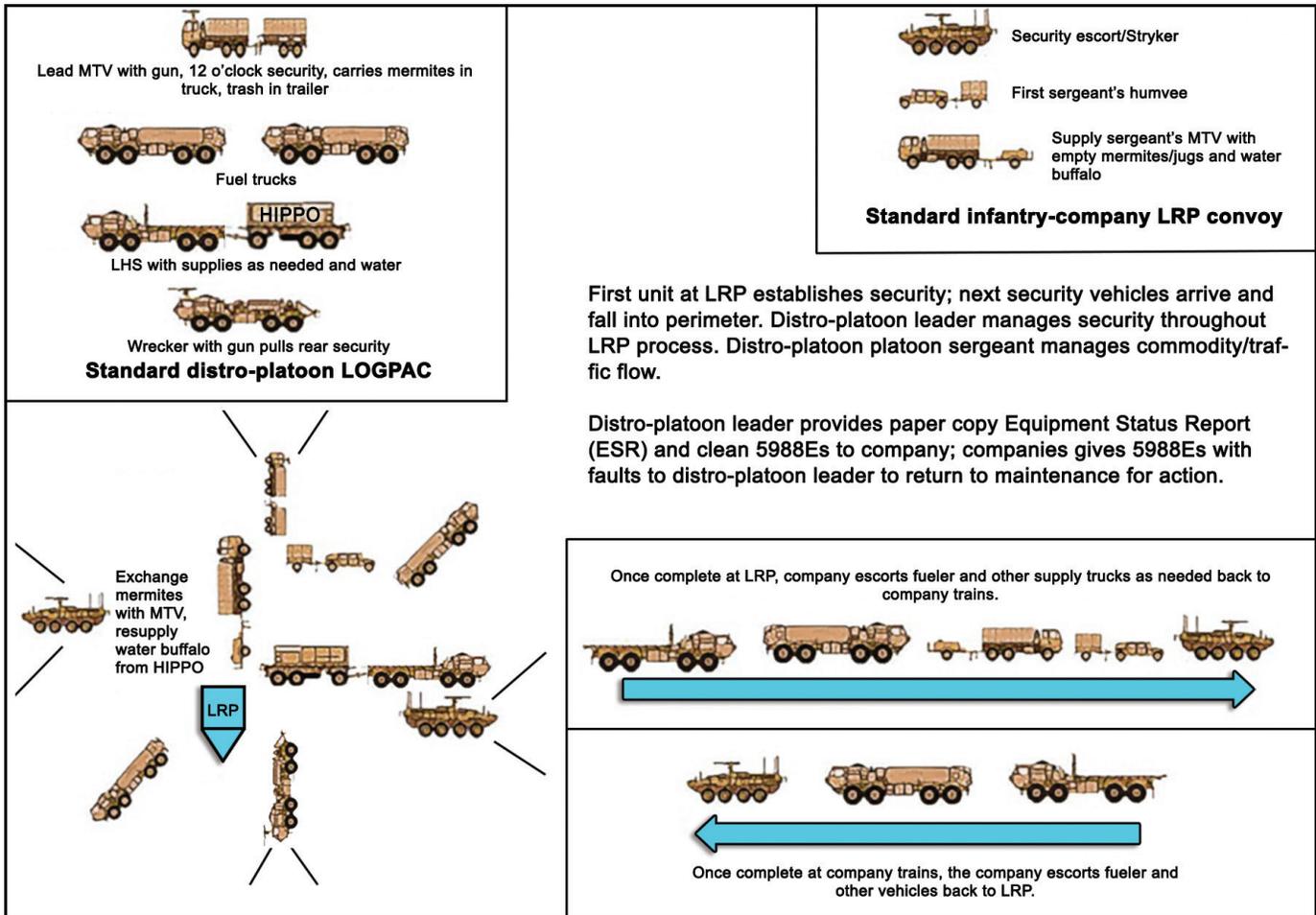


Figure 4. Stryker battalion LRP SOP and recommended LOGPAC vehicle configuration.

trucks to enemy contact. In our experience at NTC, the fuel trucks were much safer at the company trains than at the combat-trains command post (CTCP) or brigade-support area (BSA). In the two rotations we observed where fuel trucks were attached, there were zero fuel trucks destroyed by the enemy, as opposed to locating them at the BSA or CTCP, which are much larger and higher pay-off targets for enemy indirect fire and other threats.

Battalion quick resupply

When an entire battalion needs to resupply quickly, usually during a long movement or to transition from one operation to another, a refuel-on-the-move (ROM) or battalion supply point of some type is the fastest method. Like any other military operation, a ROM requires more planning and preparation than pointing a finger at a map and saying "ROM here." Disorganized ROMs can bottleneck a battalion and have the opposite of the desired effect. ROMs at NTC are usually:

- Poorly planned, with little information provided besides a grid and a trigger to activate it;
- Lack security, local or far side;
- Have no established order of march or prioritization;
- Lack guidance on fuel-nozzle time per vehicle (how long each vehicle gets at the pump);
- Have no pre- or post-resupply assembly areas established;
- Lack tactical dispersion (fuel trucks 10 meters apart or less); and
- Have no marked lanes.

The included battalion ROM order format is a simple prompt to consider the key factors when planning a ROM and coordinating an entire battalion through it; ATP 4-43, *Petroleum Resupply Operations*, has a good short chapter on further planning considerations when executing a ROM.

'Parking' fuel truck

There is one simple question we asked

units before they got to NTC that told us a lot about how well its logistics operations would likely run: "When you executed your last battalion gunnery, where did you park the fuel truck?" If the answer we got was that it was parked right next to the range, where there was a company/battalion motor-pool, we knew the battalion had probably not practiced LRPs and decisive-action logistics as well as it could have.

With that assessment in mind, we recommend that units take every training opportunity to practice LRPs and decisive-action logistics. These systems and procedures should be included as part of your training. Establish the CTCP and field-trains command post at every training event. Execute LRPs and ROMs, even if it is only for one company. Allow the sustainers to train their tactical tasks while also reinforcing the habitual support relationships with the field-maintenance teams, assault kitchens and fuel trucks with their supported companies. A few simple,

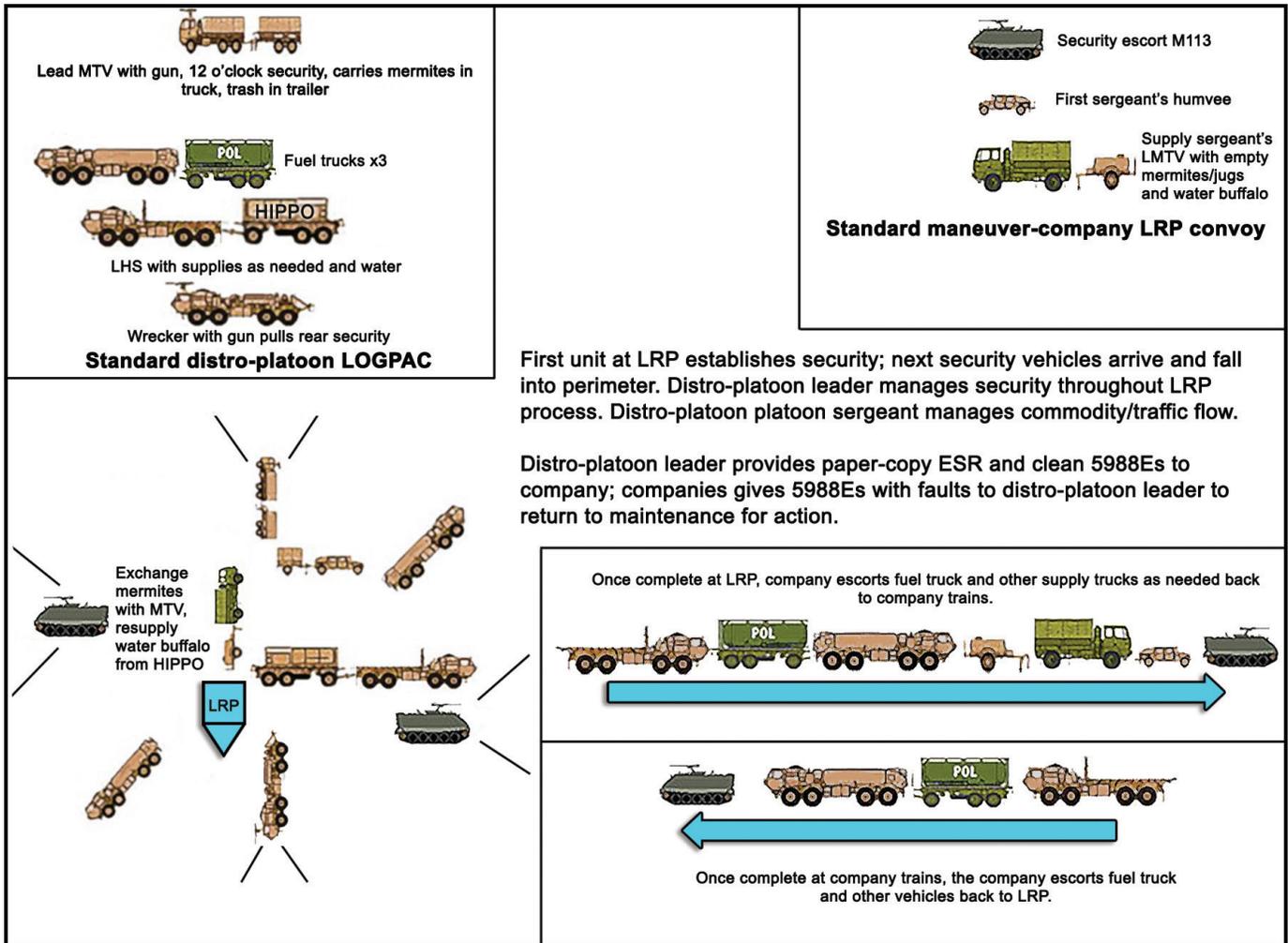


Figure 5. CAB LRP SOP and recommended LOGPAC vehicle configuration.

well-rehearsed SOPs and battle drills for logistics will buy your formation back hours of precious planning and execution time during decisive-action operations.

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ACRONYM QUICK-SCAN

- A&L – administrative and logistics
- AK – assault kitchen
- ATP – Army technical publication
- BSA – brigade-support area
- CAB – combined-arms battalion
- CTCP – combat-trains command post
- ESR – Equipment Status Report

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Battalion logistics release point (LRP) order	
1. Date-time-group for link-up:	230800JUN18
2. Primary location for link-up:	LRP 1A NV 123 456
3. Secondary location for link-up:	LRP 2A NV 123 432
4. Link-up PACE:	
a. Distro-platoon convoy cdr call sign:	Hellraiser 56
b. Distro-platoon FM net:	FH CT 123
c. Distro-platoon role names:	H501-Distro-H-4BSB, H502-Distro-H-4BSB
d. IR light-flash number combination:	7
5. Distro max time on station:	2 hours, 231000JUN18
6. Company A notes:	Responsible for scout resupply
a. Call sign:	Aztec 5
b. FM net:	111
c. JCR role names:	XO-A-2-23
d. Vehicle marking:	1x tape flag/1x chemlight on antenna
e. I(B):	200 gallons
f. I:	30x box MREs, Hot-A for 175 PAX including scouts
g. III(B):	800 gallons
h. III(P):	5 gallons 15/40, 1 quart
i. IV:	20x roll C-wire, 10x long picket
j. V:	10x Javelin, 10x 120mm HE, 1000x .50-caliber
k. IX:	A21 HMS sensor, A34 hyd line
l. Miscellaneous:	10x box IR chemlights

Distro net should be primary net for LRP operations

Used for recognition. First party flashes 3 times, responding party flashes 4 times

Any special instructions for the unit

Call sign of leader who is linking up with LRP

Identifying marks on the LOGPAC vehicles for the unit. Recommend numbers of chemlights/tape, not colors

Always include precise quantities and units of measurement for all classes of supplies

Include lines 6a through 6l for all units, including scouts, mortars, command posts and any attachments that aren't resupplying with a specific company

Figure 6. Battalion LRP order.



Assault kitchen

Assault-kitchen team, 2x 92G cooks, provide hot meals for up to 250 Soldiers in the company area; can cook on the move. UGR-heat-and-serve rations stored in supply sergeant's LMTV, resupplied by cross-load at the battalion LRP.



Field-maintenance team

M978 fuel truck with tank-rack module on M1076 trailer. Provides 5,000 gallons of fuel capacity, about one day of supply for a tank company. Resupplied by swapping empty system for full system at battalion LRP.



M1077 PLS and trailer with forward repair system (FRS), with tools and parts for the assigned company. Resupplied by cross-load at the battalion LRP.



M88A2 for recovery and extra lift asset.



Contact truck with tools.

Figure 7. The 'robust' CAB company trains concept.

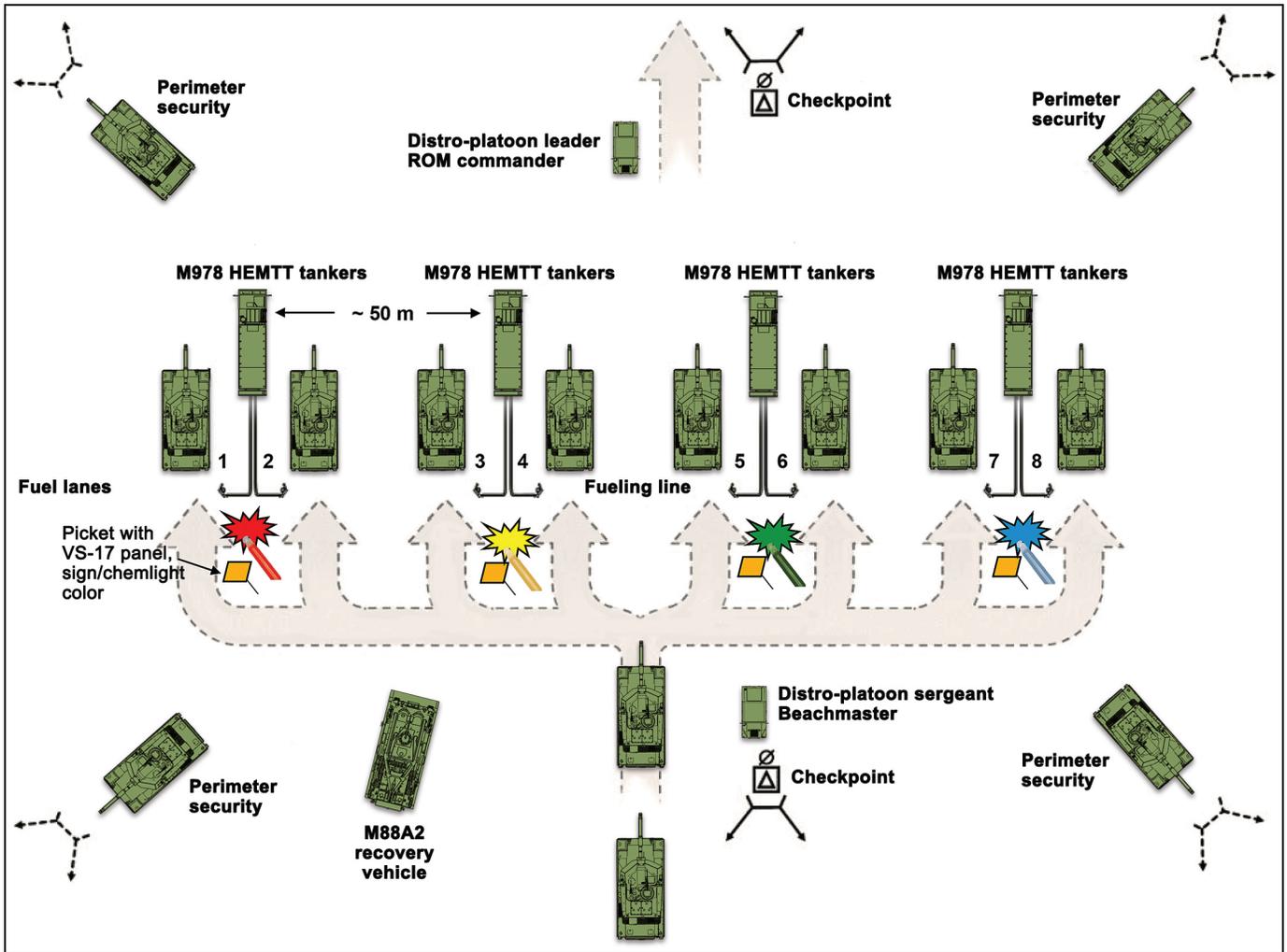


Figure 8. Battalion ROM. (Adapted from Figure 4-5 in ATP 4-43, *Petroleum Resupply Operations*)

1. Order of march	Scouts, Company B, Company A, Company C, mortars, tactical-operations center
2. Nozzle time per vehicle	4 minutes
3. ROM entry-point grid	NV 1234 5678
4. ROM beachmaster call sign	Hellraiser 57
5. ROM beachmaster FM net	FH CT 123
6. ROM beachmaster role name	H502-Distro-H-4BSB
7. Pre-ROM TAA instructions	Company A, NV 124 5370 Oriented NW; Company B ...
8. Post-ROM TAA instructions	Company TAA at NV 121 567, move to objective once consolidated
9. Security platoon	1/Company C until complete, then fuel and join company
10. Lane marking	Left to right, #1 - #8, picket with VS-17 panel and # of chemlights
11. Additional supplies guidance	Class V Javelin available, 200 meters past ROM lane, NV 1236 5679
12. ROM instructions	Contact beachmaster, take commands from them before entering

Table 1. Battalion ROM/supply point order.

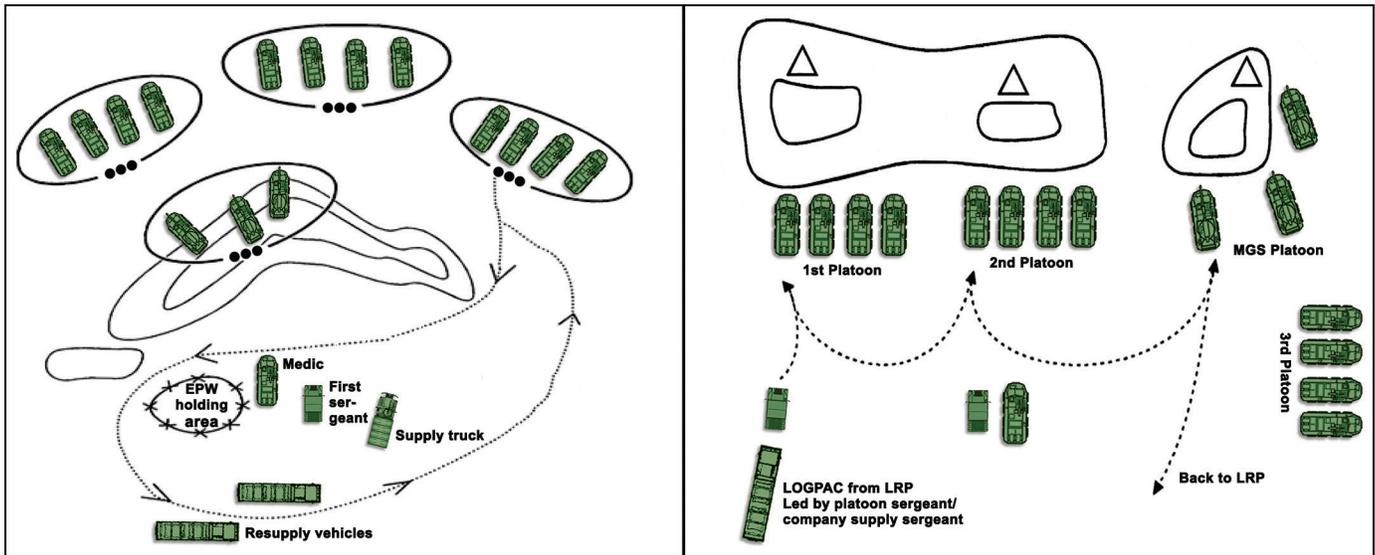


Figure 9. Three tactical methods of resupply. The method of resupply is chosen by the unit being resupplied based on the tactical situation. Shown on the left, the service-station method. Vehicles move individually or in small groups to a centrally located resupply point. Depending on the tactical situation, one vehicle or section – or even an entire platoon – moves out of its position, conducts resupply operations and then moves back into position. This process continues until the entire company has been resupplied. In using this method, platoons, sections or individual vehicles enter the resupply point following a one-way traffic flow. Advantages: it is faster and poses less risk for LOGPAC vehicles. Disadvantage: this method removes combat power from the line. Right, tailgate method. This method of resupply is normally used only in assembly areas. Vehicles remain in their vehicle positions or back out a short distance to allow trucks carrying supplies to reach them. Squads, fire teams, machinegun teams or individual vehicle crews rotate through the feeding area, pick up mail and sundries, and fill or exchange water cans. Advantages: it keeps combat power on the line. Disadvantages: it is slower and poses more risk to LOGPAC vehicles. Not shown, the modified-tailgate method. This is a combination of the service station and tailgate methods. For example, the fueler performs tailgate, and an ammo truck brings ammo to a central company issue point.

ACRONYM QUICK-SCAN (CONTINUED)

FLoT – forward-line-of-troops
FM – frequency modulation
FRS – forward repair system
FSC – forward-support company
HE – high explosive
HEMTT – Heavy Expanded-Mobility Tactical Truck
HIPPO – nickname for the M105 Load Handling System-compatible water-tank rack
IR – infrared
JCR – Joint Capabilities Release
LHS – M1120 Load Handling System

LMTV – Light Medium Tactical Vehicle
LOGPAC – logistics package
LOGSTAT – logistics status
LRP – logistics release point
MRE – Meal-Ready-to-Eat
MTV – Medium Tactical Vehicle
NTC – National Training Center
PACE – primary, alternate, contingency, emergency
PAX – personnel
PLT LDR – platoon leader
PLT SGT – platoon sergeant

PLS – Palletized Loading System
PMCS – preventive-maintenance checks and services
POL – petroleum, oil and lubricants
QAQC – quality assurance/quality control
ROM – refuel-on-the-move
SBCT – Stryker brigade combat team
SOP – standard operating procedures
TAA – tactical assembly area
UGR – unitized group rations

40TH CAVALRY REGIMENT



The monstrous, awe-inspiring, ferocious-appearing dinosaur, with its scaly armored hide and dangerous tail capable of destroying everything in its path, is symbolic of the destroying functions of the organization, which is further enhanced by the flaming sword, representative of the zeal of the personnel in the performance of their duties. The distinctive unit insignia was originally approved for 40th Armored Regiment Jan. 9, 1943; redesignated for 40th Tank Battalion Nov. 22, 1943; redesignated for 40th Armor Regiment March 27, 1958; and redesignated for 40th Cavalry Regiment effective Oct. 16, 2005.

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