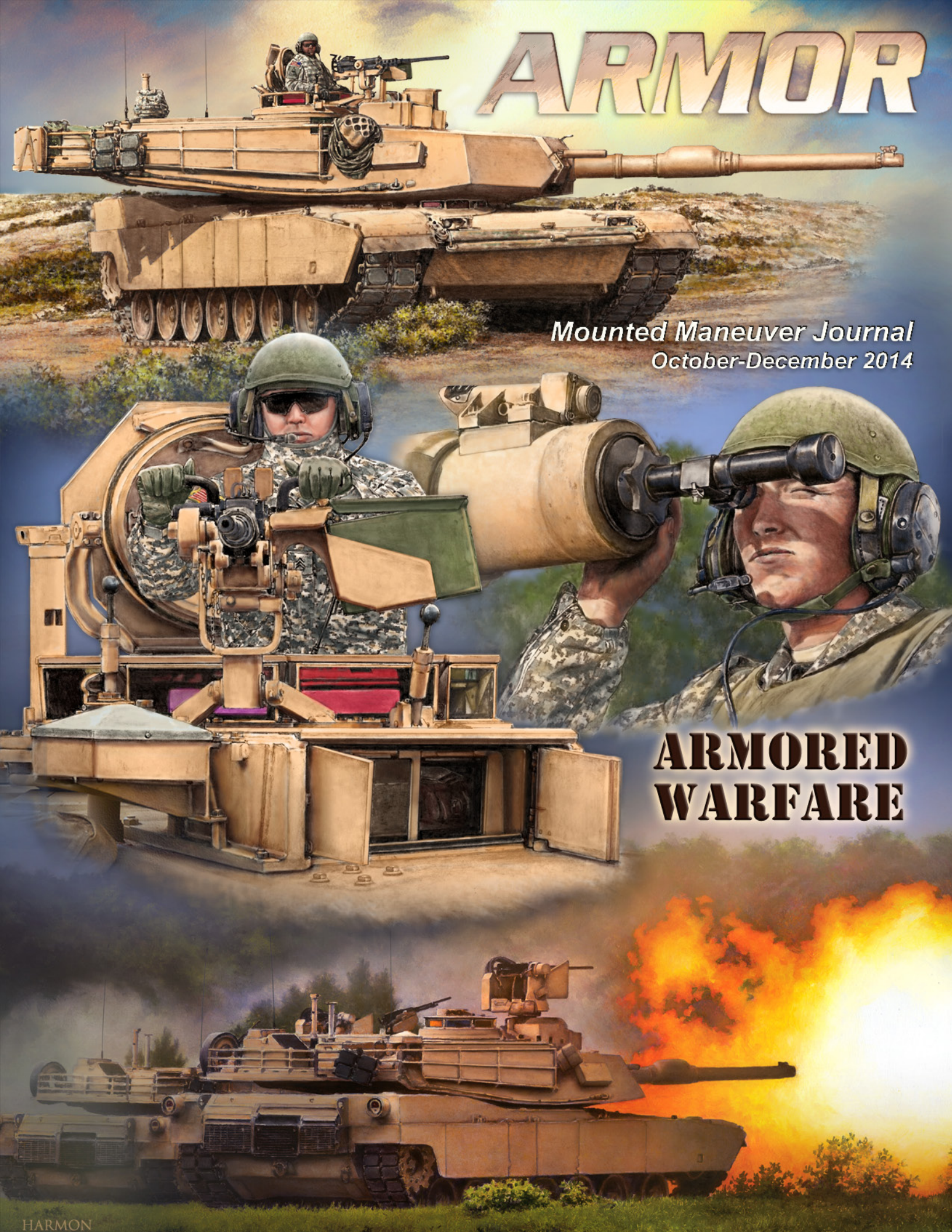


ARMOR

Mounted Maneuver Journal
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**ARMORED
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ARMOR

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CHIEF OF ARMOR'S HATCH

BG Scott McKean
Chief of Armor/Commandant
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Increasing Our Momentum

It's my distinct honor and privilege to serve as the 49th Chief of Armor. We are approaching our 75th year as an armored force, as our foundation was established July 10, 1940, at Fort Knox, KY. We are again at a pivotal time as we transition out of 13 years of conflict and are faced with ongoing situations in the Middle East, Europe and the Pacific. The need for our armored force is increasing and is placing a premium on formations highly capable in decisive-action environments. The great work being done at our combat training centers is helping us regain our core fundamentals, but we must increase our momentum. This edition of **ARMOR** contains many thought-provoking manuscripts discussing armored warfare, and I encourage our readers to reinvigorate their interest in our continued efforts to Forge the Thunderbolt!

Regardless of the mission or the challenges of the environment, Armor and Cavalry Soldiers and leaders must remain well-trained, -led and -equipped, and possess the skills and knowledge to close with and destroy the enemy using fire, maneuver and shock effect. It is important that we recognize this – not as a parochial statement, rather as a capability we bring as part of the combined-arms team. We only need to look at the Israeli experience in 2006 to see the effects of a force

that allowed their mounted decisive offensive-maneuver skills to atrophy. They regained these skills by focusing on their fundamental tasks and getting as many repetitions through intensive training.

The cornerstone of armored-warfare fundamentals are set in our ability to shoot, move, communicate and sustain. These skills are manifested in our gunnery programs, knowledge of sustainment operations and what I call "fighting from the hatch." The following descriptions are meant to stimulate thought on how to achieve mastery of armored force decisive-action fundamentals that many organizations have already embarked on.

- **Gunnery:** Proficiency in conducting gunnery operations has deteriorated due to stability-focused operations. We must place a premium on leaders becoming proficient in planning and training gunnery densities from small arms through "big bullets" and on unit standardization through gunnery standard-operating procedures and sabot academies. We must fight to conduct two gunnery cycles per year to build our competencies and maintain our skills. In concert with our gunnery frequency, we must emphasize battle-rosster stability and keep tank commander / gunner combinations

together. Too often in the past, we have succumbed to personnel demands that disrupted unit readiness leading up to gunneries and, as importantly, training exercises. Finally, we must invest in our master-gunner program, get our very best noncommissioned officers (NCOs) to the Master Gunner Course and provide them the appropriate amount of time in position to develop the expertise within the formations.

- **Sustainment:** Sustainment operations are the lifeblood of armored warfare, and we must master the art and science of sustaining continuous operations. The impact of forward operating base (FOB)-based operations depleted the armored force's knowledge of essential skills in maintenance, logistic estimates and planning. Examples of areas in which to focus our efforts are understanding the difference between a refuel-on-the-move vs. a refuel operation; how to conduct unit maintenance collection point operations; and establishing required supply rates or controlled supply rates for ammunition. The Armor School – in concert with Combined Arms Support Command – is leading an effort to establish a Maneuver Leaders Maintenance Course to develop

the requisite knowledge in our maneuver force.

- **Fighting from the hatch:** Armored warfare is characterized by high-tempo operations through the depth of an area of operations. Synchronization of fires and enablers is constantly assessed and demands an ability to visualize, assess and direct an immense amount of information and activity from the “turret.” FOB-based operations created an Army experienced in stability operations; however, we have fostered an environment of independent operations governed in many instances by the infamous one-page concept of operations at the expense of good troop-leading procedures. The ability to issue a fragmentary order “over the net” is not a skill we practice often, but it will be re-introduced at the Maneuver Captain’s Career Course and Armor Basic Officer Leadership Course. Command-and-control is a fundamental task that mounted leaders must master that only comes through training and experience – we must fight for as many “reps” as we can get.

The armored force is well postured to

regain a mastery of decisive-action fundamentals because of our great leaders’ willingness to learn. Leadership is what will always decide the day, and your commitment to unit, Soldier and self-betterment will make the difference on the next battlefield. I’m very encouraged and confident in our way ahead because of the great young officers and NCOs I see leading our Soldiers every day.

There are ongoing discussions on how to posture formations to maintain overmatch with respect to organizational structures, equipping, manning and the vehicle platforms necessary to accomplish a dynamic mission set. In future Hatch articles, I will describe initiatives and force-design updates on the horizon. CSM Michael Clemens and I will be visiting units and combat training centers to ensure we hear from you and what we can do to continually improve our battle position!

Finally, I wish to pass on my sincerest condolences for the passing of great two Armor leaders: retired LTC Burt Boudinot and retired CSM Don Devine. Until we meet again on Fiddler’s Green. ...

Forge the Thunderbolt! Treat ‘Em Rough!

Acronym Quick-Scan

FOB – forward operating base

NCO – noncommissioned officer

In Memoriam: COL J.W. Thurman

The Armor and Cavalry community lost a legend Feb. 24, 2015, as retired COL Jerry W. Thurman passed away in Elizabethtown, KY, at age 68.

A Distinguished Service Cross recipient from Vietnam, "J.W." led with an unmatched passion for Soldiers and an undaunted love of Soldiering.

An outpouring of sentiments came from many current and former leaders, clearly indicating the impact Thurman had across the Army.

"One of COL J.W. Thurman's most notable and lasting accomplishment is the mark he made at the Armor School, where his inspired leadership was instilled in a generation of officers and [noncommissioned officers]," said BG Scott McKean, current Chief of Armor.

"J.W. was a giant among us with a big heart for Soldiers and an irrepressible fierce will to win," said retired GEN Fred Franks. "He lived that legacy, touching us all, and leaves it now for this and future generations to continue."

Thurman enlisted as an infantryman in 1966 and was commissioned as an artillery second lieutenant in May 1967 after graduating Officer Candidate School. Thurman completed Rotary Wing Aviation School and subsequently deployed to Vietnam in 1968, where he served as aviation section commander of 2nd Squadron, 11th Armored Cavalry Regiment, part of the legendary Blackhorse Regiment.

"As a peer I watched J.W. often with awe," said retired GEN Montgomery Meigs. "(He was) scrappy, wonderfully humorous, able to get the absolute most out of his people, a Soldier whose tactical and operational instincts and awareness I admired. J.W. was that kind of leader you always wanted on your side. If he gave you a negative spot report, you'd better listen."

While deployed to Vietnam, Thurman frequently demonstrated extraordinary heroism in action while conducting reconnaissance missions. Thurman was awarded the Distinguished Service Cross for his actions Dec. 30, 1968, when he and his crew were ambushed

on the ground after landing to secure enemy prisoners. According to his citation, he "signaled his co-pilot to take off in the helicopter so it would not be hit by enemy rounds." Armed with a pistol, he continued to engage the enemy on the ground until reinforcements arrived. Once he secured a landing position, "he and his crew returned to their ship, from which they continued to provide covering fire and aerial observation for the ground troops," landing two more times to evacuate casualties.

Thurman also received two Distinguished Flying Crosses, the Air Medal with "V" Device, the Bronze Star, the Purple Heart with two oak-leaf clusters and the Vietnamese Cross of Gallantry with Palm while serving with the Blackhorse regiment in Vietnam.

"I join all the Armor leadership in saluting this courageous warrior," said Duke Doubleday, civilian aide to the Secretary of the Army. "We were bound together as young Blackhorse lieutenants in 1968-69 and remained close thereafter. His legacy has been deeply felt across the years, and he'll be cherished by all who knew him."

Thurman transferred to the Armor Branch in 1971, where he served in many command and staff positions, including commander of 3rd Squadron, 12th Cavalry Regiment, in Germany from 1984 to 1986. In 1987, Thurman was assigned to the Armor School at Fort Knox, where he became the chief of tactics.

"I was convinced when he was in charge of lieutenant training at Knox that if he jumped in the Ohio River, the entire class of lieutenants would have jumped in after him," said retired MG Tom Tait, a former Chief of Armor. "He



was one of a kind and will not be forgotten."

Among his lasting achievements at the Armor Center was the development of the Scout Platoon Leader's Course. Now known as the Army Reconnaissance Course, it remains a premier training course for all Cavalrymen. Today, the top graduate from each ARC class receives the J.W. Thurman Award. Thurman is also a member of the Field Artillery Officer Candidate School Hall of Fame at Fort Sill, OK.

Thurman was laid to rest Feb. 27 at Kentucky Veterans Cemetery-Central in Radcliff, KY, with full military honors. In attendance were several fellow Vietnam Blackhorse veterans and other senior Army leaders.

"One of my earliest memories of the Army was COL Thurman holding court at Fiddler's Green during our Armor Officer Basic welcome social," said COL Patrick Donahoe, Maneuver Center of Excellence chief of staff. "I was in a throng of young lieutenants gathered

around this big gruff man spinning stories of life in the Cavalry. We were enthralled. While entertaining us with war stories of Vietnam and pseudo-war stories of the East-West German border, he was all along passing on lessons of leadership.”

Survivors include his wife, Donna Thurman of Elizabethtown; daughter and son-in-law, Jerri Christine and Christopher Berry of Palm Coast, FL; son and daughter-in-law, Commander James Patton and Beth Thurman of Fort Worth, TX; brother and sister-in-law, retired GEN James D. and Dee Thurman of Salado, TX; four grandchildren: Justyn Christine Berry, Austyn Nicole Berry, William Porter Thurman and James Gray Thurman; two great-grandchildren; the mother of his children, Ellen Hack of Palm Coast, FL; brother-in-law, Bruce Johnson of Elizabethtown; and two nieces, Jaime Brown of Fort Riley, KS, and Laura Johnson of Elizabethtown.

“(Thurman was) a great Soldier with the heart of a lion for the enemies of our country and big enough to love his troops and comrades,” said retired GEN Gordon Sullivan, a former chief of staff of the Army.

Condolences may be expressed at www.nebfh.com.



J.W. Thurman, foreground, in Vietnam with 11th Armored Cavalry Regiment.

GUNNER'S SEAT

CSM Michael Clemens
Command Sergeant Major
U.S. Army Armor School



'If the Tanks Succeed, Then Victory Follows'

(Quote by Heinz Guderein)

Combined-arms maneuver remains a core competency of our Army today, much as it has been since the development of "AirLand Battle" in the early 1980s. Central to this competency is the Armor Branch and its noncommissioned officers who, since the early days of 1918, have provided the backbone of the Armor Corps. The NCO's leadership in combat, mastery of his platform and ability to train are what, time and again, has allowed the tanks to succeed and victory to follow. No Soldiers better epitomize the tenets of initiative; understanding through action, mobility, endurance and adaptability; or better demonstrate the ability to thrive in environments of uncertainty and danger than U.S. Army tankers.

Stories of the valor and leadership of Armor NCOs are many but well illustrated by the example of two sergeants in 761st Tank Battalion of World War II fame, where two incidents happened within a week of each other. In the first, SSG Ruben Rivers was awarded the Medal of Honor posthumously for unusual heroism while serving with Company A, 761st. "For extraordinary heroism in action [Nov. 15-19], 1944, toward Guebling, France. Though severely wounded in the leg, Rivers refused medical treatment and evacuation, took command of another tank and advanced with his company in Guebling the next day. Repeatedly refusing evacuation, Rivers continued to

direct his tank's fire at enemy positions through the morning of [Nov. 19], 1944. At dawn, Company A's tanks began to advance toward Bourgaltruff but were stopped by enemy fire. Rivers, joined by another tank, opened fire on the enemy tanks, covering company A as they withdrew. While doing so, Rivers' tank was hit, killing him and wounding the crew. Rivers' fighting spirit and daring leadership were an inspiration to his unit and exemplify the highest traditions of military service."

In the second incident, tank commander SGT Warren G.H. Crecy came to the aid of his men Nov. 10, 1944, and fought through enemy positions until his tank was destroyed. He eliminated an enemy position that had knocked out his tank by commandeering a vehicle armed with only a .30-caliber machinegun. He then eliminated the German forward observers who were directing artillery fire on U.S. positions. After manning a replacement tank, Crecy's new vehicle lost traction in heavy mud, and he was forced to exit the tank under fierce machinegun, antitank and artillery fire to free the tracks. When attacked by German infantry, he had to abandon his salvage efforts to man the .50-caliber machinegun, effectively holding off the advancing enemy, then forcing them to withdraw. Described as a babyfaced, "quiet, easy-going, meek-looking fellow," Crecy had destroyed an antitank position and a number of German machinegun positions, armed

only with a machinegun and without regard for his personal safety under heavy fire. His men reportedly experienced difficulty getting the machinegun away from him after the action. Crecy was nominated for the Medal of Honor and received a battlefield commission, eventually retiring with the rank of major.

These two NCOs made a lasting contribution, not only to 761st Tank Battalion but to Armor history as well.

Armor NCOs have always been recognized as the expert in not only fighting their own tank but also the formation they are a part of. They know everything about everything it takes to keep that formation running and make it successful. In Ralph Zumbro's book, **Tank Sergeant**, there are great examples of this during combat operations by 69th Armor in Vietnam. First is an example of overcoming maintenance issues. With an infantry company in contact and its commanding officer requesting tank support, the M48 tankers only had two tanks not already committed. One tank could shoot but didn't run, and one tank could drive but not shoot; so like any good NCO would, they solved the problem with the "runner" towing the "shooter" into the firefight and getting the job done.

Second was how tankers adapted to support U.S. Navy riverine operations. While occupying a defensive position for the night, the tank platoon was contacted by a Navy patrol that had

been pursuing enemy sampans. The platoon quickly came to life and moved into position to start scanning from the shore and intercepting the enemy. Using the infrared mode on their searchlights to scan, they quickly located the enemy boats, waited until they entered the engagement area, switched to white beams on the searchlights and destroyed six enemy sampans in a matter of moments.

Certainly, the Vietnam-era tankers of 69th Armor provide great illustrations of how the expertise of NCOs can adapt to any situation and make a unit thrive.

Lastly, the tanker NCO is the consummate trainer. The tank master-gunner

program best illustrates this. Since 1974, the master gunner has exemplified how to train individuals, teams and units in both the institutional and operational Army. This program flourished through the 1980s and 90s, and could arguably be credited with the success of units on the battlefield during the invasions of Kuwait and Iraq in Operation Desert Storm and Operation Iraqi Freedom. The master gunner spearheads our unit-gunnery programs now as we seek to redevelop skills that support the Army's core competencies. The *Fort Carson Mountaineer* recently published an article highlighting the achievements of SSG Gregory Hennon who, as a sergeant, served as the battalion master gunner

and was charged with creating the battalion's gunnery tables that would train and certify every M1A2 crew in the unit while deployed to Kuwait.

Again, this exemplifies how NCOs, given responsibility and empowered by their leadership, will execute superbly and cause a unit to succeed.

In closing, the U.S Army's Armor Corps is the combat arm of decision. The NCO Corps is what has historically allowed it to be so and, what through leadership, expertise and ability to train, will provide the forge the future of the armor force will be built on.

Forge the Thunderbolt!



Soldiers from 761st Tank Battalion cross the Seille River in France Nov. 9, 1944. (U.S. Defense Department photo)

A 69th Armor tank crew rests on Highway 1 near Tam Quan, Vietnam, in late 1968.



BLACKHORSE PERSPECTIVES

Success at the National Training Center: Security Operations

(Editor's note: This new column in *ARMOR* magazine is provided by 11th Armored Cavalry Regiment to inform maneuver units what the best practices for success are when deploying to the National Training Center for their rotations.)

by MAJ Carl K. Quinlan,
CPT John A. Piccione and
CPT Clyde J. Daines

The brigade tactical group (BTG) S-3 watched as the main effort executed a flawless forward-passage-of-lines through Siberia, then John Wayne Foothills, then breach at Whale Gap.

He had a half-smile on his face, happy that the plan worked and the BTG was successful. He reflected on the successful zone reconnaissance the recon executed and how it contributed to the successful breach. He thought of many previous operations and how their result depended on security operations in both the offense and defense.

The 1st Squadron, 11th Armored Cavalry Regiment (ACR) conducted a review of security operations during decisive-action rotations in 2014 at the National Training Center (NTC) from three perspectives: conventional forces,

guerrilla forces and paramilitary operations. The initial purpose of the review was to improve our core competencies and increase our lethality in preparation to train Brigade Combat Team (BCT) 2020 forces. BCT trends were observed, analyzed and discussed. It became apparent during this effort that the Blackhorse Regiment has a unique perspective and that we should strive to be good teammates to the force by sharing our analysis. In this particular review, 1/11 ACR focused on how security operations enable success at NTC. This article offers a way to execute security operations

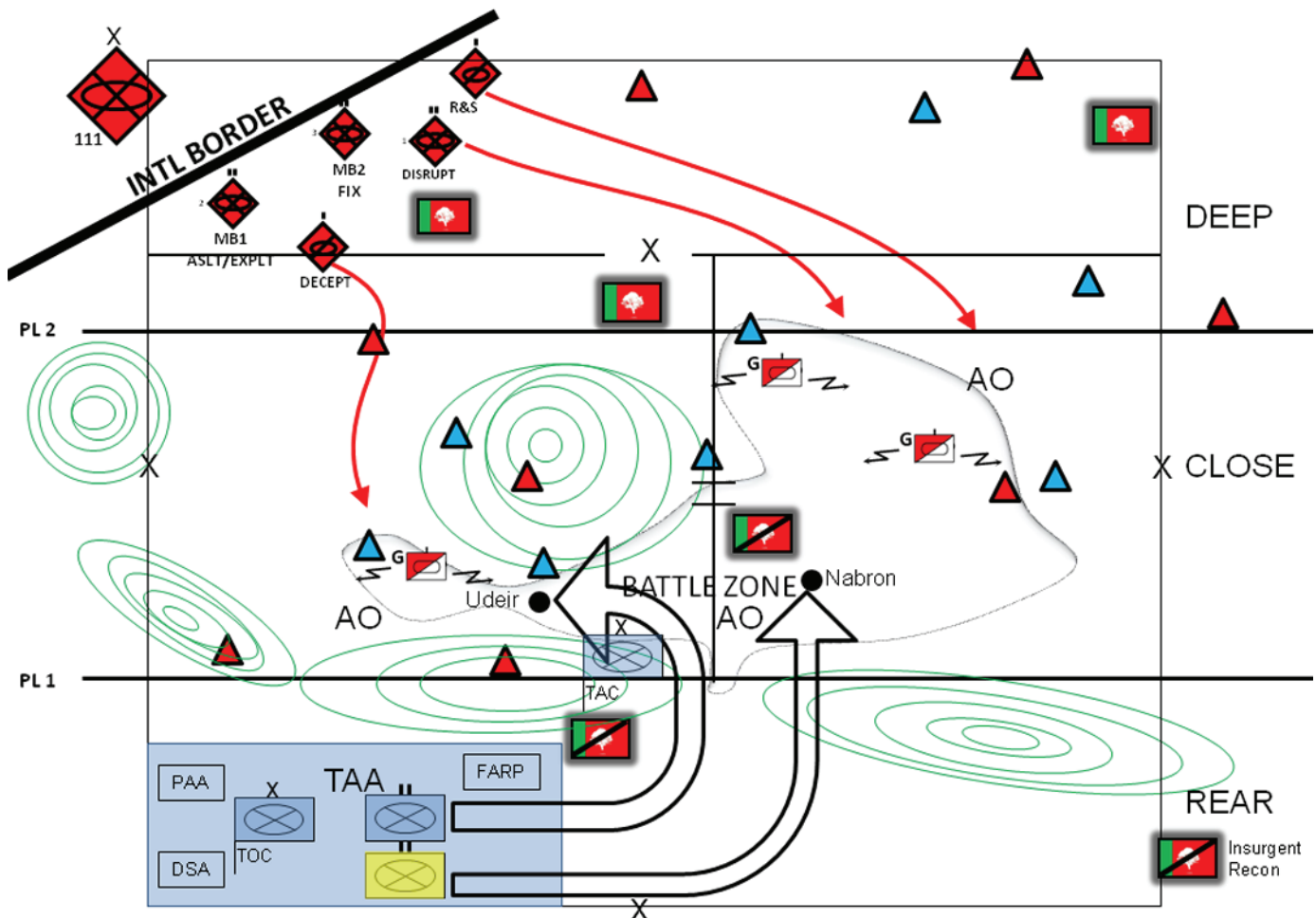


Figure 1. Blackhorse security operations.

and provides more references for further study.

Successful security operations enable the decisive operation in several ways. They limit opposing-force (OPFOR) observations, limit OPFOR reporting and fires, and deny OPFOR key terrain. Units are successful if they plan, prepare and execute security operations using all elements and not relegate this function to the cavalry squadron and scout platoons. Security operations must be executed in the area of operations (AO) from start to finish of the operation to achieve a screen.

As defined in Army Doctrinal Reference Publication (ADRP) 3-90, security operations are “operations undertaken by a commander to provide early and accurate warning of enemy operations, to provide the force being protected with time and maneuver space.” The intent of security operations is to protect the front, flanks or rear of the friendly force, and ultimately afford commanders with the freedom to plan, resource and execute operations without enemy interdiction or surprise. Refer to ADRP 3-90 for details on the five security tasks of *screen*, *guard*, *cover*, *area security* and *local security*. This article narrows the scope to area and local security.

The scenario provided depicts the security challenges a BCT faces against the BTG (OPFOR) at NTC. Both units are executing a movement-to-contact in the area of NTC called Siberia near Mount Tiefert. One of the keys to success for the BCT in this scenario is execution of local security because it faces the additional challenge of a guerrilla presence in the AO.

Local security

Local security is defined as a relatively low-level but vital task intended to protect friendly positions from enemy actions on that position. Local security is required by all echelons and is a continuous effort to prevent enemy surprise and enemy reconnaissance from detecting the intent of friendly maneuver forces. Failure to conduct local security allows a guerrilla force freedom of movement through the unit’s security area. The guerrilla force executes reconnaissance operations – with as few as four individuals and two

unmarked civilian vehicles – to provide timely and targetable compositions and dispositions to their higher headquarters. The result is execution of lethal action on high-value and high-payoff targets.

Successful units empower platoons and squads to execute local security as a continuous priority of work. This security task requires platoon- and company-level leadership enforcement of fundamental security measures, including the use of camouflage, noise and light discipline, employment of local observation posts, execution of local security patrols and standardized “stand-to” times integrated into a consolidated security plan. Also, all Soldiers require a basic knowledge of the operational environment (OE), which facilitates a broader understanding of the current threat picture and allows individual Soldiers to recognize potential security risks.

In this scenario, the BCT addresses local security through a clear statement of intent from the commander. The BCT commander directs the maneuver forces, enablers and supporting units to execute local security in their tactical assembly area (TAA). Each subordinate unit is responsible for executing patrols to deny guerrilla and special-operations forces the ability to conduct unrestricted area recon on the BCT TAA. The BCT assigns more local security forces from their maneuver units to secure critical assets necessary for mission success, such as position areas for artillery and Q36/37 radars. The BCT also plans to move its mission-command nodes and critical assets every 48-72 hours to make targeting difficult by reconnaissance assets.

Area security

Area security is defined in ADRP 3-90 as a “security task conducted to protect friendly forces, installations, routes and actions within a specific area.” Protected areas range from specific points within an AO such as intersections, to key terrain, routes or population areas.

Area security is another shaping operation that, when executed concurrently with decisive action, affords unit success against both conventional

OPFOR and guerrilla forces. Successful units employ enablers (route clearance, military police, sustainers, engineers, etc.) augmented by combat units to execute this crucial shaping operation. These coordinated efforts focus security on population centers, restrictive terrain and the brigade support area to afford maneuver commanders with the time and space to conduct offensive or defensive operations, unimpeded by OPFOR.

A unit is most successful at NTC in the instances where it conducts aggressive area security with enabler units. In rotations during Fiscal Year 2014, the OPFOR could not deploy within population centers (urban terrain) by concealing both conventional anti-tank (AT) vehicles and non-conventional units equipped with AT weapons that could wait for the appropriate moment to maneuver on the unit flank and attack high-payoff targets. The OPFOR could not disrupt the training unit in depth and exploit a moment of weakness in the offense or defense.

In this scenario, the BCT secures population centers along its planned routes. Population centers were identified as objectives during the military decision-making process for the BCT to prevent OPFOR from hiding weapons systems and personnel from disrupting the BCT’s attack or lines of support during the operation. An entire population center does not have to be secure for the entire operation. The presence of the BCT within population centers before and during the movement-to-contact denies the OPFOR freedom of movement.

The 1/11 ACR determined through observation that units who execute security operations across the entire formation from start to finish of the mission are successful against the challenges imposed by the hybrid threat. Many potential adversaries use a hybrid threat – special operating forces working with an established insurgency or guerrilla force – to compensate for the technology gap with U.S. and allied forces. Improved integration between the conventional and unconventional threats makes successful security operations more imperative than ever for success in any OE.

The following two articles are recom-

mended for study:

- CPT Hobson, Richard, and CPT Royle, Bradley, "Battalion Counter Reconnaissance, Flooding the Zone at the NTC," *Infantry* magazine, January-February 1996, <http://www.benning.army.mil/infantry/magazine/issues/1996/JAN-FEB/pdfs/JAN-FEB1996.pdf>.
- MAJ Kranc, Ryan, "Cavalry Organizations and Task Terminology," *ARMOR*, March-June 2014, http://www.benning.army.mil/armor/eARMOR/content/issues/2014/MAR_JUN/Kranc.html.

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Acronym Quick-Scan

ABCT – armored brigade combat team
ACR – armored cavalry regiment
ADRP – Army Doctrinal Reference Publication
AIR – airborne infantry regiment
AO – area of operation
AT – anti-tank
BCT – brigade combat team
BTG – brigade tactical group
MCCC – Maneuver Captain's Career Course
NTC – National Training Center
OE – operational environment
OPFOR – opposing force
TAA – tactical assembly area

Integrating Armored Warfare and What That Could Mean for the Infantry Brigade Combat Team

by MAJ Joshua A. Taylor

The Army's current lack of an effective armored-warfare platform has created a capability gap within specific infantry brigade combat teams (IBCTs). MG John Nicholson (former commander, 82nd Airborne Division) noted as much when he said, "The idea of having mobile protected firepower that can be delivered by air – either air-drop or air-land – and get into the fight immediately enables us to retain the initiative we gain by jumping in. But if all we're doing is jumping in and then moving at the speed of a World War II paratrooper, we're going to rapidly lose the initiative we gained by conducting a strategic or operational joint forcible entry."¹

MG Nicholson has framed the problem well for 82nd Airborne Division in terms of how the Army reintegrates an airborne, light- to medium-armor armored-warfare system into IBCTs that require that capability to retain/exploit

initiative after forcible-entry operations. The current situation highlights the same capability gap the M551 Sheridan came to fill for light forces in the Vietnam Conflict and even saw use via air-drop and air-land for 82nd Airborne Division during Operation Just Cause.² The Sheridan was decommissioned and out of service by the mid-1990s. The Armored Gun System (AGS) program in the early '90s, which led to development of the M8 AGS prototype, would have been capable of filling the void left by the Sheridan; however, the AGS program was cancelled before entering service to the Army, creating a capability gap for some forces that has persisted for more than 20 years.

The Army remains committed to pursuing an armored multi-purpose vehicle to replace the M113 Armored Personnel Carrier; supplementing our wheeled fleet with the Joint Light Tactical Vehicle; and continuing to fund more double-V-hull Strykers; however,

development has ceased on the new Infantry Fighting Vehicle (IFV).³ Suffice it to say that current fiscal conditions obviously affect the immediacy with which any future armored-warfare concept could be developed and integrated into the force. However, as the Army looks to refine "concepts, requirements and key technologies in support of a future IFV modernization program,"⁴ discussions such as this that highlight the requirements for an armored-warfare platform for certain IBCTs should draw more attention and discussion among military professionals. According to a *National Defense* report, within the next 24 months, the Army has plans to field the XVIII Airborne Corps with a small group of repurposed light armored vehicles to fit their immediate need and use for testing.⁵

As one of the small but growing population of mid-career armor officers having only served within light and airborne IBCTs, this topic has increased



significance to me as we discuss the potential for a way forward with armored-warfare integration within IBCTs. Armor Branch clearly has a unique opportunity to benefit from any such program as its mounted maneuver and reconnaissance specialists would be prime candidates to field and operate the equipment. That said, the central themes of the discussion should revolve around requirements (in terms of capabilities and platforms) and force integration.

Requirements: capabilities and platforms

In addition to being air-drop/air-land capable and providing an adequate level of protection against small-arms and machinegun fire, the armored-warfare platform must effectively traverse rugged terrain, provide close-protected fires for infantry and/or deliver long-range precision fires to assist the supported unit with both seizing and maintaining the initiative. Those are the base requirements. So, when looking to develop the platform, wheeled vs. tracked is of little importance, as arguments could be made for each based on mission and capability; however, it is critical to adequately balance levels of protection vs. desired performance.

Some risk has to be assumed in levels of protection to effectively meet the air-mobile capability gap and, perhaps more importantly, not produce a platform that will overburden a light/airborne infantry task force with a heavy logistical tail. An armored-warfare platform that is productive for initial entry but reduces the light IBCT's capability to rapidly expand and/or exploit success due to logistical/mobility constraints of the armored-warfare platform degrades the "light" capability for which the organization was designed.

With the desired capabilities in mind, where do we proceed in terms of platforms?

As discussed, the current fiscal environment has little appetite for costly research and development to acquire a light-armor solution for the IBCT. So, a low-cost to no-cost commercial-off-the-shelf solution automatically becomes preferred.

That said, the aforementioned M8

(AGS) has a strong argument to re-enter consideration given the scalable levels of armor protection originally designed to vary its use from light ("air-droppable") to medium (air-land capable) to the heaviest anti-tank (AT) resistant package. Moreover, after its program discontinuation, United Defense (now BAE Systems) continued to develop the platform. In 2003, United Defense successfully upgraded the 105mm main gun with a 120mm main gun, and the M8 AGS evolved into the "Thunderbolt 120mm."⁶ Assuming the entirety of the light tank, C-130 Hercules-capable qualities remained from the original M8 105mm AGS design; this concept is intriguing for its cost savings, lethality and availability within the limits of a constrained timeline. Also, it serves as a legitimate advancement from an existing capability already provided to the force by the 105mm Mobile Gun System (MGS) Stryker in terms of armament, protection and off-road capability.

(Editor's note: The AGS is completely out of production, so a commercial-off-the-shelf type of acquisition is not possible.)

There are likely a number of other existing technologies that could be repurposed to meet the gap, but I would caution against framing the solution thought process in such a way that the Army seeks a single design to meet a variety of needs in another "Pentagon Wars-esque" Bradley production. For example, to meet the aforementioned capability gap that MG Nicholson highlights for airborne-infantry units, a valid argument could be made that the required capability gap is best filled with multiple platforms. A light version with minimal armor but heavy firepower, with greater survivability for air-drops, could be used to provide immediate boosts to the initial direct-firepower needs of forcible-entry operations (similar to the German "Wiesel") before the tactical situation permits air-lands.

Meanwhile, the force could be equipped with a second heavier, better-protected armored-warfare platform designed to follow on after the air-head is secured. The second platform would provide longer-range AT capabilities, improved protection and

the capacity to best enable the IBCT to secure the air-head and build combat power while ensuring maximum firepower forward to help retain the initiative. This would provide multiple tools for a variety of packages vs. trying to develop a one-size-fits-all solution for the identified capability gap. Given the current availability of existing platforms to repurpose, this approach may affect greater cost savings to outfit the requesting units with the desired capability.

In any case, the end product(s) must effectively integrate Armor and infantry ground forces in close combat within varied terrain, which forces the design team to consider: 1) talkboxes for dismounts to communicate with crew; 2) a commander's cupola and driver's view that provide maximum situational awareness of dismounted Infantry; 3) amphibious operations-capabilities if fording sites/bridging assets are limited; 4) limited self-recovery capabilities to reduce the need for more heavy assets sent forward to recover vehicles; 5) varied weapons platforms (protected machinegun and main gun) and 6) varied munitions (sabot, high-explosive, heat, etc.)

Force integration

Primarily, fielding should be looked at in terms of need, regional alignment and existing/potential future facilities based on each IBCT and its mission set. This means that fielding would have to avoid the tendency to want to make all units the same. For example, MG Nicholson has identified a need that 82nd Airborne Division requires to most effectively meet its global-response force/joint forced-entry mission sets. However, 25th Infantry Division has a Pacific-focused area of operations with a light, expeditionary mindset that may not necessarily share the same requirement. Also, Schofield Barracks, HI, would certainly face greater facility challenges than Fort Bragg, NC, to adequately stable, maintain and provide adequate maneuver space for training an armored-warfare fleet.

Once it is decided who will be fielded armored-warfare platforms, the Department of the Army would have to decide if it is better to grow organizations or transform existing structures. Existing paradigms should

be challenged to find the best force-integration solution, but inherent branch parochialism will likely hinder that to some degree.

There are intrinsic pros and cons with any force-integration solution; however, I think the danger of worsening a separate existing capability gap in brigade-division reconnaissance could occur if we solely target existing organizations (likely defaulting to the cavalry squadrons of IBCTs) with leading the change and fielding the new capability when/if it comes available.

This discussion parallels the need to look at redesigning the cavalry squadrons as a whole within light IBCTs. As it stands, the cavalry squadron in a light IBCT is poorly equipped to effectively perform as the principal reconnaissance effort for the BCT. In my opinion, two primary courses of action (CoAs) exist that would enable the incorporation of the armored-warfare platform and better provide a more useful solution for cavalry-squadron restructuring:

- **CoA 1:** Placing the armored-warfare platform within the cavalry squadron should be done in a manner that does not further degrade the reconnaissance capability the cavalry squadron provides to a light IBCT. To achieve this, the cavalry squadron could retain the dismounted troop and bolster it with a Combat Observation and Lasing Team (COLT) capability (recommended for CoA 2 as well), which provides the BCT commander a highly mobile/more lethal long-range ground-reconnaissance force capable of answering priority intelligence requirements while delivering more effective fires and providing timely battle-damage assessments for the deep fight. Next, the mounted elements of the cavalry squadron would then absorb the heavier armored-warfare package; however, I recommend against eliminating the light-wheeled troops entirely. Instead, look to reestablish the new cavalry squadron with light-wheeled (reconnaissance, guntruck-centric) capabilities and the light- to medium-armored capability by either maintaining a 2x mounted troop model

(1x light wheeled; 1x armor) or growing it to a 3x model (1x light; 2x armor). This configuration provides greater options and lethality that enable the cavalry squadron the ability to fight for information if/when required or serve as an effective protection or finishing force in offensive operations alongside the infantry in the close fight. Finally, moving the military-intelligence company (MICO) under the cavalry squadron (also recommended for CoA 2) would create a self-contained unit capable of truly performing all facets of the cavalry squadron in full service as the brigade's primary reconnaissance asset. The varied platforms and capabilities in this construct would provide the BCT commander with a variety of options for task organization and employment for offensive operations when cavalry squadron assets are not dedicated to a brigade reconnaissance mission.

- **CoA 2:** This CoA recommends creating relationships with infantry and armored-warfare crews at the lowest level (battalion). For example, I think it is reasonable to consider replacing guntrucks, in whole or in part, within the infantry battalion's heavy-weapons companies with an armored-warfare platform. This CoA offers habitual armored-infantry integration, better protection and greater firepower to the light-infantry battalion that has an existing armored-warfare capability gap. This lower-level integration of light infantry and mounted/heavy forces has proven effective in the company team concept as well as in other organizations that use it with permanence. For example, albeit in an opposing-force mission role, 1st Battalion, 509th Airborne Infantry Regiment's integration of light-heavy forces at the battalion level was (is) largely successful due to the trust and relationships of operating and training under the same battalion colors. Also, this CoA creates the potential for two to three more command opportunities within the IBCT for Armor officers who would be a natural fit to command a weapons

company with an armored-warfare platform. Like CoA 1, this CoA recommends the incorporation of the COLT and the MICO into the cavalry squadron but otherwise leaves the cavalry squadron intact to perform its reconnaissance mission (wheeled and dismounted).

In conclusion, a clear need exists for the integration of armored warfare into the force structure of certain IBCTs. However, continued professional discussion and analysis needs to occur to best define the requirements, which will determine the appropriate capabilities, platform and force integration/restructuring model to apply. As noted, any future changes pertaining to capabilities and platforms for the mounted forces within the IBCT should progress with caution to not lose focus of the "light" aspect of the light IBCT while ensuring that changes do not unintentionally worsen the current capability gap the cavalry squadron faces in achieving its intended purpose. This discussion is relevant across the operations field as it presents exciting opportunities for both infantrymen and Armor officers alike to better integrate our skillsets and capabilities to produce a more lethal and effective IBCT.

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Foreign Military and Cultural Studies Red Team Member's Course; Joint Firepower Control Course (distinguished honor graduate); Cavalry Leader's Course; Maintenance Leader's Course; and Jumpmaster, platoon leader, Ranger and Airborne courses. MAJ Taylor holds a bachelor's of business administration degree from the University of North Alabama in finance and a master's of arts degree as an Olmsted scholar from the Universidad de Belgrano in international relations. He is the recipient of the Bronze Star and Meritorious Service medals, and a Bronze Medallion recipient of the Order of St. George.

Notes

¹ Quintas, Lee BG, "From the Chief of Armor's Turret," *Thunderbolt Blast*, Decem-

ber 2013-January 2014 edition, Vol. 2, Issue 9.

² "M551 Sheridan," retrieved March 1, 2014, from *Military Today*, http://www.military-today.com/tanks/m551_sheridan.htm, no date.

³ McHugh, John M., and Odierno, Raymond T. GEN, Army Posture Statement, Washington, DC: Committee on Armed Services, March 2014.

⁴ Ibid.

⁵ Erwin, S.I., "U.S. Army in the Market for 'Light' Tanks," *National Defense* magazine, Oct. 7, 2013; retrieved March 13, 2014, <http://www.nationaldefensemagazine.org/blog/lists/posts/post.aspx?ID=1294>.

⁶ Coffey, Doug, "United Defense Unveils Thunderbolt 120mm Demonstrator; Thunderbolt Illustrates Rapid Integration of Devastating Firepower and Transformational Technologies into Existing Platforms," *Business Wire*, Oct. 6,

2003; retrieved March 2014, <http://www.businesswire.com/news/home/20031006005086/en/United-Defense-Unveils-Thunderbolt-120mm-Demonstrator-Thunderbolt>.

Acronym Quick-Scan

AGS – Armored Gun System
AT – anti-tank
BCT – brigade combat team
CoA – course of action
COLT – Combat Observation Lasing Team
IBCT – infantry brigade combat team
IFV – Infantry Fighting Vehicle
JRTC – Joint Readiness Training Center
MGS – Mobile Gun System
MICO – military-intelligence company



U.S. Army 2LT Russel Finegan, a fire-support officer assigned to Charlie Troop, 1st Squadron, 7th Cavalry Regiment, looks through a Lightweight Laser Designator Rangefinder system at Fort Hood, TX, Feb. 25, 2013. A strong COLT capability provides a BCT commander a highly mobile/more lethal long-range ground-reconnaissance force capable of answering priority intelligence requirements while delivering more effective fires and providing timely battle-damage assessments for the deep fight. (U.S. Army photo by SGT John Couffer)



Figure 1. Desert Rogue Soldiers, with their First Army observer-controller/trainers (O-C/Ts), conduct a hotwash after a hasty-defense mission on one of the Camp Shelby, MS, maneuver areas. (Photo by SPC Merrick Harding, 1-64 Armor)

Lessons from Exportable Combat Training Center Rotation 14-02

by LTC Sean Hunt Kuester
and MAJ Nathan Guthrie

With the successful conclusion of a combined Reserve Component (RC) and Active Component (AC) combat training center (CTC) rotation, the Army Total Force Policy (ATFP)¹ has a major victory on its path toward being fully manifested. The training event, clearly replete with intrinsic value, was in fact the seed of something much greater: the initiation of a partnership joining Active and Reserve components into a singular force.

Background

In May and June 2014, 2nd Brigade, 3rd Infantry Division's 1st Battalion, 64th Armor Regiment Desert Rogues slugged it out with Tennessee's 278th Armored Cavalry Regiment (ACR) Sabers at

Camp Shelby, MS, as part of Exportable Combat Training Center (XCTC) Rotation 14-02. The exercise was a proof of principle for multi-component integration and 278th's annual training (AT). The results were exceptional, resulting in both units being undeniably better trained for war. We will highlight the tremendous benefits of this experience in this article as lessons-learned to be shared among the force.

This article views the XCTC from the lens of the AC, specifically 1-64 Armor, a combined-arms battalion. The brigade combat team (BCT) partnership program sees 28 National Guard (NG) BCTs partnered with 20 AC BCTs. Of the 20 AC BCTs, 50 percent are either armored BCTs (ABCTs) or Stryker BCTs, who will glean directly applicable lessons from this article. Regardless of

the BCT type, however, most of the lessons-learned and best practices are universal.

XCTC is not a new training model; the XCTC concept and application have been around since 2005.² The difference in this particular event was the 278th commander's directive to train in the decisive-action training environment (DATE), which necessitated a mechanized/motorized opposing force (OPFOR) not easily replicated by contract support. This necessity fashioned an opportunity to fully meld the AC/RC in a premier training event. This particular mission set created a window where we were able to see the XCTC's genesis and to plan for future opportunities.

Lessons learned

Lesson 1: Use the Army Synchronization and Resourcing Conferences (ASRCs) to seek out XCTCs for your formations early and do not be confined by the “partnership patch chart.” Early planning enabled through ASRCs will create the greatest situational understanding, allow the greatest level of synchronization for AC and RC stakeholders and enable both parties to exploit the greatest number of training opportunities. Division operations officers and mission-support-element G-3s should not underestimate the value of XCTCs for tactical-level units. As the ATRP expands and evolves, OPFOR troop lists for partnered NG brigades may not be able to be fully resourced by their doctrinally aligned partner AC BCT. G-3s should seize opportunities to “round out” troop lists for XCTCs for divisions whose BCTs cannot fill the requirement.

In recent history, 1-64 Armor has not deployed to Camp Shelby and was therefore wholly ignorant of this regional training center’s massive capabilities across virtually all the warfighting functions.

Lesson 2: Widen the range fans for your training event beyond the XCTC script and sharpen your mission-essential task list (METL) skills. As the name implies, XCTCs will not occur at the “dirt CTCs.” XCTCs will occur, for the time being, at RC regional training sites such as Camp Shelby Joint Forces Training Center in Mississippi and Camp Atterbury Joint Maneuver Training Center in Indiana. AC units are not subject to limitations on the number of allowable training days, as RC units are. AC units should arrive early and exploit training opportunities resident at these highly capable training sites.

The 1-64 Armor, for example, was able to conduct gunnery-skills test training and gunnery Table I using a Camp Shelby motorpool; unstabilized gunnery for the scout and distribution platoons; rifle-squad Tables I-VI; gunnery Table II for one tank and one mechanized infantry company; and tank-gunnery sustainment training using the Mobile Advanced Gunnery Training System in the week before the XCTC. Other resources available at Camp Shelby that 1-64 Armor did not have an opportunity to use, but which illustrate other

significant capabilities at locations such as Camp Shelby, were the Medical Simulation Training Center, Close-Combat Tactical Trainer and a multi-purpose range complex, to name a few. Units need to understand that XCTCs will occur during AT periods and training centers will be very busy with other units, so coordinate early. The bottom line is that AC units will seldom have such nearly uninterrupted time “away from the flagpole” to exploit such a myriad of resources; make the most of it and be aggressive!

Logistic lines of communication will be a major concern for any unit operating more than 300 miles (average cruising range and one-day planning factor for the M1088 tractor-truck³) as it plans how it will sustain itself. Camp Shelby is about 550 miles from Fort Stewart, GA. With only one organic battalion (-) in the field, daily military long-haul for resupply was impractical.

Lesson 3: Take required classes of supply and sustainment enablers and identify local assets, too. Our parent brigade, 2 ABCT (Spartans) set up our battalion for success in several ways. First, the brigade-support battalion

Figure 2. A platoon of M1A2 SEP V2 main battle tanks surges out of the woodline after an attack mission. Both 278th ACR and 1-64 Armor became adept at maneuvering their platforms in the heavily vegetated areas of Camp Shelby. (Photo by SPC Merrick Harding, 1-64 Armor)



(BSB) deployed a support-operations officer (SPO) liaison with our pre-deployment site survey (PDSS) team. This lone Army captain paid huge dividends and laid the foundation for what was a well-resourced mission as he gained the initial understanding of what Camp Shelby could provide sustainment-wise. His personal reconnaissance formed the basis for our concept of support. As an example of what units may have to plan for, we deployed one entire container of Class III package products (petroleum, oils and lubricants) to ensure effective operation of our equipment.

Second, based off the type of formation we are and the vehicle density we enrolled on the Deployment Equipment Listing (20 M1A2SEPV2, 27 M2 series family of vehicles, five M88 Hercules and two M1064 mortar carriers – about 3/5 of the battalion's total rolling stock and many containers), our parent brigade and BSB (26 BSB) provided us with two critical assets. We received a "Supply Support Activity (SSA) Forward" Class IX sustainment package housed in an M1087A1 that consisted of 113 lines of property and line replaceable units (LRU) totaling \$3,165,690.19 dollars' worth of property. During our rotation, we consumed \$523,708.22 dollars' worth of the SSA Forward, resulting in 17 vehicles repaired.

The other critical asset was the Direct-Support Electronic Test Set (DSETS) van and a two-Soldier team that 26 BSB deployed with us. The DSETS team was another homerun as they repaired 29 LRUs over 30 days, resulting in 20 pacing items repaired.

We would not have been able to sustain 278th ACR's training without both these assets.

Third, our forward-support company (FSC) commander and the BSB SPO shop designed a unique parts-delivery arrangement using a system of scanned purchase requests and FedEx. Purchase requests were generated forward, signed by the battalion commander and/or the battalion executive officer, approved by the home-station brigade, resourced from SSA Rear or Forward, and then processed for shipment via FedEx from Fort Stewart to



Figure 3. An Abrams tank moves into the attack position just before an attack mission. (Photo by SPC Merrick Harding, 1-64 Armor)

Camp Shelby. Using this system, we received 14 push packages (combination of one freight shipment and 13 overnight shipments), resulting in 26 pacing items repaired. The one improvement we would offer to this system is to make it available over weekends and holidays when home-station installation activities are closed but deployed units are still training and generating logistics requirements.

Under the theme of "identify local logistic enablers, too," we did not fully exploit a key asset: the Maneuver Area Training and Equipment Site (MATES). MATES – which was established to preposition selected pieces of combat and tactical equipment – provides assets to units conducting AT and inactive-duty training at Camp Shelby.⁴ MATES are found on many NG training sites.

In essence, MATES is akin to the blue and gold fleets from National Training Center days of old. The fleets are not unassigned equipment; rather, certain RC units are "donor" units whose stored equipment, with proper coordination, can be requested using a Forces Command (FORSCOM) 156-R form. With proper coordination, equipment can be signed for to support a unit

rotation, and reimbursement may be achieved through the use of a DD448 form, the Military Interdepartmental Purchase Request.

MATES have an exceptional level of maintenance capability that units will likely need to call upon. Depending on where units train, MATES may offer other services, too. Some sites allow units to sign for property ranging from OE-254 frequency-modulation communications antennas to ground-mounted machineguns to M1 tanks. Some sites allow units to conduct maintenance training on site, side by side with MATES personnel. The point is, as part of a unit's planning and PDSS, a visit to the MATES to meet the superintendent is a must.

XCTC was a genuine deployment for 1-64 Armor. We deployed 203 items consisting of 168 pieces of rolling stock and 35 containers, 500 Soldiers, two field-service representatives and one logistics-assistance representative. We used multi-modal systems of deployment, including air, rail, bus and line-haul.

Lesson 4: Train special teams in advance, rehearse critical home-station deployment events and engage relevant home-station deployment points

of contact early in planning. To deploy successfully, the single capability units can't do without is the unit-movement officer (UMO). Go beyond just having a single UMO; create as much depth as you can. We used an S-3 liaison-officer (LNO) lieutenant and our fire-support officer as the battalion UMO team (both were school-trained). One seemingly small issue such as a frustrated Forward Repair System will temporarily consume one UMO; having two dedicated UMOs maintains momentum. Companies must have at least one UMO but should try to have two.

Early on, we requested that a brigade LNO be assigned the XCTC mission as our link to the division and installation. Immediately, the LNO established two critical linkages for the battalion. First, he got the brigade movement officer abreast of our requirements, who in turn built our strawman deployment timeline and communicated our requirements to the Division Transportation Office (DTO) and the installation's Unit Movements Branch. Getting division and installation visibility on our mission well in advance proved vital and eliminated almost all last-minute turmoil. Lastly, the LNO actually deployed with the unit (keeping the Spartan brigade abreast of our requirements), developed branch plans and facilitated redeployment.

The DTO performed analysis and determined that it would actually be more cost-effective and time-efficient to contract rail-load operations on the near and far end. As a result, once vehicles arrived at the rail-marshalling areas (RMA) at Fort Stewart and Camp Shelby, rail upload and download proved to be an anti-climactic non-event.

The two highest-payoff home-station events were the scaled deployment exercise (DEPEX) and the subsequent movement-preparation activities (MPA) operation. The DEPEX was scaled due to time. We were not able to perform a full load-out, but we recommend doing so if time is available. We loaded out one type of each vehicle and one type of each container to proof systems, test UMOs and build reliable deployment-planning factors. Each company had load-out requirements that, again, tested and trained

UMO, and identified to battalion UMOs where they would have to place more emphasis. The DEPEX addressed the overall deployment sequence – including pax manifesting and verifying bus rosters – and therefore included a rehearsal of the critical MPA operations.

The MPA operation preceded movement to the RMA and was done according to 3rd Infantry Division's deployment handbook/standard operating procedure. Institutionally, we had not performed this type of event in many years; the requisite skills had atrophied badly, and for many personnel were non-existent. The use of the multi-station MPA process greatly reduced the number of frustrated vehicles at the RMA and, again, made RMA operations an anti-climactic event.

As part of the deployment sequence, companies were "missioned" to perform specific critical tasks. The FSC, for example, had responsibility to run the MPA. Company C ran RMA operations at Fort Stewart, and Company D ran RMA operations at Camp Shelby. This enabled the battalion to maintain focus on the big picture while the companies ensured smooth operation of individual steps in the sequence.

Units that fail to deploy do not fill the annals of history. Those annals may be filled with units that failed to deploy **smoothly** and deployed with extreme frustration, but generally speaking, we all make it to the fight – eventually.

Lesson 5: Heed Lesson 4 so you can focus on the reason you are going to XCTC in the first place: to build combat skills and readiness. The commander was very concerned that, due to the lack of institutional knowledge on conducting this sort of deployment, we would have major issues with the

deployment sequence. Therefore, we focused an inordinate amount of energy in this area – at the expense of solidifying and preparing for our "box" training objectives. Do not underestimate the level of concurrent activity that Army formations can sustain. Battalion-sized elements can easily do five things at once – and do them well. Our deliberate shift to intensely focusing on the training objectives came too late and resulted in delayed achievement of advanced-level tactics.

Lesson 6: Request First Army observer-coaches/trainers (OC/T) to get the most from your training. It is an old adage in the Army that training that is not observed is not training. For an XCTC, there is no reason for that to occur. First Army has a robust and highly capable contingent of OC/Ts. We were outfitted with a complement of sergeants first class and captains assigned to all our companies and platoons. Their focus on the fundamentals of doctrine and obvious grooming as OC/Ts significantly increased our training progression.

Tactical lessons

Over the course of 30 continuous days of operations in a DATE environment, we identified many tactical lessons learned. Following are just a few.

Mission command: Troop-leading



Figure 4. A foreign-language speaker from 1-64 role-plays as an enemy prisoner of war for Saber military-police Soldiers. (Photo by SPC Merrick Harding, 1-64 Armor)

procedures (TLP) are a highly perishable skillset; repetition is the key to success. TLPs started at extreme sub-par levels but rapidly improved due to repetition and OC/T coaching, with one notable enduring shortfall. Unlike traditional “dirt CTC” rotations, the XCTC’s pace was not as extreme and allowed just enough time between iterations/lanes to train TLPs correctly. This thoughtful exercise-design model proved critical in allowing platoon leaders an appropriate amount of time to “re-do” TLPs and “see what right looks like first” to prepare quality orders while progressively refining operations-order (OPORD) delivery techniques.

What we never fully achieved was the use of platoon standardized hard-copy pre-formats for OPORDs. The use of platoon formats down to tank-commander and squad-leader level allows the platoon leader to give his finished order to his subordinates, who can then copy it down on their pre-format prior to the actual order. Then, during the OPORD, instead of furiously trying to copy the OPORD (and missing large portions of it and the *intent*), subordinates can actually pay attention to the platoon leader’s words and movements as he briefs and indicates key locations on the sand table, map, etc.

Mission command: When you tell company-level leaders to “focus on TLPs,” specify which step; we selected the warning order (WARNO) and OPORD. Our assessment was that *the* crucial step in TLPs was the WARNO. The WARNO is your first and best chance to achieve parallel planning, which in turn enables doctrinally correct pre-combat checks as well as the initial understanding of mission variables. Next, we assessed that the order itself, “the plan,” was the second most important step. Either the OPORD is the foundation of mission success, or it is where the train starts coming off the tracks – depending on its quality and delivery. Lieutenants need massive repetition to become expert at this skill, but the one real nugget we (re) discovered is an old one: keep the plan simple. If no one can remember the plan, there is no plan.

Mission command: Use doctrinal principles to frame operations first; the



Figure 5. A mortar crew from 1-64 Armor fires in conjunction with 278ths fire-direction center. The 1-64 Armor was able to make use of the varied live-fire and other training facilities available at Camp Shelby to target METL tasks. (Photo by SPC Merrick Harding, 1-64 Armor)

troops on the ground will figure out the tactics, techniques and procedures (TTPs) on their own. First Army trainers were extremely helpful as they coached during hotwashes and after-action reviews. Before conducting a defense, avoid letting leaders delve into the TTPs of building target-reference points, decoys, etc. Instead, teach them first to consider how their plan will address the characteristics of the defense (*disruption, flexibility, maneuver, massing effects, operations in depth, preparation, security and synchronization*); the TTPs will come after that. In other words, don’t pick curtains for a house that isn’t built yet.

Mission command and intelligence: Leverage old and new technology to get the best picture on the ground. Young leaders with experience in Iraq and Afghanistan have become adept at employing imagery to provide precise views on objective areas and to assist in conducting intelligence preparation of the battlefield. Sustain this tactic but combine it with the requisite Military Grid Reference System (MGRS) maps that enable controlled movement into the objective area and accurate calls for fire. When possible, make this the map set on Blue Force Tracker (BFT).

Regarding maps, we saw initial

resistance to making use of detailed graphic control measures (GCM) on MGRS, imagery map sets and BFT. GCMs are vital for controlling and synchronizing forces, describing the situation to higher echelons and enabling fire distribution and control. Graphics became a reportable and inspectable item.

Mission command and sustainment: Use the Combat Service Support Automated Information System Interface (CAISI) to increase your efficiency and timeliness of logistics reporting. We did not employ our CAISIs but wish we had. Our logistics reporting was essentially done using old and drawn-out processes of sending reports back with the daily logistics packages. If units do not employ their CAISIs, they are accepting the condition of no digital connectivity between battalion- and company-level command posts (CP) except BFT. Battalions possess only one CP node (CPN) dedicated to the main CP and one Very Small Aperture Terminal dedicated to the Standard Army Maintenance System clerks. It is essentially implied that either your other nodes (combat-trains CP (CTCP), unit-maintenance collection point, etc.) will either be consolidated with the main CP and will leverage the battalion’s CPN for digital connectivity,



Figure 6. An M1A2 Abrams main battle tank moves to a firing position in a gunnery-qualification exercise during an XCTC at Orchard CTC in Idaho Aug. 18, 2014. XCTCs, which provide a cost-efficient, time-efficient option for delivering combat-readiness training to Soldiers at or near their home stations, are a chance to train the way most commanders have always wanted to: free, unrestricted and with more than adequate resources. They are also a chance to solidify AC/RC partnerships. (Photo by SGT Leon Cook, 20th Public Affairs Detachment)

or they simply won't be able to use the Army's Warfighter Information Network-Tactical (WIN-T). Using the CAISIs alleviates this and enables companies and other entities such as the S-1, S-4 and medical platoon to leverage WIN-T and tap into systems like Electronic Military Personnel Office, Battle Command Sustainment Support System and Property Book Unit Supply Enhanced. A battalion not using CAISI directly erodes – or at least delays – BCT-and-above situational awareness and understanding of subordinates' needs and status.

Mission command: With the advent of the FSC, the role of the headquarters and headquarters company (HHC) commander is largely undefined in a DATE scenario. Determine a role for your HHC commander early so he/she understands his/her task and purpose and how he/she enables the battalion. Prior to modularization, the field-trains CP was the HHC CP, and the HHC commander provided the oversight for logistics from the brigade-support area to the combat trains. Now the FSC commander is clearly the best choice to perform this task, and the battalion essentially has an extra company-level

CP and commander to employ as the battalion commander sees fit. The HHC commander, in our case, was used to provide oversight for the CTCP and to supervise the training of the scout platoon and sniper section. But the real lesson is that the role of the HHC commander will not be fixed; what we did was based off mission-specific factors, not a doctrinal model.

Final lesson: Make the XCTC experience a means to an end, not the end. Our goal is to use the relationships we built with 278th ACR at Camp Shelby to serve as a springboard for a true, lasting partnership. Our goal moving forward is to attend leader-professional-development sessions together, enable subsequent RC AT, share TTP, establish recurring touchpoints and develop long-range training calendars that see integration of each other's key events. For our part, we are already working to see how we can integrate into an upcoming 278th warfighter exercise. In short, quoting former FORSCOM commander GEN Daniel B. Allyn, "The key is to leverage our collective leadership capacity to make us all better."

XCTCs will most certainly change in the

future; the Army is always changing. Clearly, though, this is a major opportunity for all parties involved – that fact is not changing. XCTCs provide a chance to train the way most commanders have always wanted to: free, unrestricted and with more than adequate resources. It's a chance to solidify our AC/RC partnerships, and it's a chance to build overflowing confidence at the individual Soldier and platoon level. It's a chance to be better prepared for war.

LTC Sean Hunt Kuester commands 1st Battalion, 64th Armor Regiment, 2nd ABCT, 3rd Infantry Division. His past duty assignments, all at Fort Bliss, TX, include installation G-3; brigade executive officer, 4th Brigade, 1st Armor Division; brigade operations officer, 4th Brigade, 1st Armor Division; and battalion operations officer, 1st Battalion, 77th Armor Regiment. His military schooling includes Command and General Staff College, Armor Captain's Career Course, Close Quarters Battle Course, Armor Officer Basic Course and Army Airborne School. LTC Kuester holds a master's of arts degree in human relations from Oklahoma University and a bachelor's of arts degree in history

from *The Citadel*.

MAJ Nathan Guthrie is an infantry officer serving as 1st Battalion, 64th Armor's executive officer. Previous assignments include brigade plans officer, 2nd ABCT, 3rd Infantry Division, Fort Stewart; worldwide plans officer-in-charge and team leader, Joint POW/MIA Accounting Command, Joint Base Pearl Harbor-Hickam, HI; company commander, companies C and HHC, 1-506th Infantry Regiment, 4th Brigade, 101st Airborne (Air Assault), Fort Campbell, KY; and assistant S-3 and plans officer, 1st Battalion, 61st Cavalry (Reconnaissance, Surveillance and Target Acquisition), 4th Brigade, 101st Airborne (Air Assault). His military schooling includes Field Artillery Officer Basic Course, Infantry Captain's Career Course, Intermediate Level Education and Ranger, Airborne and Air Assault schools. MAJ Guthrie has a master's of business administration, with a concentration in international business, from Hawaii Pacific University and a bachelor's of arts degree in business management from Norwich University. He is the recipient of the Bronze Star, Defense Meritorious Service Medal and Meritorious Service Medal.

Notes

¹ Secretary of the Army, 2012.

² SRI International, 2014.

³ Federation of American Scientists, Military Analysis Network, 1998.

⁴ Mississippi National Guard, 2010.

Acronym Quick-Scan

ABCT – armored brigade combat team

AC – Active Component

ACR – armored cavalry regiment

ASRC – Army Synchronization and Resourcing Conference

AT – annual training

ATFP – Army Total Force Policy

BCT – brigade combat team

BFT – Blue Force Tracker

BSB – brigade-support battalion

CAISI – Combat Service Support Automated Information Systems Interface

CP – command post

CPN – command-post node

CTC – combat training center

CTCP – combat-trains

command post

DATE – decisive-action training environment

DEPEX – deployment exercise

DSETS – Direct-Support Electronic Test Set

DTO – Division Transportation Office

FORSCOM – (U.S. Army) Forces Command

FSC – forward-support company

GCM – graphic control measure

HHC – headquarters and headquarters company

LNO – liaison officer

LRU – line replaceable unit

MATES – Maneuver Area Training and Equipment Site

METL – mission-essential task list

MGRS – Military Grid Reference System

MPA – movement-preparation activities

NG – National Guard

OC/T – observer-controller/trainer

OPFOR – opposing force

OPORD – operations order

PDSS – pre-deployment site survey

RC – Reserve Component

RMA – rail-marshalling areas

SSA – Supply Support Activity

SPO – support-operations officer

TLP – troop-leading procedures

TTP – tactics, techniques and procedures

UMO – unit-movement officer

WARNO – warning order

WIN-T – Warfighter Information Network-Tactical

XCTC – exportable combat training center

For more discussion of the future of armored warfare, please also see “Whither Armor?” by retired COL Clint Ancker III, published in *ARMOR*'s November-December 2012 edition, http://www.benning.army.mil/armor/eARMOR/content/issues/2012/NOV_DEC/Ancker.html.

FROM THE BORESIGHT LINE

Abrams Training Assessment Course: Improving the Abrams Master-Gunner Candidate

by **SFC John Vandewater**

Located within the fences of the Army National Guard's Warrior Training Center (WTC) at Fort Benning, GA, is one of the Armor community's most valuable master-gunner training resources. Since its establishment in 2012, the Abrams Training Assessment Course (ATAC) has provided quality training to active-duty Army, Marine and National Guard noncommissioned officers (NCOs) who aspire to be master gunners. The course cadre pride themselves on maintaining a high rate of success in preparing NCOs for the Abrams Master Gunner (AMG) Course, doing so by providing the most current and relevant lesson plans, maintaining top-notch training facilities and lining up course dates to prelude AMG. The instructors are all graduates of the Army's AMG Course and are hand-selected by the WTC. If properly used, this two-week course can be an extremely valuable resource to the Armor community and will greatly increase the likelihood that your tank commander will return to you as a master gunner.

While the investment of additional time and money may not be appealing to some unit commanders, the potential upside certainly should be. Since Fiscal Year 2012, ATAC attendees have a master-gunner graduation rate of about 79 percent. While this may not appear significant, the course is constantly re-evaluating its curriculum to ensure that it is focusing on areas that master-gunner students struggle with most and that its lesson plans mimic those taught at AMG. Also, ATAC can be used as a final assessment of an NCO to ensure he has been adequately prepared for the follow-on AMG Course. In the event a student fails ATAC, he can immediately return to his unit for retraining or replacement

rather than sacrificing the additional time at AMG and risking the same fate.

With today's high operations tempo that includes deployments, reintegration periods and regeneration training cycles, time to dedicate to instilling master-gunner-level expertise into existing tank commanders can be elusive. AMG maintains several prerequisite skills an NCO must meet, and that must be assessed and confirmed by unit commanders prior to their attending the course. Recently, the course has waived certain prerequisites due to units not having time in their current schedule to execute certain training events (i.e., having planned and executed unit gunnery within 12 months of attending the course). A notable knowledge deficit that commonly accompanies these waivers is the inability to successfully execute Gunnery Skills Testing (GST). However, ATAC executes GST as part of its course curriculum, which not only refreshes potential AMG students on the required tasks but also provides them with a preview of how the test will be administered at the actual AMG Course. This can be an enormous service to any unit deployed or in the midst of an equipment reset that does not have the resources to provide proper GST training to its NCOs.

With the Army rapidly losing continuity in its technical experts, ATAC is a resource that the Armor community can use to help regenerate those experts efficiently. While the long-term solution to this problem remains with the armored units themselves – concerning their ability to execute the type of training that continually develops and maintains this expertise – ATAC can offer an interim solution to help fill the present gap. It is listed in the Army Training Requirements and

Resources System as the Abrams Training Assessment Course.

Command teams or potential master-gunner students may contact the WTC for more information. WTC is located at Bldg. 4167 in Harmony Church, Fort Benning. WTC may also be reached by phone at DSN 835-4813. Unit representatives may contact the Abrams Master Gunner Branch at DSN 620-7911.

By incorporating this remarkable training resource into the active-duty Armor force, we can continue to maintain the U.S. Army's armored force as the most lethal on the battlefield.

SFC John Vandewater is a master-gunner instructor for the AMG Course at Fort Benning. Previous assignments include company master gunner for Company D, 3rd Battalion, 8th Cavalry Regiment, Fort Hood, TX, and Company D, 1st Battalion, 4th Infantry Regiment, Hohenfels, Germany. He also served as a platoon sergeant, battalion master gunner and S-3 operations sergeant in 3rd Battalion, 8th Cavalry Regiment, Fort Hood. His military schooling includes the Master Gunner Course, Fort Knox, KY.

Acronym Quick-Scan

AMG – Abrams Master Gunner (Course)
ATAC – Abrams Training Assessment Course
GST – Gunnery Skills Testing
NCO – noncommissioned officer
WTC – Warrior Training Center

Mali was divided into three phases:

- **Reconnaissance in force:** In January, liberating the main occupied cities;
- **Consolidate:** From February to April, destroying AQIM and MO-JWA;
- **Stabilize:** From April on, transferring authority to African forces.

Conducting multiple kinetic operations, opposed by an adaptive enemy (first withdrawing in contact and then deliberately defending its positions), Armor units led several offensive assaults covering more than 500 kilometers and lasting up to 48 hours (with only short pauses), as well as standard reconnaissance-and-security missions, including mobile-defense operations in the vicinity of airports of debarkation. A single armored combined-arms task force, detached from its original unit, conducted this latter mission, lasting more than eight weeks.

Contrary to their employment during operations in Afghanistan, Armor units used the full scope of their capabilities: protection, firepower, mobility, reversibility,³ fighting for intelligence and moving throughout wide areas. Moreover, Armor soldiers showed their excellent ability to bear extreme weather conditions – for example, warm temperatures (averaging more than 122 degrees Fahrenheit in turrets) or long-lasting standing positions during mounted operations and tactical bivouacs. As a whole, they won through adopting the Tuareg nomads' skills to survive in their natural environment.

French Armor soldiers conducted



Figure 2. French soldiers of 1st Airborne Hussars with the ERC90 Sagaie in the Ivory Coast in 2003. The ERC90 (French: *Engin à Roues, Canon de 90mm*) is a six-wheeled armored all-terrain vehicle fitted with a 90mm gun. It is highly mobile and amphibious, with the option of being nuclear-biological-chemical-proof.

operations where key factors were intelligence, mobility, unpredictability, massing forces to achieve local superiority and aggressive action to fulfill the commander's intent. Armor units implemented doctrine while increasing the usual range of operations and allowing company commanders freedom to take the initiative – e.g., 30 of 50 operations conducted during the first mandate were combined-arms task-force-level operations, 15 were combined-arms battle-group-level⁴ operations and less than 10 were brigade-combat-team level.

Also, the task organization for every mission during the force-generation process in theater was based primarily on mission requirements. The leadership did not hesitate to modify the doctrinal structures of combined-arms task forces/battalions concerning operational needs. For each operation, armored combined-arms task-force

commanders were attached with one infantry company (and detached of one Armor company) and were supported by engineers (one platoon), a forward air controller and intelligence assets (depending on the requirement, ranging from an electronic-warfare light group to intelligence-collection patrols, a working-dog team or a tactical unmanned-aerial-vehicle team).

To conclude, logistic support of the operation was a significant challenge. After the first two months of almost complete autonomy, battalion task forces termed the efforts of the support chain to ensure their resupply a “logistical miracle.” By March 2013, logistic forces had reached a strength of 1,200 soldiers, had driven more than one million kilometers and had provided 3,000 tons of freight. Although forces never lacked ammunition, gasoline, food or water, some gaps in maintenance and individual soldier support remained. The rate of operational readiness was nevertheless maintained at an acceptable level thanks to the predeployment initial stocks of the battalions, the continuous resupply by air and the constant involvement of crews and mechanics.

MG Arnaud Sainte-Claire Deville is commandant of the French Armor School.

(Editor's note: Operation Serval ended July 15, 2014, and was replaced by Operation Barkhane, launched Aug. 1, 2014, to fight Islamist fighters in the Sahel.)

Notes

¹ Combined-arms task forces are company-sized combined-arms units with an infantry company or an Armor/Cavalry company/troop as the core structure. They are thus infantry/Armor heavy and called *Sous Groupement Tactique Interarmes*, or SGTIA.

² Reconnaissance-and-security troops during Serval consisted of three anti-tank and reconnaissance platoons (equipped with wheeled light armored vehicles) and one direct-support platoon (equipped with a *véhicule de l'avant blindé* (VAB) wheeled armored personnel carrier).

³ *Reversibility* refers to the ability to rapidly transition between offensive and defensive operations.

⁴ Combined-arms battle groups are battalion-sized combined-arms units with an



Figure 3. An AMX10 RC used by the French 1st Régiment de Spahis in January 2006. The vehicle's missions are armored reconnaissance, armored support and flanking security.



infantry battalion or an Armor/Cavalry battalion/squadron as the core structure. They are thus infantry/Armor heavy and called *Groupement Tactique Interarmes*, or GTIA.

Acronym Quick-Scan

AQIM – Al-Qaida in the Islamic Maghreb

NMLA – National Movement for the Liberation of Azawad

MOJWA – Movement for Oneness and Jihad in Western Africa

Figure 4. Left, a French Marine *véhicule de l'avant blindé* (VAB) (French for “armored vanguard vehicle”) takes the beach during a noncombatant evacuation operation exercise held on the western coast of Scotland Sept. 17, 2003. The VAB is a front-line tactical armored personnel carrier and support vehicle that can be fitted with a selection of weapon systems, including a 12.7mm or 25mm Dragar turret, an anti-tank missile-launcher turret or a variety of mortar systems. (U.S. Navy photo by Photographer's Mate 2nd Class Robert M. Schalk)



by LTC Franz Krasznitzer

The change in the geostrategic environment within the past two decades and the present and future challenges of the modern battlefield with various state and non-state actors poses great challenges to many armies, especially those in the Western world. Despite radical cuts in defense budgets in the past years, the build-up and expansion of effective military capacities in the Austrian armed forces must be the precondition for fulfilling future security-political tasks, forming the basis for an effective and credible foreign and security policy.

One of the ways Austria has approached its defense challenges has been to integrate the artillery and reconnaissance branches into one unit. The Austrian armed forces have done this since 2009. In combining command and control (C2), reconnaissance and effect into one system, the “reconnaissance and artillery battalion” is a substantial pillar of military-intelligence collection

and of ranged fire support in combined-arms warfare. Some innovative approaches show possibilities to further develop the reconnaissance and artillery battalion with a view to the future and to the unit’s increased usefulness, despite decreasing resource levels.

First, some preliminary notes and basic information on terrestrial tactical reconnaissance and indirect ranged fire support are necessary.

Information-gathering, tactical reconnaissance

The principles and fundamentals of military information-gathering and terrestrial tactical reconnaissance are:

- In all military operations, information superiority is an essential criterion for conducting operations successfully.
- Gaps in information-gathering have direct adverse effects on the

quality of every measure of leadership and, therefore, also on the effectiveness and security of the employed soldiers.

- Thus, the battle for information is decisive in planning and conducting military operations.

In the current peacetime structure of reconnaissance and artillery battalions, military information-gathering is limited at the tactical level (brigade and below) to ground-based field human-intelligence (HUMINT) personnel.

We know from international operations that effective intelligence requires the integration and use of diverse means and sensors with evaluation devices for information-processing and distribution. At the tactical level, in particular, it is important to rely on diverse assets to gather information.

Every reconnaissance means is designed for a specific operational spectrum and has, therefore, its respective strengths and weaknesses. Only by way

of a balanced mix of these means can a satisfying coverage be ensured. The interaction of technical reconnaissance means with personnel who contribute reconnaissance results based on interrogation or observation on-site is decisive. This aspect acquires a particular significance, especially in asymmetric conflict scenarios.

Information-gathering at the level of terrestrial tactical reconnaissance with the help of a sensor mix has established itself as the international standard, including at least the following means:

- Ground-based field HUMINT;
- Radar-based reconnaissance of the battlefield;
- Ground-based aerial imagery reconnaissance (unmanned aerial vehicles (UAVs));
- Information-gathering by way of field HUMINT personnel in combination with
- An evaluation cell for task control, the establishment of the picture of the situation and distribution.

Further development

The possibilities to further develop terrestrial tactical reconnaissance in the reconnaissance and artillery battalion are:

- Build up and expand evaluation capacities/cells (training courses available already at the Land Forces School);
- Establish field HUMINT platoons (currently only existing at the Austrian International Operations Command);
- Expand the operational spectrum of ground-based field HUMINT by way of training in specific operational techniques/field HUMINT teams and rapidly implement protected multi-purpose vehicles, type Iveco (protected against weapons effects);
- Build up capabilities for ground-based aerial reconnaissance (unmanned aerial systems for the reconnaissance branch are being procured); and
- Maintain capabilities for radar-based reconnaissance of the battlefield (one sensor is currently still available).

Indirect-fire support

The principles and fundamentals of ranged indirect-fire support are:

- The artillery, as a combat-support branch and in combination with



Figure 1. The Austrian armed forces plan to introduce UAVs.

reconnaissance, C2 and effect, is a substantial carrier of ranged fire support.

- Irrespective of weather conditions and the time of the day, one's own artillery may combat enemy high-value targets anytime at an early stage and, in this way, influence the enemy's planned intention and operations from the outset in an indirect manner.
- Thanks to the capability of precise ranged effect, the artillery significantly contributes to the protection of one's own forces by preventing duel situations and collateral damages, which are likely to cause heavy losses.
- In operations in which combat action is not to be expected – i.e., peace-support operations – organizational elements of the artillery support in their second-role function as required.

Although the reconnaissance and artillery battalions – by way of the self-propelled howitzer M109A5OE – have a state-of-the-art and internationally recognized cannon, and although the Combat Next Generation C2 and weapons system will soon replace the Electronic Artillery Fire-Control System – resulting in another clear enhancement of quality – the field of ammunition equipment is still marked by an urgent backlog. To be able to continue optimally supporting combat troops in future, modern and complex scenarios, the employment of semi-intelligent and intelligent ammunition types is absolute-

ly necessary and, in the end, more cost-effective as well.

Employing semi-intelligent and intelligent ammunition as compared to conventional ammunition types means that for the same effect:

- The amount of grenades is lowered by 30 percent to 90 percent;
- The amount of artillery pieces is lowered by 75 percent to 85 percent;
- The effective costs are reduced by 40 percent to 60 percent; and
- The risk regarding collateral damage is significantly lower.

Fire support

The possibilities to further develop indirect ranged fire support in the reconnaissance and artillery battalion are as follows. A change in the ammunition equipment toward precision artillery ammunition results in these advantages:

- A firing platoon equipped with precision ammunition is in the position to replace 1½ self-propelled howitzer batteries. Therefore, the number of pieces per reconnaissance and artillery battalion can be lowered from 16 to eight self-propelled howitzers M109A5OE, which entails a significant savings potential in the field of logistics.
- The capabilities build-up for the reconnaissance and observer

Continued on Page 24



Figure 2. Options of artillery ammunition to precisely combat the target.

Precision Guidance Kit (PGK)

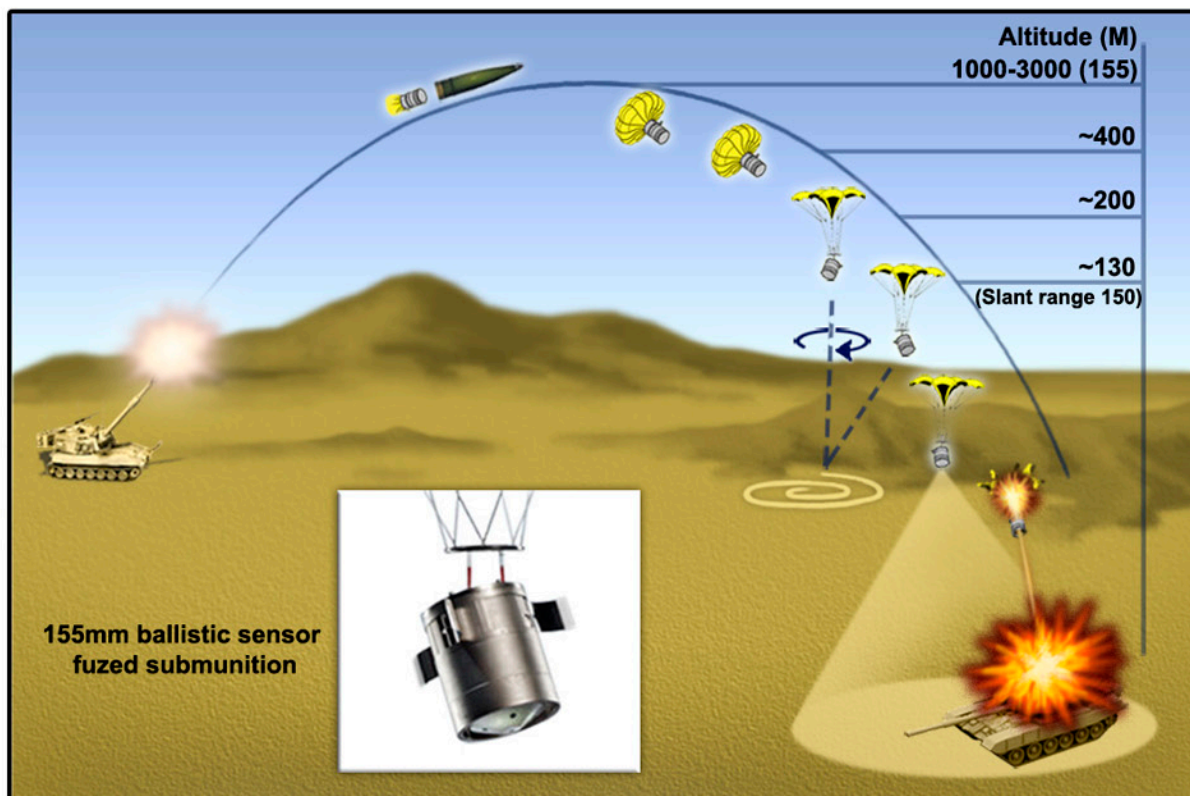
- PGK fuze-sized module for conventional ammunition types
- Circular Error Probable (CEP): less than 30 meters
- Unit cost: about 2,000 euros (\$2,533.60 in U.S. dollars)

SMART

- Artillery sensor fuze ammunition
- Armor-piercing
- CEP: less than 10 meters
- Unit cost: about 18,000 euros (\$22,802.40 in U.S. dollars)

M982 Excalibur

- Guided artillery ammunition
- Target locating system: Global Positioning System (GPS)
- Multi-role warhead
- Armor-piercing
- CEP: less than 10 meters
- Unit cost: about 60,000 euros (\$76,008 in U.S. dollars)



Continued from Page 22

organization in support of combat troops is to be safeguarded by way of joint fires, the first fundamentals of which are already in place at the Land Forces School and the Aviation and Air Defense School.

- Objective-oriented training of organizational elements of the artillery (especially in the firing-position area) in a support function within the framework of non-kinetic operations in defined secondary roles, such as a tactical psychological-operations team (TPT), a tactical camera team (TCT), civil-military cooperation (CIMIC), a liaison and observation team and a liaison and monitoring team.

Nature of recon and artillery unit

The multi-facetedness of the reconnaissance and artillery battalion is derived from its tasks:

- The reconnaissance and artillery battalion is a small-unit type and an organic element of a brigade employed

and commanded by the brigade.

- The reconnaissance and artillery battalion's mission is to support combat troops and the higher commands to which they report in national and international operations, within the framework of combined-arms warfare, as well as in operations in which combat action is rather not to be expected.
- The reconnaissance and artillery battalion, as a composite reconnaissance and effect unit, is in the position to carry out terrestrial tactical reconnaissance and to provide artillery-fire support for combat units.
- A reconnaissance and artillery battalion's C2 organization, in implementing the tactical decision-making process, is capable of using synergies in linking relevant sub-steps of the intelligence cycle with sub-steps of the targeting cycle. In this way, not only the planning and C2 of reconnaissance assets are improved, but also sensors and effectors in particular, are linked in such a manner that their combined combat power and

effectiveness are a multiple of the mere sum of their individual capabilities.

Deductions for reconnaissance and artillery battalion

In terms of the strategic basic orientation of the future armed-forces profile F2 "enhanced cooperation," we can make a number of deductions regarding the reconnaissance and artillery battalion.

In general, the reconnaissance and artillery battalion is in a position to support nine of 18 military-strategic task settings of profile variant F2, including contributions to the picture of the situation and kinetic and non-kinetic combat support. This is shown by examining the support provided on behalf of a battalion-sized task force within the framework of a stabilization operation and a robust separation-of-parties operation within the framework of a European Union battle group (EUBG).

In the February 2012 issue of the Austrian Land Forces School's journal *Exempla Docent*, a deputy battalion commander

















Targets	Conventional ammunition	Semi-intelligent ammunition	Intelligent ammunition
Infantry platoon Soft target Open terrain 	HE M107/base bleed (up to 30 km) 32 shots = 1 SP howitzer battery 	HE M107/ base bleed + PGK 12 shots = 1 SP howitzer section 	Excalibur 3 shots 
Command post Semi-hard target Small area Open terrain 	HE M107/base bleed (up to 30 km) 48 shots = 1 SP howitzer battery 	HE M107/base bleed + PGK 24 shots = 1 SP howitzer platoon 	Excalibur 6 shots 
Sensors Semi-hard target Point target 	HE M107/ base bleed (up to 30 km) 64 shots = 2 SP howitzer batteries 	HE M107/base bleed + PGK 24 shots = 1 SP howitzer platoon 	Excalibur 3 shots SMarT 155 4 shots 
Structures Soft target Point target Urban terrain 	HE M107/base bleed (up to 30 km) 48 shots = 1 SP howitzer battery 	HE M107/base bleed + PGK 24 shots = 1 SP howitzer platoon 	Excalibur 1 shot 

Figure 3. Employment of intelligent ammunition as compared to conventional ammunition.

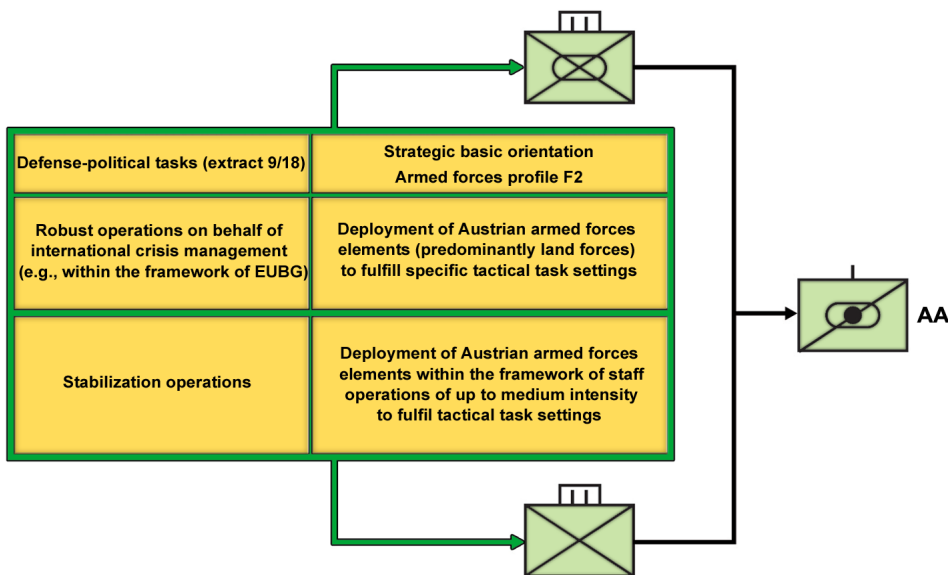


Figure 4. Deductions for Austrian armed forces' reconnaissance and artillery battalion.

of a combat unit published an article dealing with experiences gained in a peace-support operation in northern Afghanistan, confirming the findings established in this article.

Stabilization operations and separation of parties to a conflict are among the

most demanding international military operations to be conducted by an Austrian battalion-sized combat unit. What tasks a combat unit must fulfill and what requirements a reconnaissance and artillery unit has to meet in such a scenario is briefly described, following.

Stabilization operations. The tasks of a battalion-sized combat unit (infantry battalion) in a stabilization operation (area of responsibility: 40 x 50 kilometers, medium-threat spectrum) include:

- Protect the local population, international organizations and non-governmental organizations;
- Protect areas, buildings and lines of communication;
- Show military strength to deter irregular activities;
- Disarm irregular forces;
- Defend refugee camps; and
- Attack inferior irregular-infantry forces.

Separation of parties to a conflict. The tasks of a battalion-sized combat unit (mechanized infantry battalion) in separating parties to a conflict (attack more than 20 kilometers, capture of an objective: 2x2 kilometers) include:

- Attack a conventional opponent to separate the parties to the conflict and take control of a demilitarized zone;
- Interdict parts of the area to prevent

General tasks of headquarters element, reconnaissance and artillery battalion

- Contribute to C2 procedure of higher echelon, in particular in implementing intelligence and targeting cycles.
- Plan and C2 all assigned units, subunit "military intelligence collection and reconnaissance" and indirect-fire-support delivery means.
- Steer internal and external reporting and information flows; and
- Safeguard interaction with other assets and means (infantry/armored, aerial, engineer, nuclear-biological-chemical, air defense, supply, signals, etc.).

Tasks of headquarters element, reconnaissance and artillery battalion (intelligence)

- Register information requirements of superior command echelon;
- Update information requirements with already existing information or findings (database);
- Analyze identified information shortfalls and draft accomplishable partial capabilities of reconnaissance requests;
- Draft requests for information, in particular if requested information requirement cannot be met with own troops;
- Plan and C2 own forces/means for information-gathering (situation target-effect reconnaissance);
- Follow-up assessment, command and task control – receive, verify and synthesize gathered information into picture of situation that is as accurate as possible for combat troops to be supported; and
- Establish and distribute products (push/pull).

Tasks of headquarters element, reconnaissance and artillery battalion (targeting)

- Take over fire-support requirements of superior command echelon;
- Draft fire-support plan for all assigned units and subunits receiving indirect-fire support;
- Draft target nomination list, in particular if requested fire-support requirement cannot be met with own troops;
- Plan and C2 own reconnaissance forces/means for situation-target-effect reconnaissance;
- Control use of one's own means of force to safeguard indirect fire support;
- Follow-up assessment, command, fire control and task control – receive and synthesize information gained from post-strike reconnaissance into picture of situation that is as accurate as possible for combat troops to be supported; and
- Establish and distribute products (push/pull).

Figure 5.

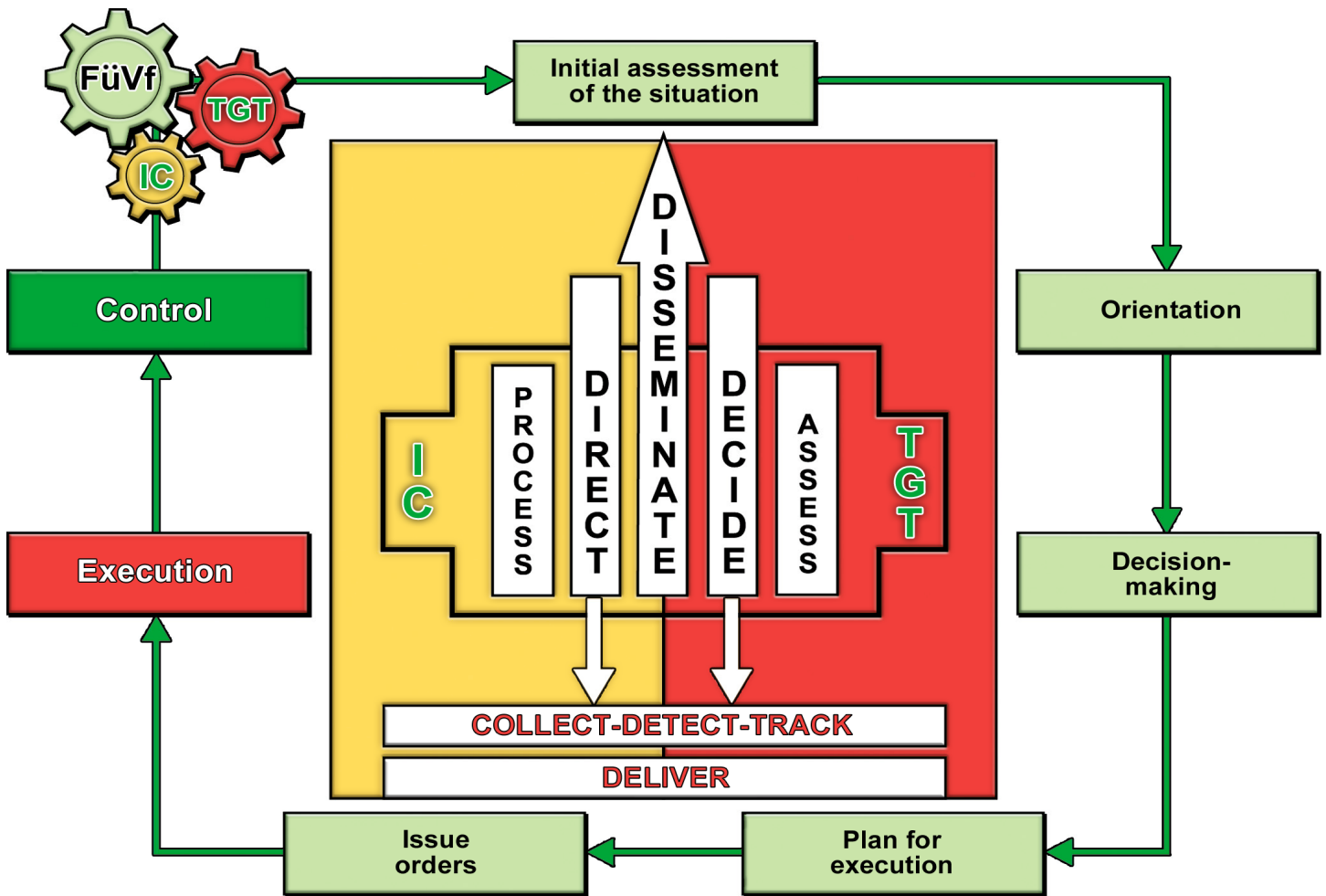


Figure 6. Command process in a reconnaissance and artillery unit.

- re-entry into the demilitarized zone;
- Delay an opponent who is superior in conventional combat;
- Attack irregular-infantry forces;
- Defend military facilities; and
- Protect areas and buildings.

Reconnaissance and artillery unit. The requirements placed on a reconnaissance and artillery unit in support of a battalion-sized combat unit in a stabilization operation or to separate parties to a conflict are:

- Contribute to the C2 process of the higher command, in particular as far as the implementation of the intelligence and targeting cycles are concerned;
- Perform wide-ranging reconnaissance of the area of operations with all available partial capabilities of terrestrial tactical reconnaissance to provide a picture of the situation that is as accurate and up-to-date as possible;

- Provide “actual intelligence” to support all movements and safeguard all protective and monitoring tasks;
- Make a credible show of force by deliberately demonstrating the available kinetic means of force, including exercises and live-firing;
- Provide general support of the combat unit by providing situation, target and post-strike reconnaissance as well as ranged fire support, both in the preparation and conduct of combat operations (i.e., attack, defense, delaying action and protection).

At one glance

The modern battlefield is extremely varied, demanding a comprehensive approach and multiple employments of civilian and military capacities. Especially in view of dwindling financial resources, the reconnaissance and artillery battalion is well suited to support the broad spectrum of future military operations in terms of reconnaissance, C2 and effect. Most of the development needed to enhance the unit’s performance can be

implemented already now and at low costs.

There have been enhancements in evaluation and analysis capabilities, the implementation of field HUMINT platoons at the reconnaissance and artillery platoons, and the build-up of non-kinetic secondary-role capabilities (TPT, TCT, CIMIC) for organizational elements so far exclusively defined as kinetic.

Also, the change in ammunition equipment toward precision ammunition not only increases accuracy and effectiveness, but also the assertiveness vis-à-vis the parties to the conflict and the self-assurance of one’s own soldiers.

LTC Franz Krasznitzer commands Reconnaissance and Artillery Battalion 7, Feldbach, Austria. Previous assignments include head of Reconnaissance Land Forces School, Zwölfaxing, Austria; commander in the United Nations Disengagement Observer Force, Syria; and designated commanding officer, fire-support officer and battery commander, all for Artillery Battalion 9. LTC Krasznitzer’s military schooling includes

8th Command Course 2, Artillery, National Defense Academy; 1st Command Course 2, Reconnaissance (including Evaluation Course, Army Reconnaissance School, Munster, Germany); 2nd Field HUMINT Team Course, Austrian International Operations Command, Götzendorf, Austria; Joint Tactical Targeting Course, Royal Artillery School, Larkhill, Great Britain; and 9th Command Course 3, National Defense Academy.

(Editor's note: A version of this article was originally published in the Austrian military publication TRUPPENDIENST, March 2013 edition, published by the Ministry of Defense, Vienna, Austria. Republished with permission from TRUPPENDIENST.)



Figure 7. The local population is a significant information source.

Acronym Quick-Scan

C2 – command and control
CEP – circular error probable
CIMIC – civil-military cooperation
EUBG – European Union battle group
GPS – Global Positioning System
HE – high explosive
HUMINT – human intelligence
IC – intelligence collection
PGK – Precision Guidance Kit
TCT – tactical camera team
TGT – target
TPT – tactical psychological-operations team
UAV – unmanned aerial vehicle



Figure 8. State-of-the-art equipment is the precondition for task accomplishment. (Photo courtesy of Austrian armed forces)



Figure 9. Field HUMINT personnel on the one hand ...



Figure 10. ... and technical equipment on the other are most effective when they are used in combination.

What do our divisions need to do to prepare to execute decisive action against a near-peer competitor within unified land operations (ULO)?

1st Armored Division Leads Army in Re-examining Mission Command 'Initiatives'

by **BG Joseph P. Harrington and Dr. William M. Rierson**

During 1st Armored Division's recent distributed command-post exercise (CPX) Iron Resolve 14.2, the division leadership sought to re-examine and potentially adopt tried and proven mission-command methodologies that were once embedded within Army force structure but were set aside during the Army's shift toward the brigade modularization critical to supporting the nonlinear, decentralized nature of the counterinsurgency (COIN) fight.

Previously, Cold War-era U.S. Army formations organized their staff structures and mission-command processes not only on the capabilities of then-available information-sharing technologies and prevailing knowledge-management techniques, but also on the centralized command and control (C2) needed to manage the fight of multiple maneuver brigades augmented with sizable numbers of attached supporting-arms formations. The 1st Armored Division's challenge during Iron Resolve 14.2, therefore, was to revisit and reimagine these structures and processes prevalent more than two decades ago through the new lenses of 21st Century mission-command system technology and associated, updated information-sharing and knowledge-management techniques.

Iron Resolve 14.2's main purpose was to practice mission-command and staff processes during expeditionary operations with a primary emphasis on offensive tasks. The desired endstate was a division staff trained on conducting mission command for decisive action and prepared for Network Integration Evaluation (NIE) 14.2. (During NIE 14.2, the division's initial focus was on performing the role of higher control (HICON) for the brigade combat team (BCT) conducting the specific NIE experiments; it later transitioned from HICON to training audience, conducting a division-level joint tactical exer-

cise that trained the division as a combined joint task force (JTF) headquarters.)

The division's training objectives for this preparation included:

- Establish and operate a division command post (CP) to exercise mission command of decisive-action operations;
- Conduct and synchronize tactical operations by creating and maintaining a common operational picture using assigned digital systems;
- Validate and refine the division's tactical standard operating procedures; and
- Execute daily reporting requirements and update briefs to higher headquarters according to the corps battle rhythm.

Mission-command capabilities now enable a division commander's increased span of control of his formations. These capabilities appropriately (and in reality) implement the commander's desired model of centralized planning and decentralized execution through mission-type orders. Divisions conducting decisive combat operations against a near-peer enemy within ULO will rely on such a model – and indeed will demand it.

For example, Joint Publication 3-31, **Command and Control for Joint Land Operations**, states: "Unity of command is necessary for effectiveness and efficiency. Centralized planning and direction is essential for controlling and coordinating the efforts of the forces. Decentralized execution is essential because no one commander can control the detailed actions of a large number of units or individuals."

To adopt a revised version of this centralized mission-command methodology, Iron Soldiers experimented with adopting three "new" mission-command and staff organizational

structures and processes to facilitate coordination, integration, synchronization and execution of fire and maneuver, to include operational fires for the division:

- The Joint Air-Ground Integration Center (JAGIC);
- The Deep-Operations Coordination Cell (DOCC); and
- Division artillery (DIVARTY).

Lessons-learned from Iron Resolve 14.2 indicated a significant learning curve is ongoing and will continue for the current generation of COIN-savvy warfighters within the division staff – and likely for the rest of our Army. The previous generations of Cold War Soldiers with training and experience on conventional combined-arms maneuver are nearly depleted from the force. Only the most senior officers and non-commissioned officers have the first-hand experience and historical knowledge of the warfighting skills necessary to succeed in the protracted and dynamic environment that characterizes ULO.

This point is amplified when considering the ability of division staffs to execute decisive operations against a potential near-parity, nation-state enemy. To address these ULO training shortfalls, the division is adopting accelerated collective-training programs and instituting fundamental staff and force-structure changes. The division is implementing these multiple command-and-staff structure changes concurrently as it supports the Army-directed NIE program at Fort Bliss, TX, and White Sands Missile Range, NM, while at the same time completing JTF headquarters training.

JAGIC

The division is adopting the JAGIC concept to expedite clearance of fires and airspace deconfliction within the division area of operations. The JAGIC evolved from a concept to enhance



Figure 1. The JAGIC is adjacent to the COIC. In the foreground (from left to right) are MG Sean B. MacFarland, 1st Armored Division commanding general; LTC Michael A. Ellicott Jr., 1st Armored Division's division engineer; and BG Joseph P. Harrington, 1st Armored Division deputy commanding general for support. (Photo by SGT Ben J. Kullman, 1st Armored Division Public Affairs)

joint collaborative efforts to integrate joint air-ground assets. Located within the division Current-Operations Integration Cell (COIC), the JAGIC provides commanders a method to coordinate, integrate and control operations in the division-assigned airspace. The JAGIC co-locates decision-making authorities from the land and air components, coordinating fires to achieve the supported maneuver commander's objectives and intent. The JAGIC facilitated effective mission execution while reducing the level of risk.¹ In short, the JAGIC concept brings the air-support operations center down to the division level instead of maintaining it at corps level.

The JAGIC's design fully supports and enables division-level current operations through the rapid execution and clearance of fires and airspace deconfliction. It is a modular and scalable

center designed to integrate and synchronize fires and airspace control within the division area of operations according to guidance received from the division commander and the joint-force air-component commander.

As expected, integration of the JAGIC into 1st Armored Division's Division-Main (D-Main) CP provided improved airspace deconfliction and coordination. The ability to dynamically retask previously distributed joint air assets in real time to support the division commander's priorities allowed the staff to fully execute the detailed integration of fires. Through the course of two division exercises, JAGIC integration has proven to be a success; however, this hasn't been without challenges. First, the current division fires cell, air and missile defense (AMD) and G-3/Aviation sections are

not organized to man the JAGIC. Also, going into these exercises, the staff did not fully understand the roles, responsibilities and functions of each JAGIC member.

Current fires, AMD and G-3 Aviation manning are designed around the division's CPs, principally D-Main and Division-Tactical (D-Tac). The current structure has evolved to support a COIN fight focused on personality targeting in a slower-developing environment and not on the execution of unified action or a deep-targeting effort. Given this organization and pace, modern CPs are often tied to product development in support of battle-rhythm events (i.e., commander's update, battle update and battle-update-assessment briefings). These functions are manpower-intensive and were disrupted when the staff transitioned to JAGIC integration.

As outlined in Army Training Publication 3-91.1, *The Joint Air-Ground Integration Center*, the JAGIC is an execution cell and, as such, use of it to its full capability requires a mindset shift away from the management of the several asymmetric brigade areas of operation to the prosecution of the division's fight. To doctrinally man the JAGIC, 212th Fires Brigade had to provide augmentation to the division's fires cell while still meeting its own significant, competing demands.

During the initial integration of the JAGIC into the division's mission-command structure, 1st Armored Division was supported by representatives from the Air Force's Air Combat Command and the Army's Fires Center of Excellence. These experts brought standardized battle drills that had been developed during previous exercises with

hopes of using Iron Resolve 14.2 as further validation of the JAGIC concept. Following the CPX, JAGIC members from 1st Armored Division and 7th Air Support Operations Squadron (ASOS) used this expert assistance to develop a training program that further defined roles and responsibilities, and refined the battle drills for use in a less controlled environment. These efforts developed situational understanding among the staff and drove adjustments to the division's COIC layout to allow full integration of the JAGIC.

DOCC

Division deep operations normally focus on the main defensive belt, second-echelon units and support. Fire support for deep operations may include the fires of field artillery, rockets, missiles and air support, as well as lethal and nonlethal C2. Usually,

targeting for lethal and nonlethal attack focuses on planned engagements. A planned engagement entails some degree of prearrangement such as general target location, weapon-system designation and positioning, and munition selection. Planned engagements may be scheduled for a particular time or may be keyed to a friendly or enemy event. Other planned engagements may be specified by target type and may be on-call based on the characteristics of the target – for example, dwell time or high-payoff considerations. Unplanned or dynamic targeting may be conducted, but they must satisfy the same relevancy criteria as those of the planned engagement.²

The DOCC was historically adopted at the corps-level headquarters, with limited division employment, as a

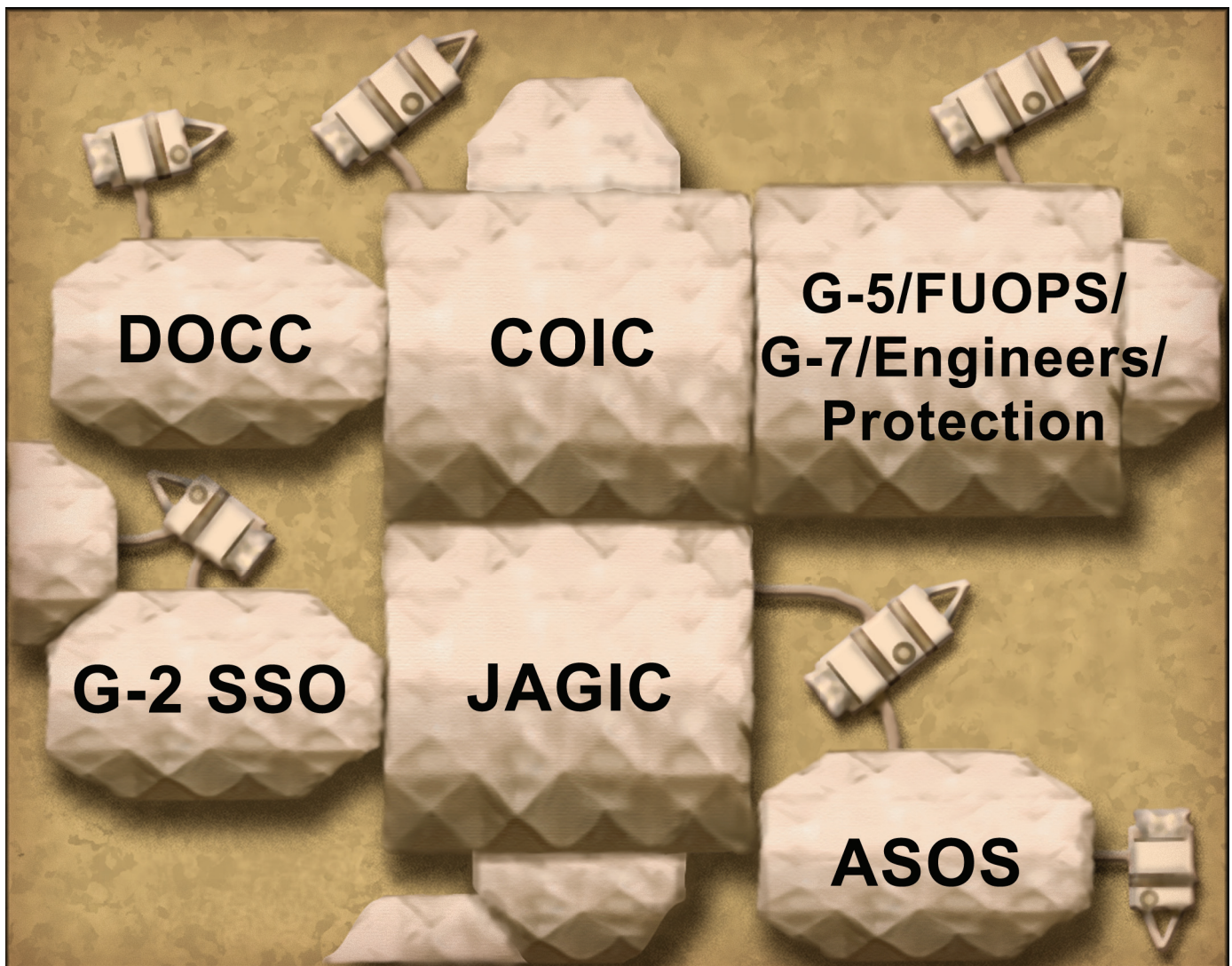


Figure 2. The DOCC is situated immediately adjacent to the COIC within D-Main.

mechanism to facilitate targeting and synchronizing combat enablers in support of movement and maneuver. The DOCC's mission is to apply operational fires (lethal and non-lethal) according to the commander's guidance to create the conditions for success on the battlefield. The DOCC was traditionally chartered with three tasks to achieve the commander's intent:

- Facilitate maneuver in depth by suppressing the enemy's deep-strike systems, disrupt the enemy's operational maneuver and tempo, and create exploitable gaps in enemy positions;
- Isolate the battlefield by interdicting enemy military potential before it can be used effectively against friendly forces; and
- Destroy critical enemy functions and facilities that eliminate or substantially degrade enemy operational capabilities.³

The DOCC normally consists of representatives from aviation, fires, G-2 and G-3 planners, with additional support from the electronic-warfare officer, air-defense officer, air-liaison officer, information operations, Staff Judge Advocate and civil-affairs representatives as required.

With these doctrinal principles in mind, and within the exercise conditions, the division established an *ad hoc* DOCC adjacent to the JAGIC. The division did not have enough manning to stand up a full-time DOCC organization due to the requirements to staff the COIC and JAGIC. While the COIC focused entirely on supporting the BCTs' current fight within the next 24 hours, the DOCC focused on targeting and coordinating intelligence, surveillance and reconnaissance (ISR) assets in support of near-term operations for the 24-48-72-hour time periods; the DOCC therefore did not attempt to plan fires beyond the 72-hour air-tasking-order cycle. G-5 Plans was focused on planning operations beyond the 72-hour threshold and the division's contingencies.

While DOCCs previously existed at the corps, given the expanded capabilities and responsibilities allocated to Army divisions, this cell is necessary to

execute the division's fight beyond the coordinated fire line (CFL). The primary lesson-learned from this initiative was how the DOCC was used to bridge the gap between plans and current operations, setting the conditions based on both time and events. Using these factors as entry arguments (time: 12-24 hours; event: next decision on the decision-support matrix), the staff was able to focus efforts by prioritizing finite resources to shape the deep fight. The increased capability of Army tactical missile systems and guided multiple-launch rocket systems, and the shift in Army aviation doctrine from cross-forward-line-of-own-troops to close-combat attack, provided the division more abilities to engage targets within and beyond the CFL, well within even 12-hour planning thresholds.

Development of the DOCC also forced the staff to break out of COIN-centric thought process to identify the division's place in ULO. This paradigm shift reintroduced the concepts of depth and shaping to the organization.

DIVARTY

While the Army initiates the implementation of DIVARTY within the current force structure, the division is rapidly moving forward with the requisite manning and tactics, techniques and procedure (TTP) changes necessary to (re)adopt the DIVARTY concept according to U.S. Army Forces Command (FORSCOM)'s DIVARTY implementation order dated April 9, 2014. These changes included converting 212th Fires Brigade to 1st Armored Division's DIVARTY with an effective date of July 23, 2014, and transferring authority between the BCT and DIVARTY commanders for the incremental attachment of the BCT field-artillery battalions no later than January 2016.⁴

A DIVARTY is to be assigned to each Active Component division and ideally stationed with the division headquarters. The DIVARTY has no organic firing units but can be provided a variety of field-artillery battalions (rocket and cannon) and other assets as required to accomplish its mission for the division commander. The DIVARTY's primary role is to coordinate, integrate, synchronize and employ fires, including operational fires, for the division commander. DIVARTY's

role further includes the ability to mass fires, employ radars, plan and oversee resupply rates and, importantly, execute division-level suppression of enemy air defenses. The DIVARTYs will provide mission command for training management and certification of the BCT field-artillery battalions and fire-support cells. The DIVARTY will work with the division fire-support cell to achieve coordination, integration and synchronization of fires.⁵

Although the transition of 212th Fires Brigade to 1st Armored Division's DIVARTY is officially codified in the aforementioned FORSCOM order, this effort began months earlier. Based on recent initiatives to reduce the size of division staffs, 1st Armored Division began an alignment in August 2013 of the division fires cell and 212th Fires Brigade staff to find and leverage efficiencies between their redundant capabilities. During Iron Resolve 14.2, this initiative came to fruition through the integration of 212th's fire-support and targeting sections into 1st Armored Division's JAGIC and DOCC, and the management of the division's counterfire fight out of the fires brigade's tactical-operations center. Outside the exercise construct, 1st Armored Division has further solidified this relationship by attaching the BCT fires battalions and division fires cell to DIVARTY.

A division rebuilding and relearning

The Old Ironsides division commander is leading a concerted and focused effort across all warfighting functions to ensure 1st Armored Division's prominent role in supporting an expeditionary Army. Simultaneously, the division has assimilated the current lessons-learned from the decentralized brigade- and battalion-level COIN operations of the past 13 years while reinvigorating many tested warfighting practices that were commonly practiced before 9/11. The commander is setting in motion the structural changes and TTP adjustments necessary to support the dynamic and potentially chaotic pace of decisive action against a range of enemy capabilities within ULO.

The division is incorporating the lessons of the past 10 years by adjusting



Figure 3. The D-Main footprint demonstrates some of the material and transport necessary to establish and relocate.

the way the D-Main is manned and structured to improve the division's ability to leverage all joint and Army fire-support assets. The leadership faces some exceptional challenges, however, as it attempts to make these structural and functional changes. Challenges include:

- The division's anticipation of a manpower reduction within its headquarters and headquarters battalion (HHBN) from 775 personnel to around 500; despite this reduction, 1st Armored Division maintains the requirement to simultaneously, functionally man D-Main and D-Tac headquarters elements as well as the HHBN life-support area (LSA).
- The division will also require more transportation assets not currently on the HHBN modified table of organization and equipment (MTOE) to physically move and establish these multiple headquarters elements.
- Lastly, the HHBN MTOE does not support a functional LSA required to enable the D-Main headquarters. The current MTOE lacks maintenance and dining facilities, a battalion aid station and sleep areas – all essential to supporting an expeditionary headquarters. These facilities would need to be either

built or contracted to meet the division's daily support requirements.

With the demise of the division support command (DISCOM), mission command for division support-area operations is resurfacing as a significant challenge, one that is currently the responsibility of the task-organized maneuver-enhancement brigade (MEB). There are not enough MEBs allocated to the current Army force structure to cover down on all active divisions. There are currently only two active-duty MEBs; 19 MEBs are assigned to the Reserve or Guard components.

The historical role of DISCOM's Division-Rear (D-Rear) area mission was to provide division-level logistics and health-service support to all units of the division. In addition to its assigned mission to provide direct support to the fighting forces and general support to the entire division, DISCOM also planned, coordinated and supervised base and base-cluster defense operations within the division support area. It did this in conjunction with D-Rear.

It is important to note the sustainment elements do not work for division commanders. They are instead an area asset that works for a corps-level sustainment command with a logistical footprint that is often larger than a typical division-rear area.

In essence, the Army removed from the division force structure a key capability, complicating how heavy divisions train. Overcoming these challenges will require force-structure realignments above and beyond division authority.

By implementing these division internal-structural initiatives, 1st Armored Division is providing more tools, processes and systems necessary to support the commander's rapid decision-making within the operations processes of *plan, prepare, execute* and *assess*. The collective structural changes should help reinforce a battle rhythm that supports both the division and subordinate BCTs by streamlining functional activities within a single action cell. Co-locating directors and planning staffs across functional warfighting areas within the JAGIC and DOCC enhances joint collaborative efforts to secure joint fires and ISR assets in support of the division. This structure also facilitates targeting and synchronizing combat enablers in support of movement and maneuver.

The experience of Iron Resolve 14.2 confirmed that the division fight centers on coordinating ISR and fires in support of subordinate BCT operations. These "sometimes new" and "sometimes old" staff and force structures provide 1st Armored Division the means to assume and indeed win this fight.

The division employed and refined many of the ideas and processes mentioned in this article as part of the joint training exercise and the Army's NIE. It is clear that much of the Army's knowledge and expertise required to execute the once-vaunted AirLand battle doctrine has atrophied. The hard-won lessons-learned from 1st Armored Division's CPX program suggest, however, that 1st Armored Division leads the Army in re-examining, relearning and indeed reimagining these core ULO-centric competencies and capabilities.

BG Joseph Harrington is the deputy commanding general for support, 1st Armored Division. His past duty assignments include lieutenant in 1st Armored Division's 6-1 Field Artillery in Zirndorf, West Germany; commander of 2-3 Field Artillery in Giessen, Germany; Combined Joint Staff, Seoul, Korea;

82nd Airborne Division's 319th Airborne Field Artillery Regiment (served there twice); and commander, 75th Fires Brigade, Fort Sill. Other assignments include the Office of the Secretary of Defense and multiple assignments to the Army Staff and Joint Staff. He also served as the executive assistant to the 18th Chairman of the Joint Chiefs of Staff. Harrington recently completed an operational deployment as director of Central Command Forward-Jordan. He was the exercise director for CPX Iron Resolve 14.2. Harrington holds a bachelor's of arts degree in accounting from Stockton State College and was commissioned a second lieutenant in field artillery through Rider College's ROTC program.

Dr. William Rierson served as a fires

observer-coach/trainer during CPX Iron Resolve 14.2. He is a retired field-artillery officer with more than 23 years' active-duty enlisted and commissioned service. He is a contractor with the Canadian firm CGI (Conseillers en Gestion et Informatique) Federal, assigned to Training and Doctrine Command's G-2, ISR Integration Training Team. His past duty assignments include 1st Armored Division, 3rd Armored Division, 101st Airborne Division (Air Assault), 197th Infantry Brigade (Separate) and 193rd Infantry Brigade (Separate). He served as a field-artillery battery commander during Operation Desert Storm. He holds a doctorate in education from the University of West Florida.

Notes

¹ Wertz, Stephen A., "Joint Air Ground Integration Center," *Fires Journal*, March 2012, <http://www.readperiodicals.com/201203/2650589471.html>.

² Field Manual 6-20-30, *Tactics, Techniques and Procedures for Fires Support for the Corps and Division Operations*, Washington, DC: Government Printing Office, U.S. Department of the Army, 1989.

³ Sevalia, Roy, "Fighting Deep with Joint Fires," *Call Newsletters*, 2003, <https://www.jllis.mil/ARMY/index.cfm?disp=cdrview.cfm&doit=view&cdrid=20992>.

⁴ FORSCOM DIVARTY implementation order, FORSCOM headquarters, Fort Bragg, NC, April 9, 2014.

⁵ Whitepaper, "Field Artillery Brigade/ DIVARTY" (staffing version), U.S. Army Field Artillery School, Fort Sill, OK, 2014.

Acronym Quick-Scan

AMD – air and missile defense
ASOS – air-support operations squadron
BCT – brigade combat team
C2 – command and control
CFL – coordinated fire line
COIC – Current-Operations Integration Cell
COIN – counterinsurgency
CP – command post
CPX – command-post exercise
DISCOM – division support command
DIVARTY – division artillery
D-Main – Division-Main (command post)

D-Rear – Division-Rear (command post)
D-Tac – Division-Tactical (command post)
DOCC – Deep-Operations Coordination Cell
FORSCOM – (U.S. Army) Forces Command
FUOPS – future operations
HHBN – headquarters and headquarters battalion
HICON – higher control
ISR – intelligence, surveillance and reconnaissance
JAGIC – Joint Air-Ground Integration Center

JTF – joint task force
LSA – life-support area
MEB – maneuver-enhancement brigade
MTOE – modified table of organization and equipment
NIE – Network Integration Evaluation
SSO – Security Support Office
TTP – tactics, techniques and procedures
ULO – unified land operations

Transforming Tanks to Boots

by CPT Nicholas A. Rinaldi,
1LT Chad J. Strickland and
SFC David J. Winczewski

As a tank company within a combined-arms battalion forward-deployed to Camp Buehring, Kuwait, in support of Operation Spartan Shield, our mission was unique to most combat operations that have and are occurring throughout the Middle East.

The brigade was tasked as the theater reserve for Joint Security Area (JSA) Georgia, with the responsibility to respond to any decisive-action contingency across the region. The brigade trained to deploy its force forward, with the mechanized infantry companies also being trained to conduct non-combatant evacuation operations and the tank companies trained and focused on decisive action. The tank companies created the mission-ready

force (MRF) heavy – a modified table of organization and equipment (MTOE) tank company collectively trained and qualified for a decisive-action fight. We had the opportunity to continue our training while deployed forward in Kuwait, which we did extensively.

Another mission given to us by U.S. Army Central (ARCENT) was the theater security-cooperation exercises (TSCE) within JSA Georgia, which included exercises with nations such as Jordan, Saudi Arabia, Oman, the United Arab Emirates and Kuwait.

The TSCEs assigned to ARCENT are executed by the rotational theater reserve unit, since they are the most trained and ready Army force within the region. Of those exercises, Charlie Company (“Chaos”), 1-67th Combined Arms Battalion, was able to participate in three of the four TSCEs

that occurred during the nine-month rotation. After collectively training for more than 12 months as an MTOE tank company postured for decisive action, the company was able to transition to several combat platforms to accomplish the TSCEs’ training objectives – whether that was tanks, trucks or on foot.

Identifying assigned mission tasks

The first of the TSCEs was conducted in Oman partnered with a light-infantry company, Alpha Company, 11th Frontier Brigade, Royal Army of Oman (RAO). Chaos Company was assigned this mission early in the deployment to maintain MRF readiness for both the light and medium force throughout collective training and the duration of the exercise. ARCENT’s role involved conducting several planning conferences

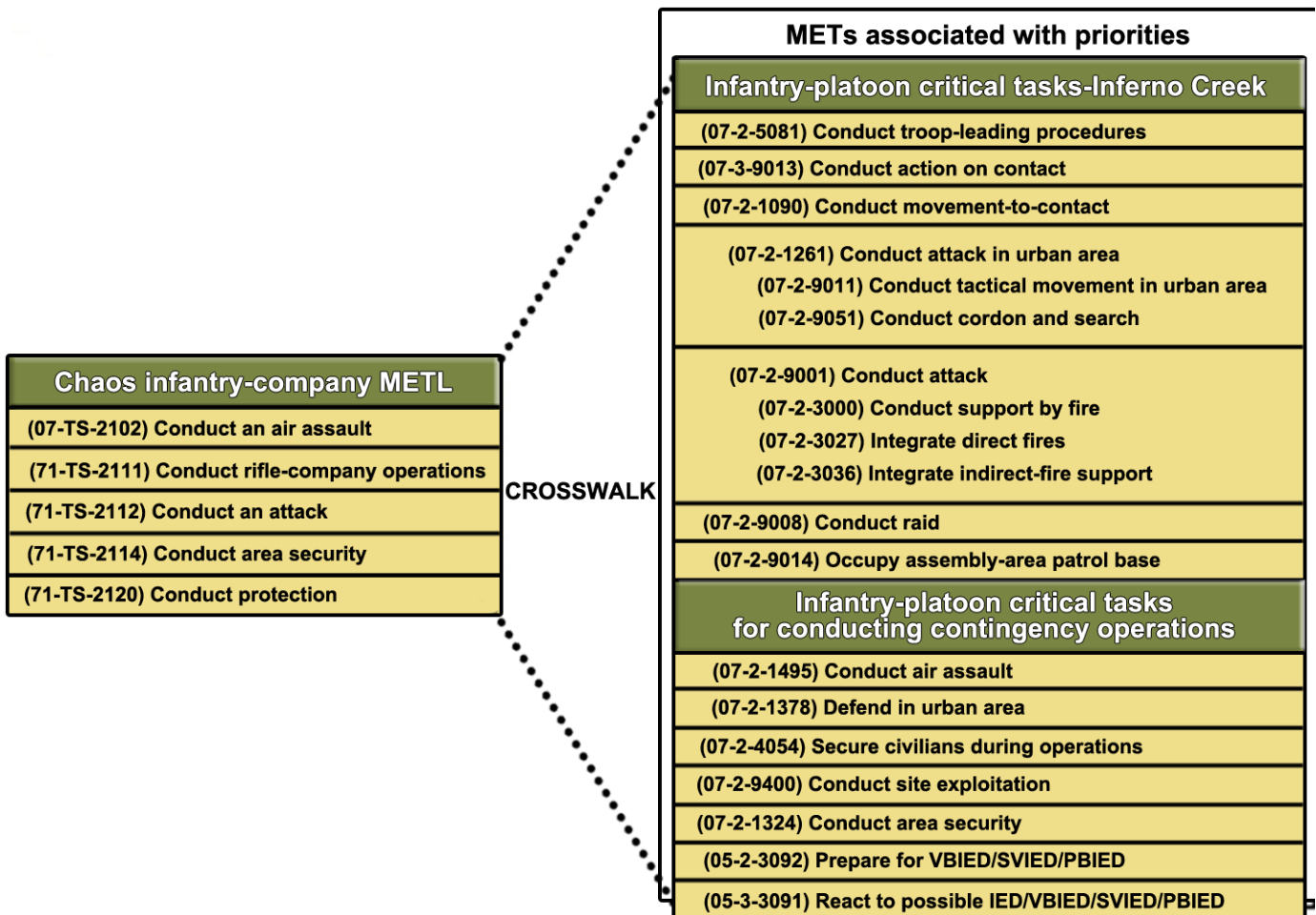


Figure 1. Company AMTs, both company and platoon.

with the RAO, working the scope of the training objectives the Omanis wanted to accomplish while collectively exchanging doctrine with the U.S. military.

The purpose of a TSCE is to place a regionally aligned force from the U.S. Army with another nation's army within that region and build a relationship to provide senior leaders a "vehicle" to build relationships at the strategic level with that host nation. Understanding that there are specific training objectives for each of these TSCEs, the development of assigned mission tasks (AMTs) is developed between ARCENT and the foreign military counterparts with which the United States is conducting the exercise.

ARCENT's G-3 team developed the tasks the RAO wished to conduct to meet their training objectives and delivered these tasks to the assigned rotational unit, 2nd Armored Brigade Combat Team (ABCT), 4th Infantry Division (the theater reserve). The brigade assigned the mission to 1-67 Armor Regiment, a combined-arms battalion within its organization, and the TSCE was then assigned down to Chaos Company, as that was the size of organization required to conduct this TSCE with the RAO.

The tasks ARCENT developed were in the form of objectives on constructed situational training exercise (STX) lanes, building from squad through company-level iterations. Each day built on itself and specific tasks scheduled for completion before moving to a higher level of collective training. Based on those tasks, we developed a set of collective mission tasks, AMTs, which look very much like our company mission-essential task list (METL). These collective tasks at the platoon and company level were chosen based on the individual tasks held within, getting as close as possible to the collective tasks ARCENT had requested. Once these were approved, we developed a training plan that would ensure the company was proficient in each AMT in six weeks to meet our timeline for deployment to Oman.

Shaping force to match mission

Organizing a 64-man tank company

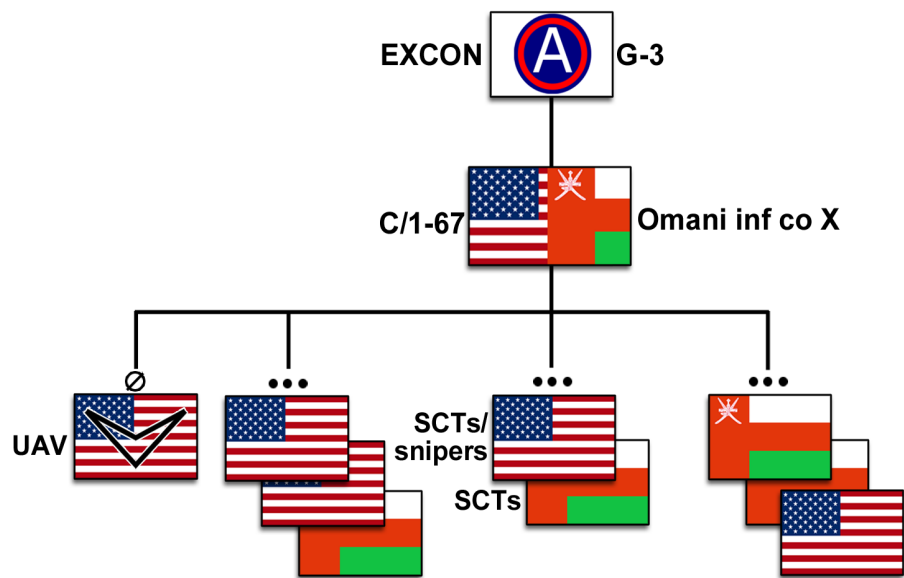


Figure 2. Omani and U.S. task organization.

into a light-infantry rifle company is not unheard of within the last 12 years of counterinsurgency (COIN) operations in the Middle East, so pulling forward some of those concepts was not difficult. We originally started out with the standard tank company configured to operate in a COIN environment, which looked like two infantry squads, including the platoon leader and platoon sergeant embedded within the squads. This would keep the leadership structure intact, with three platoons and a headquarters element. Understanding that this mission included significantly more open terrain and no vehicular support, we adjusted the configuration of the platoons to add more personnel to the team. We deconstructed one platoon, handing the staff sergeants and below over to the two other tank platoons, adding to their ranks to make 25 Soldiers.

We gained the battalion mortar platoon, consisting of 20 Soldiers, to which we added from our headquarters element to create the 25-man platoon. This created two maneuverable squads with a platoon headquarters element for mission command. Each squad had two squad automatic weapon (SAW) gunners and two M203/M320 grenadiers. We also trained M240B machinegunners and assigned one to each squad if the mission dictated.

Also, there were enough Soldiers at the company level to have a company

mission-command node. The platoon leader and platoon sergeant from the deconstructed platoon assisted in an observer/controller role during our collective training, assisting the executive officer with the company trains and daily resourcing requirements. We attached a scout platoon, sniper squad and 15 linguists to accomplish all training objectives with the RAO. A small battalion tactical command-post node deployed to assist with mission command and for direct coordination with the ARCENT exercise support group in Oman.

Collective training

To become proficient in all AMTs in six weeks, Chaos Company configured into a light-infantry rifle company and began training at the individual level. Having qualified all Soldiers on M-4 rifles prior to deployment, including basic and advanced rifle marksmanship, the team went straight into close-quarters marksmanship (CQM) at the individual level. We spent time engaging moving targets both stationary and while moving, and working on individual body stance and weapon posture.

Next was the buddy-team level: for two days, each squad broke their members down into buddy teams, working individual movement techniques, buddy-team bounding, team-movement techniques and specialty teams within the squad (such as aid and litter teams, detainee teams, etc.). Buddy-team

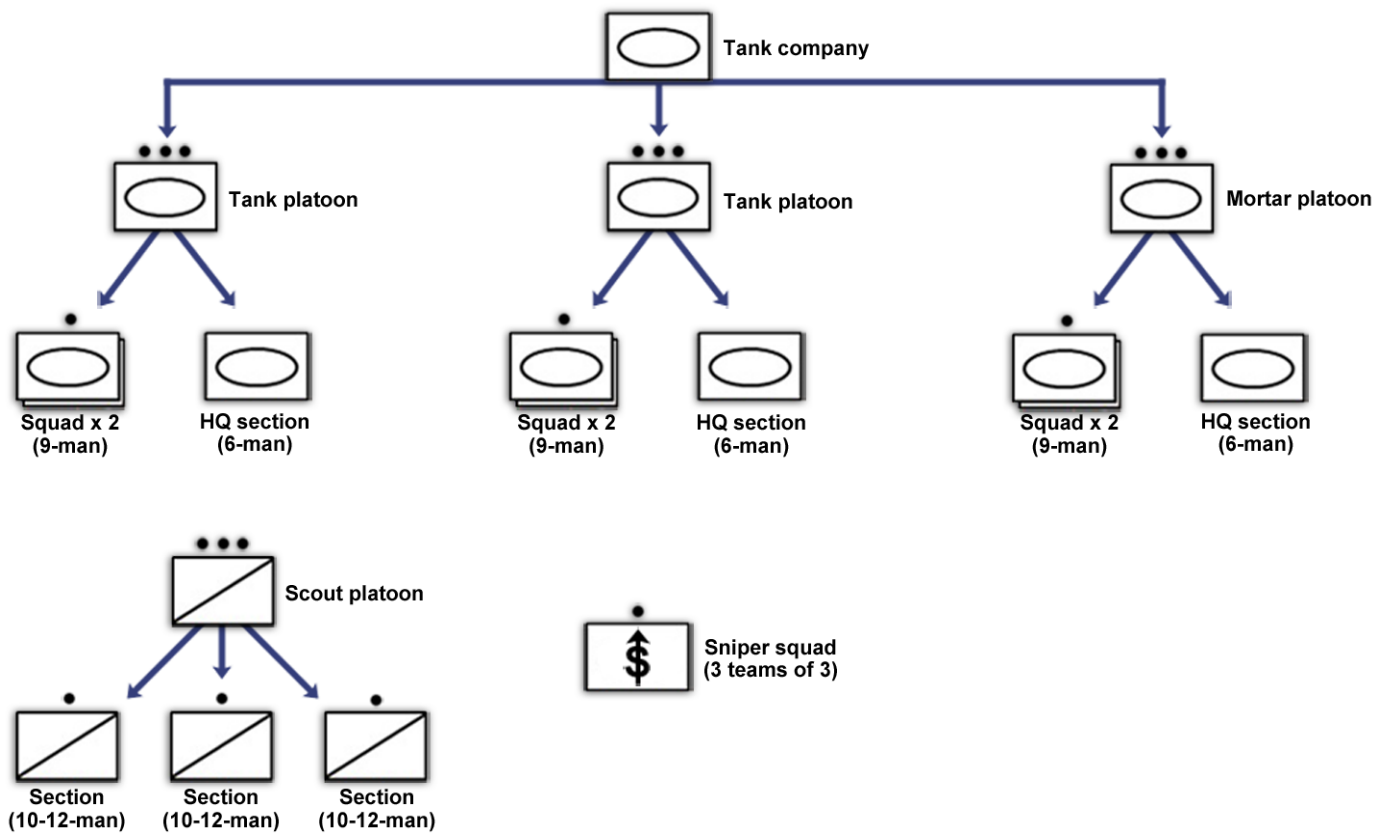


Figure 3. The company task organization to match the Omani company, showing the combat power the company would have and the capabilities it would bring to partner with RAO. This shaped the attachments the company received prior to collective training.

training included another live-fire of CQM to advanced CQM and close-quarters battle (CQB) that involved Battle Drill 6. We worked this team-level training extensively over the course of several days to gain proficiency at the most basic collective level.

We noticed the company had a broad range of proficiency in dismounted operations stemming from various levels of experience throughout the organization, including noncommissioned officers (NCOs) recently redeployed from Afghan security-force assistance teams (SFATs); NCOs with multiple tours to both Iraq and Afghanistan with COIN tactics, techniques and procedures (TTPs) from various units; and platoon leaders and junior enlisted with no deployments and trained for decisive mounted operations. To bring all these experiences together, every training event was soundly based within doctrinal tasks and performance measures. Where there were doctrinal gaps, TTPs were formed, codified, validated and published within our company standard operating procedures

made specifically for this TSCE.

At squad level, the team conducted movement techniques and formations, navigating linear danger areas, reacting to contact and squad attack (both urban environment and rural). This culminated with a squad live-fire iteration integrating battle drills 6 and 6A. There were some challenges as we validated at squad level, such as SAW gunners not having qualified on their weapon prior to live-fire. We worked through this issue by using blanks for those Soldiers and still accomplishing the intent of the training objectives – to have sound tactical movement and maneuver of fires.

From squad-level training, we moved on to platoon level, where cordon and search was introduced along with platoon attack. At Camp Buehring and the Udairi Training Complex, there were enough urban-training environments to conduct platoon training for all four platoons on the same training area. This rapidly produced proficient platoons over a series of days that culminated in platoon force-on-force with

Ultimate Training Munitions rounds (man-marking rounds). The platoon force-on-force scenario involved maneuver from a rural to urban environment using the platoon collective tasks they trained and having the paint rounds as feedback, creating a more realistic training event.

The final collective training event was a series of troop-leading procedures, including company-level rehearsals, operations orders and a combined-arms rehearsal that focused on a company-level raid with scouts and snipers in overwatch of the objective. This scenario was deliberately close to the final training event that occurred in Oman with our partners, including the ground maneuver to the objective rally point (react to contact), leader's recon of the objective, isolation, assault and withdrawal of the company element. At the end of that scenario, the company was proficient in its AMTs, projecting a light-infantry rifle company based in doctrine and validated collectively.

Exercising trained force

When deploying to an austere environment, establishing a packing list and conducting pre-combat checks (PCCs) and pre-combat inspections (PCIs) are vital. We conducted all PCCs and PCIs to standard just as if we were deploying from the States to combat. Along with combat layouts and personnel and equipment inspections, we conducted administrative readiness with Soldier Readiness Processing packets, medical readiness with immunizations and manifests for each flight. As we landed in Oman, we were housed at the closest U.S. base, which was Thumrait Royal Air Base near Thumrait, Oman.

While the company was focused on the training objectives for the exercise, they understood that the primary mission was partnership with the Omanis. We established linkup with 11th Frontier Brigade and immediately got to work building relationships at every level. Within the first few days of being on the ground, we had our opening-ceremony meet-and-greet and were on their range exchanging weapons and firing at static targets.

We moved to squad-level partnership, which consisted of each squad conducting lanes focusing on react-to-contact and squad ambush, as well as urban maneuver and entering and clearing a room. Both U.S. and Omani Soldiers conducted maneuver together paired at the individual level. The Omanis mirrored U.S. tactics and the United States mirrored Omani tactics for each tactical task.

As each unit's doctrine and techniques were exchanged on the STX lanes, the partnership between the two countries flourished. Squad-level training progressed to platoon-level training, and the exercise culminated with a company-level raid. Throughout the lane iterations, leaders developed joint doctrine that provided a means of combined maneuver using each nation's techniques on the battlefield – producing successful combined company raids.

The culminating exercise was observed by several dignitaries and military leaders from both countries and served to



Figure 4. SGT Travis L. Easley, SGT Glenn R. Hasenmyer, PFC Olukayode J. Osinowo (left to right) and PFC Mark F. Aldapa (entering door) train in the CQB lane at the 360 Shootouse, Range 5, Udairi Range Complex, the training area for Camp Buehring, Kuwait. (Photo by CPT Nicholas A. Rinaldi)

further the partnership of the two countries at the strategic level. Our train-up and preparation for this event laid the foundation, which allowed our partnership with the RAO to remain the focus instead of worrying about each other's technical and tactical capabilities. The deployment finished with a closing ceremony and celebration with our counterparts, experiencing local food and culture with them

– an unforgettable event that at higher echelon meant strategic-level access and interoperability with Oman that had not previously existed.

Conclusion

Building a team to conduct any level of TSCE in concert with regionally aligned forces involves deliberate planning and training of AMTs, task organization and specific focus on partnership and

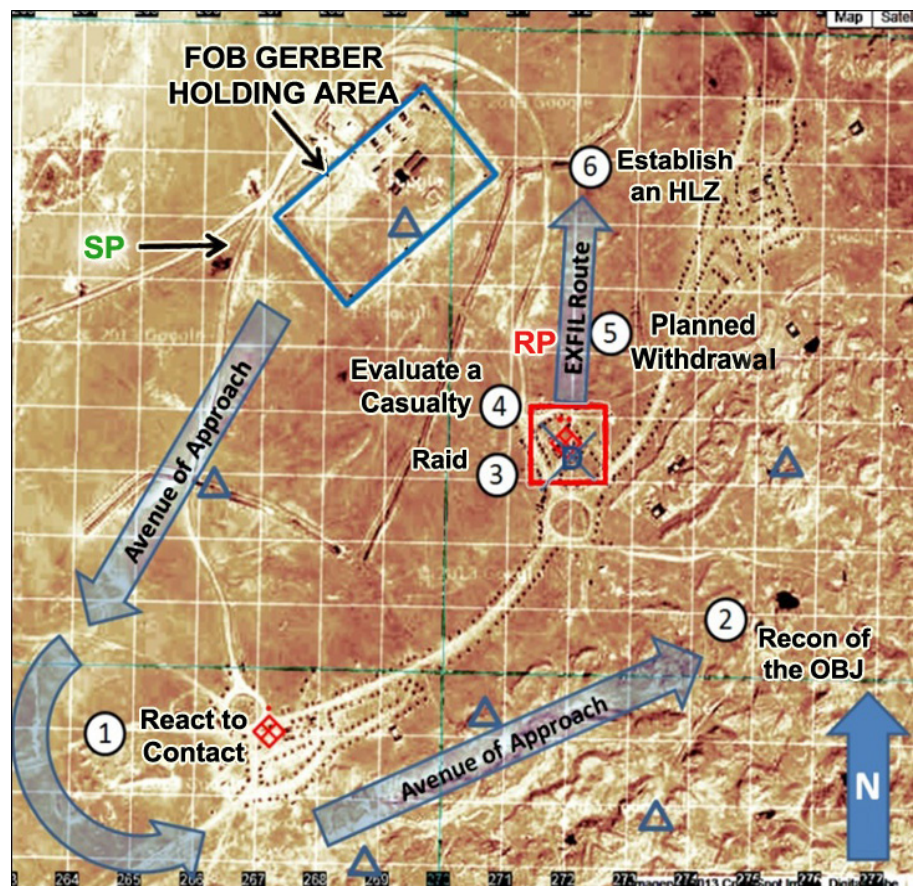


Figure 5. The company-level raid, encompassing all required training objectives.

relationship-building. Having the force that will represent the United States based in doctrine is essential to projecting the right example to a foreign nation.

Deploying from a forward location is just as deliberate in its execution as from home station, and having the mission-command node in place that is responsible for liaison between the partnering unit and the responsible headquarters (ARCENT in this case) is critical to mission focus for the unit executing the partnership.

These elements led to a successful rotation with the RAO and had a strategic impact for both access and interoperability with a foreign nation within the Middle East.

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and Personnel Security Detachment platoon leader, SFAT, 1st Squadron, 10th Cavalry Regiment. His military schooling includes Army Reconnaissance Course and Armor Basic Officer Leader's Course. 1LT Strickland holds a bachelor's of arts degree in finance from Columbus State University. His awards and honors include reflections of his overseas service (Global War on Terrorism Expeditionary Medal, Global War on Terrorism Service Medal, Overseas Service Ribbon, National Defense Service Medal, North Atlantic Treaty Organization (NATO) Medal, Afghanistan Campaign Medal; (two campaign stars) and Combat Action Badge) and the Order of Saint George Black Medalion.

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Acronym Quick-Scan

ABCT – armored brigade combat team
AMT – assigned mission task
ARCENT – U.S. Army Central
COIN – counterinsurgency
CQB – close-quarters battle
CQM – close-quarters marksmanship
JSA – joint security area
METL – mission-essential task list
MRF – mission-ready force
MTOE – modified table of organization and equipment
NATO – North Atlantic Treaty Organization
NCO – noncommissioned officer
PCC – pre-combat check
PCI – precombat check
RAO – Royal Army of Oman
SAW – squad automatic weapon
SFAT – security-force assistance team
STX – situational training exercise
TSCE – theater security-cooperation exercise
TTP – tactics, techniques and procedures

Cluster Munitions No More: What This Means for the U.S. Military

by LTC Mike Jacobson

The end of American cluster munitions is arriving and the Department of Defense (DoD) has no plans to replace them. In 2008, when the U.S. government committed itself to disposing of cluster munitions by January 2019, this milestone seemed distant. Unfortunately, when DoD implements the final phase of this policy, it will deprive itself of a critical capability without a replacement.

What are cluster munitions and why are they so important?

Cluster munitions are “munitions composed of a non-reusable canister or delivery body containing multiple, conventional, explosive sub-munitions” delivered by aircraft, cruise missiles, artillery, mortars, missiles, tanks, rocket launchers and naval cannons. DoD developed cluster munitions during the Cold War to saturate likely Soviet mechanized and armored forces avenues of approach into Western Europe with armor-killing munitions. For example, the typical howitzer-launched cluster munition, the most numerous and, arguably, most important of U.S. cluster munitions, can equal the lethal effectiveness of 15 high-explosive (HE) howitzer shells. The advantages of such a munition are obvious.

The cluster-munition debate

Presently, no replacement has been identified for the vast stockpile of U.S. Army and Marine Corps howitzer munitions that will be eliminated in just a few years. Elimination of the cluster munition created an important debate within the U.S. military regarding the need for a comparable replacement. The debate hinges on a perception of a very low likelihood of future conflicts involving large enemy armor and infantry formations, leading to the elimination of large-scale area artillery fire in combat and shifting toward precision

unitary artillery fire.

Advocates of this position point to the experiences of the past 13 years of low-intensity warfare, which did not require U.S. forces to employ cluster munitions. Advocates are further bolstered by the downward pressure on the U.S. defense budget, which does not currently support a replacement capability. Supporters also argue that future state adversaries will not apply combined-arms maneuver against the United States because of our overmatch in technology, particularly when it comes to air superiority.

Unfortunately, these arguments are flawed. Proponents of eliminating the cluster munition dismiss the capabilities of America’s most dangerous adversaries. If DoD does not invest in a replacement capability, it will leave U.S. ground forces at a dangerous disadvantage on future battlefields. Furthermore, by removing a key American deterrent, current and future adversaries may become more aggressive.

Oslo Treaty

The policy to eliminate cluster munitions was America’s buy-in to the Convention on Cluster Munitions signed in Norway in 2008, commonly referred to as the Oslo Treaty. The treaty has two aims: first, to reduce unintended harm to civilians by minimizing the indiscriminate effects of area fires (intended to inundate a target area greater than 200 square meters with explosive destruction) on the battlefield. Area fires are more likely to cause collateral damage and civilian casualties. The second aim is to eliminate the large amount of unexploded sub-munitions, or bomblets, commonly found in areas where cluster munitions have been fired. Up to 5 percent of bomblets from cluster munitions may not explode when fired, which can wreak havoc on local civilian populations for years.

In response, the Oslo Treaty prohibits signatories from manufacturing, acquiring, distributing or using cluster

munitions. Although the United States is not a signatory to the treaty, the Bush Administration supported the spirit of the treaty, as does the Obama Administration. The Bush Administration directed DoD to implement a policy to meet the intent of the treaty but to do so without giving up a key capability for an interim period while the services determine how to replace the capability.

The DoD policy began to take effect in 2009. All munitions that could not achieve an unexploded ordnance rate of less than 1 percent (which includes all U.S. artillery munitions) were immediately placed under the release authority of the combatant commander. No artillery cluster munitions were fired in Operation Iraqi Freedom following the end of the forced-entry phase of operations (declared by President George W. Bush onboard the *USS Abraham Lincoln* May 1, 2003) or in Operation Enduring Freedom. The policy gave the services a 10-year grace period to determine the requirement for a replacement, conduct research and development, and acquire enough new munitions.

To date, the services, with the exception of the Army, have failed to accomplish any of these activities, despite a clause within the policy that acknowledges the importance of this capability. The policy states: “[T]here remains a military requirement to engage area targets that include massed formation of enemy forces, individual targets dispersed over a defined area, targets whose precise locations are not known, and time-sensitive or moving targets. Cluster munitions can be the most effective and efficient weapons for engaging these types of targets.”

The State Department agrees. A State Department Webpage explains: “Cluster munitions have demonstrated military utility. Their elimination from U.S. stockpiles would put the lives of its soldiers and those of its coalition partners

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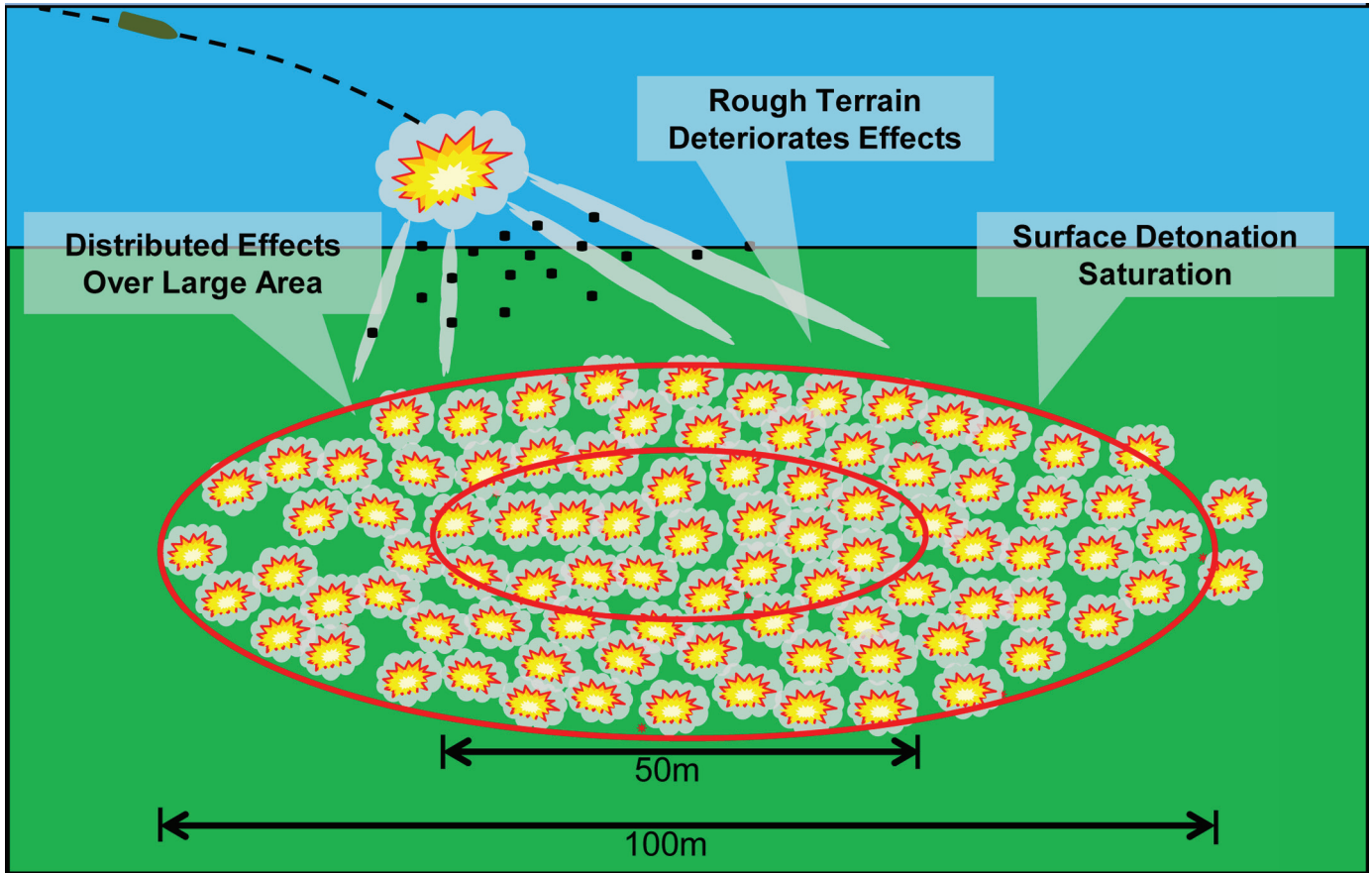


Figure 1. DPICM M483A1 area effects.

Targets

Personnel

- Destruction, neutralization, suppression
- Large targets (platoon, company, battalion)
- Crouching, hasty targets
- Stationary or moving
- Fighting position without overhead cover
- Observed or unobserved

Tanks

- Neutralization and suppression
- Formations or individual targets
- Stationary or moving
- Defensive or non-defensive posture
- Observed or unobserved

Armored personnel carriers

- Neutralization and suppression
- Formations or individual targets
- Stationary or moving
- Defensive or non-defensive posture
- Observed or unobserved

Trucks

- Destruction
- Formations or individual targets
- Stationary or moving
- Observed or unobserved

Field artillery

- Destruction and suppression

- Area targets (platoon, battery)
- Counter-battery fire
- Stationary, moving, fleeing
- Observed or unobserved

Air-defense artillery

- Destruction
- Observed or unobserved

Effects

The projectile is equipped with a time fuze set to release the cargo at the recommended height above the target and saturate the area with bomblets. The M483A1 carries 88 bomblets (with a shaped charge for armor penetration), each with a lethal radius of about 10 square meters. The dispersion area is one to three hectares, but ideally one hectare. Shaped charges that strike an armored target create a metallic jet that perforates the metallic armor. Generally, 10 or more bomblet strikes are required for an armored-vehicle kill, but one can result in a firepower or mobility kill. Bomblets detonate at surface level. The detonation and most fragmentation travel downward, so most lethal effects are close to the surface.

Sweet spot

Target	TLE	Posture	Remarks
Personnel (multiple)	1m-250m	Crouching	1 st volley HE/VT, 2 nd volley DPICM
APC (multiple)	Unobserved	Moving	Saturation of area with shaped charge
Artillery (multiple)	>100m	Fleeing	Counter-battery fire

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at risk. Moreover, cluster munitions can often result in *much less collateral damage* than unitary weapons, such as a larger bomb or larger artillery shell would cause, if used for the same mission.”¹ (italics in the original)

Specifics of cluster munitions

The U.S. Army developed a new warhead for its Guided Multiple Launch Rocket System that will service large, soft-skinned area targets such as encampments, infantry in the open and truck formations. But this munition is allocated to corps and division level and may not always be readily available to tactical formations at brigade, battalion and company level.

For land forces at the tactical level of engagement, the most important system today for prosecuting area targets is the 155mm artillery Dual-Purpose Improved Conventional Munition (DPICM) M483A1 (Figure 1, previous page). The projectile is equipped with a time fuze set to release the cargo of sub-munitions at the recommended height above the target (which varies based on the size and density of the target as well as on the number of howitzers available to mass fires on the target) and saturate the area with bomblets. The M483A1 carries 88 bomblets (with a shaped charge for armor penetration), each with a lethal radius of about 10 square meters. The dispersion area is between one to three hectares² depending on the height of burst. The higher the height of burst, the broader the dispersion. Harder targets require denser dispersion. Shaped charges that strike an armored target create a metallic jet that perforates metallic armor. Some modern medium battle tanks of many advanced states (i.e., North Atlantic Treaty Organization, Russia, China, etc.) can take the hit, but others cannot. Generally, 10 or more bomblet strikes are required for an armored-vehicle kill, but a single bomblet can result in a fire-power or mobility kill. Bomblets detonate at surface level. The detonation and most fragmentation travels downward, so most lethal effects are close to the surface.

Cluster-munitions elimination studies

The Army has conducted four studies and the Marine Corps has conducted one study in 2009, 2010, 2012 – and two in 2014 – to determine the operational risk associated with the loss of cluster munitions. Norway conducted a study of its own in 2008 that is arguably the best of all analyses conducted so far. None has been conclusive or definitive. All the studies found that there is some reduction in U.S. artillery kills of enemy forces with the removal of cluster munitions. But they don’t agree how large that reduction would be. Estimates range widely from as high as 25 percent to as low as 4 percent. In the most recent Army assessment, the lethality of Army artillery actually improved when cluster munitions were removed.

What accounts for the erratic results and the inability of the Army and Marine Corps to come to terms with whether or not to invest in a replacement? The answer is a disagreement about the nature of warfare the United States is likely to encounter today and in the future.

All the Army studies have focused on hypothetical regional despots with outdated equipment and doctrine based on Soviet-era technology and principles. The hypothetical enemies lack air parity with the United States. Therefore, all these scenarios assume U.S. air dominance. These studies further assume that these hypothetical enemies have learned the lessons wrought twice on the Iraqi army: namely, the use of Soviet-era armor technology in combined-arms maneuver against the United States military is a really bad idea. Therefore, the Army cluster-munition assessments assume there will not be many “area targets.”

In the most recent assessment, the unclassified report stated: “[B]ased on intelligence analysis, the following guidance was used to model the behavior of current and future threat in the study: with the exception of a slow-moving medium armor threat, no other cluster-munition-designed targets (area targets) are present in the current or projected operational environ-

ment within the selected study scenarios.”

Unfortunately, the Army studies contain flaws. None of the Army studies considers the possibility of peer or near-peer competitors. All the studies assume no disruption to friendly-force Global Positioning System (GPS) technology. On a strategic level, all the studies ignore the deterrent effect this capability might have on potential adversaries’ “go-to-war” calculus. Finally, the studies disregard recent technological advances made by potential peer competitors – such as Russia and China – in both cluster munitions and sensor-fuzed weapons (weapons that seek and guide to specific types of targets). Russia and China are not eliminating their inventory of cluster munitions.

Furthermore, none of the Army studies offers any qualitative analysis, such as the use of cluster munitions to prepare areas of the battlefield for assault; shape areas of the battlefield by using cluster munitions for harassment or area denial; and allocate limited artillery assets to support various units during a battle (perhaps leaving others without any artillery support other than their organic howitzers). The studies are based strictly on quantitative analysis derived from modeling and simulation and provide only numerical results, such as reductions in enemy casualties or increases in friendly losses. Qualitative analysis could provide additional important operational considerations such as:

- The psychological effect on the enemy’s continued will to fight, particularly after witnessing the devastating effects of cluster munitions on adjacent units.
- The shaping effects of the munition on the enemy’s ability to maneuver or occupy terrain that can influence enemy decisions and actions on the battlefield.
- Employment of the cluster munition based on unavailability of other fire-support assets due to other fire-support priorities.

Despite these shortcomings, the studies have still validated the U.S. Army’s

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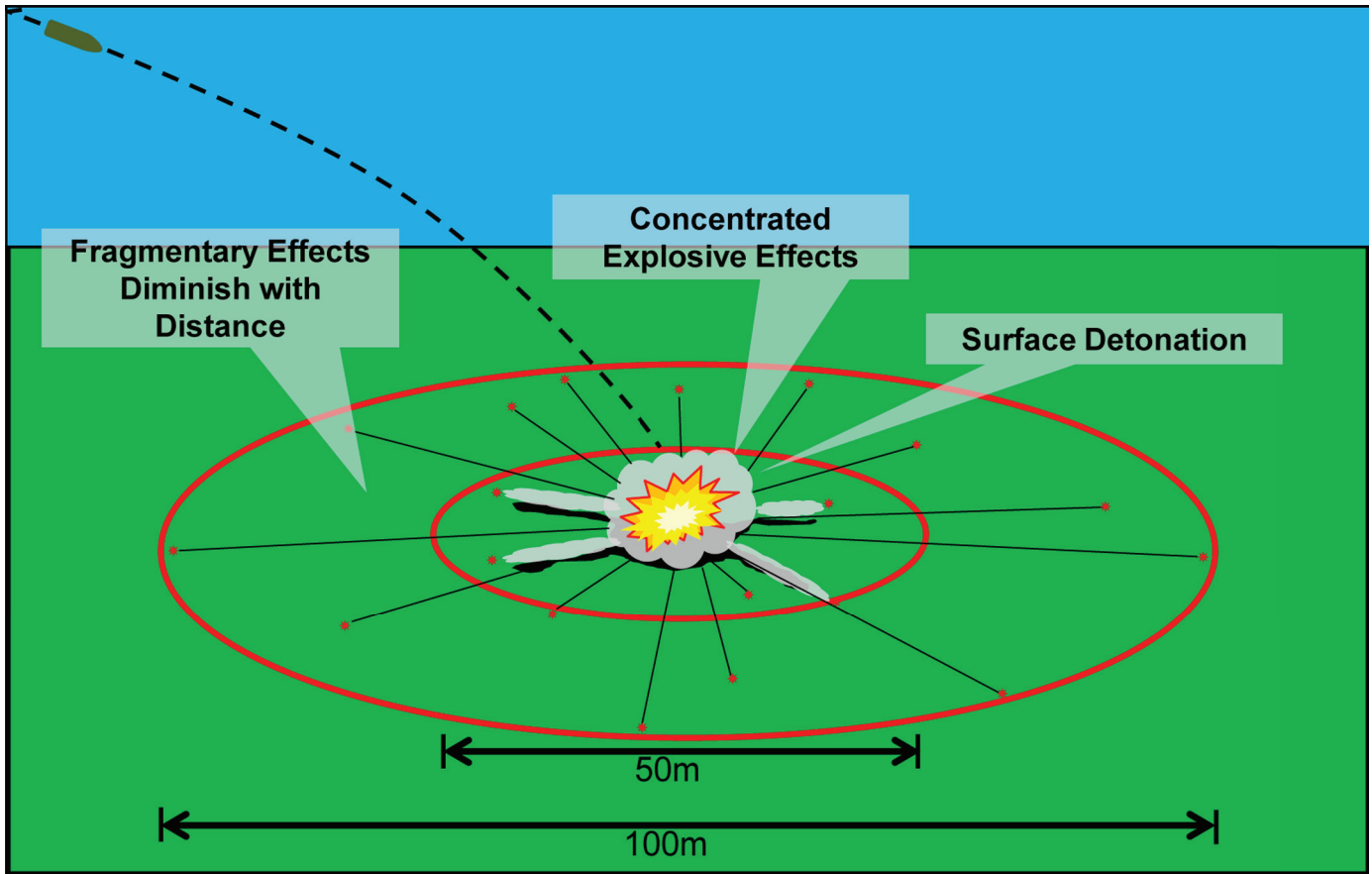


Figure 2. HE point detonation/quick (precision or near-precision).

Targets

Personnel

- Destruction, neutralization, suppression
- Point targets
- In fighting position with overhead cover or hard-point
- Stationary
- Observed with low TLE

Tanks

- Neutralization and suppression
- Individual targets
- Stationary
- Defensive or non-defensive posture
- Observed with low TLE

Armored personnel carriers

- Neutralization and destruction
- Individual targets
- Stationary
- Defensive or non-defensive posture
- Observed with low TLE

Trucks

- Destruction
- Individual targets
- Stationary
- Observed with low TLE

Field artillery

- Destruction

- Individual targets
- Stationary
- Observed with low TLE

Air-defense artillery

- Destruction
- Observed with low TLE

Effects

The M795 HE projectile has a high-fragmentation forged steel body. It is filled with 24 pounds of cast explosives. When used in point-detonation mode, the fragmentary effects are most lethal within 25 meters. The concentrated explosive (pressure and heat) effects when employed on or very close to targets are devastating. A combination of good TLE and CEP (PGK and Excalibur) is used to concentrate effects directly on hardened, stationary, singular targets. Because of the reduction in impact variability, precision and near precision are *less* effective against imprecisely located or moving targets. Effective against stationary medium-armored and soft targets.

Sweet spot

Target	TLE	Posture	Remarks
Personnel	<10m	Hard	Bunker, building, fighting position
APC	<10m	Stationary	Ideal for precision/near-precision
High-value target	<10m	Stationary	Personnel, vehicles, equipment, etc.

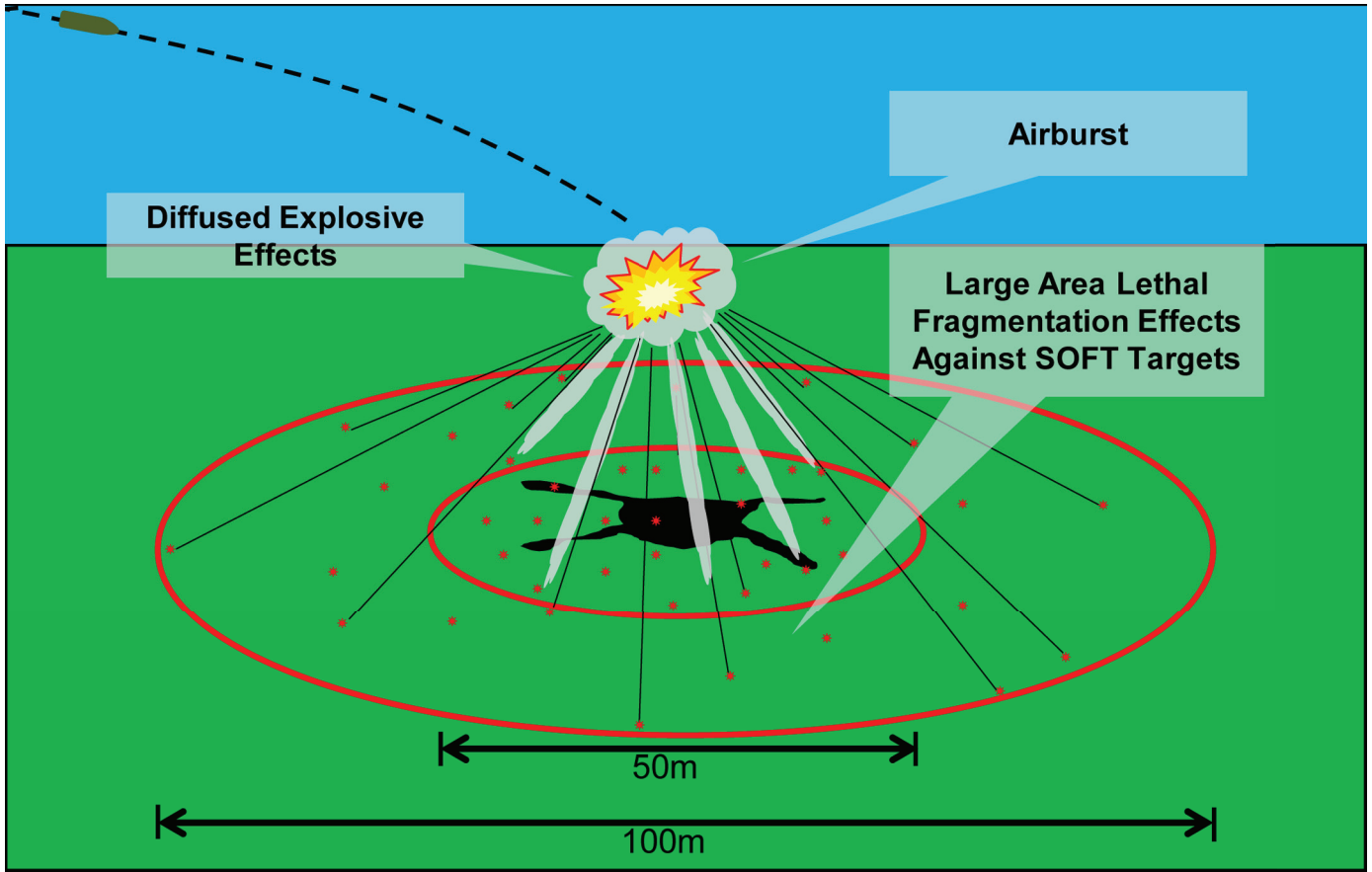


Figure 3. HE variable time/proximity (near-precision, area).

Targets

Personnel

- Destruction, neutralization, suppression
- Large targets (platoon, company, battalion)
- Standing and prone targets
- Stationary or moving
- Fighting position without overhead cover
- Observed or unobserved

Tanks

- Suppression
- Formations or individual targets
- Stationary or moving
- Defensive or non-defensive posture
- Observed or unobserved

Armored personnel carriers

- Suppression
- Formations or individual targets
- Stationary or moving
- Defensive or non-defensive posture
- Observed or unobserved

Trucks

- Destruction and neutralization
- Formations or individual targets
- Stationary or moving
- Observed or unobserved

Field artillery

- Destruction and suppression

- Area targets (platoon, battery)
- Counter-battery fire
- Stationary, moving, fleeing
- Observed or unobserved

Air-defense artillery

- Destruction
- Observed or unobserved

Effects

The M795 HE projectile has a high-fragmentation forged steel body with the same aerodynamic profiles as DPICM. It is filled with 24 pounds of cast explosive fill. When used variable-time or proximity mode, the fragmentary effects are lethal out to 100 meters. The explosive (pressure and heat) effects are diffused because it detonates relatively high above the ground for best fragmentation. Combination of good TLE and CEP (PGK) are used to *efficiently* saturate targets (areas) with fragmentation. HE VT is a viable munition for area, high TLE and GPS-denied environments but with reduced effects and higher number of volleys required for similar targets. Not effective against armored targets.

Sweet spot

Target	TLE	Posture	Remarks
Personnel (multiple)	1m-250m	Prone	1 st volley HE/VT, 2 nd volley DPICM
APC (multiple)	Unobserved	Moving	Saturation of area with shaped charge
Artillery (multiple)	>100m	Fleeing	Counter-battery fire

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investment in precision technology over the past 10 years. However, these investments, numbering into the several billions of dollars, are unfortunately heavily reliant on GPS technology and assume the availability of GPS signals against all adversaries. If adversaries are able to somehow render GPS unavailable, the vast majority of precision advantage the U.S. Army enjoys will cease to exist.

That said, those advantages are significant and prolific with considerable secondary benefits, such as reducing the risk of collateral damage and civilian casualties in major combat operations. They are the basis for understanding the argument against pursuing an artillery cluster-munition replacement.

There are three main areas of improvement: the ability of forward observers to determine a precise GPS location of targets; the ability of munitions to guide to a precise grid location; and the ability of indirect-fires platforms to determine a precise grid for their own location. These improvements to artillery technology, together with dominance of the air and enemy reluctance to mass and maneuver against U.S. forces, is what has led to assessments that show minimal impact with the loss of artillery cluster munitions. It is important to note that none of these improvements account for moving targets or large massed targets, both of which are by definition imprecisely located targets.

None of the assessments conducted have included an enemy capable of challenging U.S. air dominance, put GPS availability at risk or field ground-force technology equal to or superior than U.S. ground forces. The Norwegian military assessment of cluster munitions conducted in 2008 did consider peer competitors for obvious reasons. That assessment disclosed that traditional cluster-munition target sets could now be more effectively prosecuted using non-cluster munitions due to improvements in precision and increased effectiveness of unitary HE artillery projectiles. For example, the ability to actually strike a target with the first round fired and the ability to

tailor munition effects by using fuze settings that vary detonation to a height of burst, point detonation or delayed detonation significantly improve lethality (Figures 2 and 3).

Capability gap

However, reliance on precision creates a new capability gap when prosecuting hardened targets that cannot be precisely located (i.e., armored fighting vehicles and tanks) (Figure 4). Cluster munitions, with their saturative effects, were designed for exactly this purpose. Furthermore, the effectiveness of engaging concealed, hardened targets is reduced when using unitary munitions. Potential consequences include decreased lethality, increased munitions expenditure and increased targets requiring engagement with direct-fire weapon systems, thus increasing risk to Soldiers and Marines.

Mitigating capability gap

Thankfully, there may be a means for closing the gap against imprecisely located hardened and armored targets that does not involve a one-for-one replacement of the stockpile of cluster munitions currently in the inventory. The answer may be sensor-fuzed munitions. This is a family of munitions employed by firing them in an area where enemy vehicles are thought to be located; the munition fuze will then seek out objects on the ground for which its sensors are designed. Having located a target, moving or stationary, the munition then guides to and detonates precisely on the target using its own sensors and without reliance on GPS. The United States fielded such a munition to great effect during Operation Desert Storm in the form of Sense and Destroy Armor (SADARM). However, the munition was not pursued because at the time the large quantities of cluster munitions made the acquisition of this relatively expensive boutique munition unaffordable.

That calculus has changed. The number of SADARM-type munitions that would be required in today's war reserve would be comparatively small – probably less than 10,000 – because of the relatively small number of targets that would be needed against the low

likelihood of a conflict within which such weapons would be employed. This solution would do nothing to mitigate the decreased effectiveness against soft area targets, but with more reliance on corps, division and direct-fire assets, it is safe to assume U.S. ground forces could probably accept the associated risk.

Conclusion

Artillery cluster munitions continue to be a highly effective capability when employed against the right target types under the right conditions. No amount of quantitative analysis against less-than-peer competitors will illustrate the overall risk to U.S. and coalition ground forces when artillery cluster munitions are no longer available. What the sum of U.S. and international assessments has confirmed is that technological advancements have greatly reduced the need for cluster munitions and, when taken in the context of collateral damage, it just makes sense to phase out this capability. However, doing so creates more operational risk in our ground forces that has been mitigated by cluster munitions since the 1970s. Advances in precision technology, coupled with development of a new sensor-fuzed artillery munition, will not only close the gap but will arguably increase the lethal effectiveness of ground-force indirect fires.

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This article is adapted from an article that appeared in War on the Rocks (www.warontherocks.com), a platform for commentary and debate on

strategy, defense and foreign affairs. Used with permission.

Notes

¹ <http://www.state.gov/t/pm/wra/c25930.htm>; accessed Sept. 10, 2014.

² A hectare is 100 meters by 100 meters.

Acronym Quick-Scan

DoD – Department of Defense
DPICM – Dual-Purpose Improved Conventional Munition
GPS – Global Positioning System
HE – high explosive
SADARM – Sense and Destroy Armor
TLE – target-location error

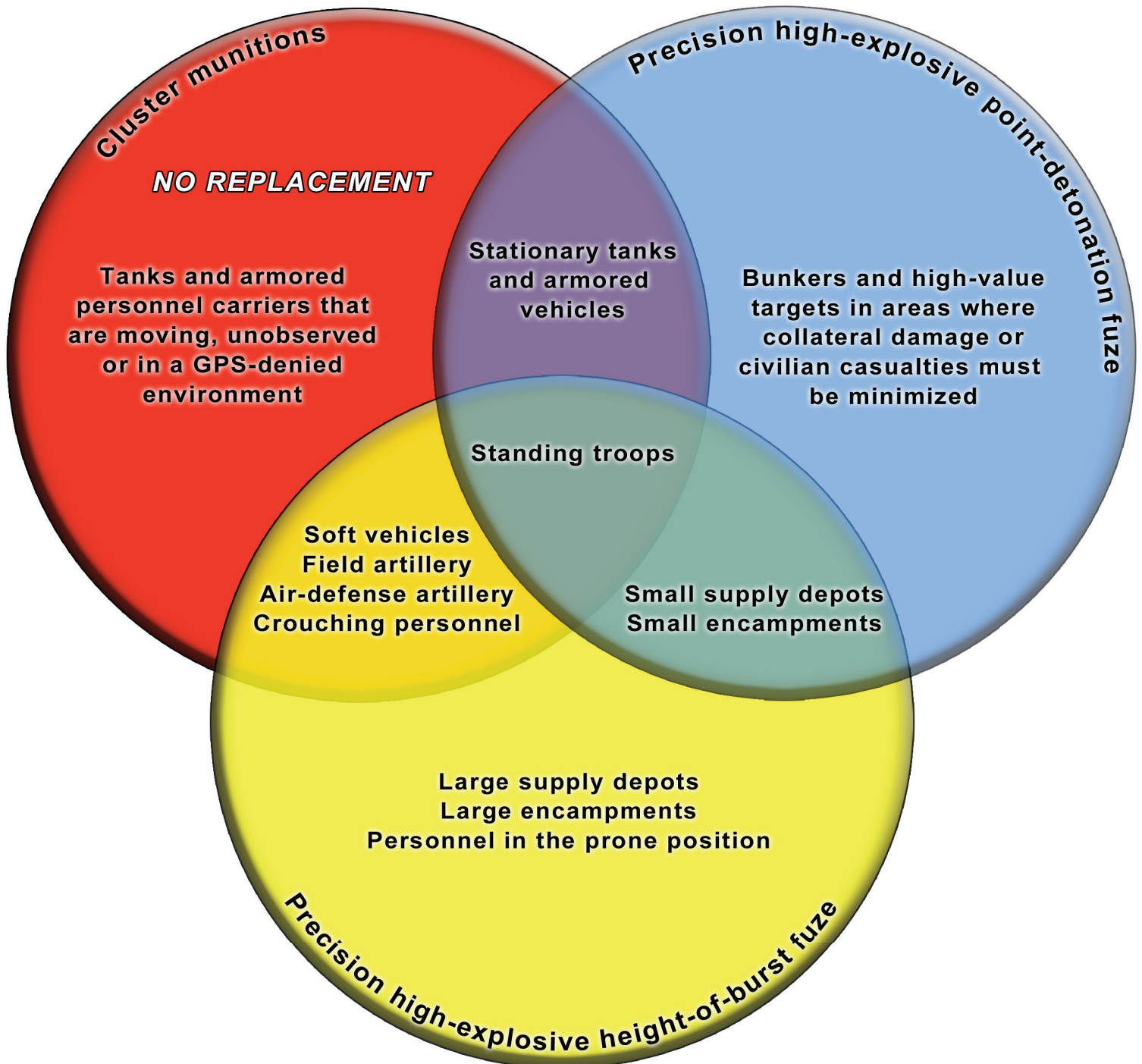


Figure 4. Matching artillery munitions to targets and conditions.



Starry Writing Competition 2014 winner

Lost Sabers: Why We Need Operational Cavalry and How to Get It Back

by MAJ William S. Nance

The U.S. Army has a maneuver problem. After more than a decade of brigade-focused warfare, our ability as a force to conduct decisive-action operations at echelons above the brigade has atrophied to the point of non-existence. Moreover, we have not only lost skills and experience operating at this echelon, we have dismantled key formations essential to operating at the division and corps level. While some of these organizations are returning, for the combat arm of decision, the most pressing concern is the loss of operational-level Cavalry formations.¹ While tactical Cavalry formations have exploded in recent years, the last Cavalry unit organized, trained and equipped to fight at the operational level rode into the sunset in 2011 with

the transition of 3rd Armored Cavalry Regiment (ACR) into 3rd Cavalry Regiment – a Stryker brigade combat team (BCT) in all but name and tradition. This appalling state of affairs must be rectified.

Why is operational Cavalry so important? Let us begin with a quick refresher on what Cavalry does complemented by examples of operational Cavalry in action. Cavalry performs three missions for the U.S. Army: reconnaissance, security and coordination/liason duties. Also, Cavalry can also serve as an economy of force.

Current Army doctrine defines reconnaissance as “a mission undertaken to obtain, by visual observation or other detection methods, information about the activities and resources of an

enemy ... or to secure data concerning the meteorological, hydrographic or geographic characteristics of a particular area.”² At the operational level, Cavalry is the first to make contact with terrain and the enemy, reporting on both and facilitating the advance of the following main-body formations.

Reconnaissance

In World War II, operational Cavalry proved its worth in reconnaissance beginning on the first day of combat in the European Theater of Operations. The 4th Mechanized Cavalry Group (MCG) confirmed the lack of enemy presence on islands dominating the approach to Utah Beach, materially aiding the success of VII Corps on D-Day.³ Corps Cavalry led Third Army on its massive end run through France and



identified stiffening German resistance along the Moselle River. The 113th MCG rode through Belgium in less than a week, marking the route for the XIX Corps to follow.⁴ The 117th Cavalry Reconnaissance Squadron led Task Force Butler north into the French Alps, determining the fitness of routes and aiding that unit's rapid advance.⁵ Cavalry probed the Siegfried Line throughout the fall and winter, determining its strengths and weaknesses. Finally, after the brutal fighting to advance to and across the Rhine River, Cavalry once more led the way, scouting routes and bridges for the advancing American columns.

Security operations

Security operations are less well known than reconnaissance. In fact, many times, the two are often confused by historians and military personnel alike. The problem lies in the concept that a unit conducting security operations is, almost by definition, also conducting reconnaissance. However, security operations are "those operations undertaken by a commander to provide early and accurate warning of enemy operations, to provide the force being protected with time and maneuver space within which to react to the enemy, and to develop the situation to allow the commander to effectively use the protected force."⁶ Note how reconnaissance can be included in this doctrinal task, but the primary mission under security operations is protecting the main body, not finding the enemy. Furthermore, success in security operations is measured by the impact on the protected force and not necessarily on anything else. Thus, a unit conducting a security mission might be driven back 10 miles, but so long as the protected force is safeguarded, the loss of ground does not matter.

Security forces protect the main body by serving as its "crumple zone." In offensive security operations, the Cavalry makes contact with enemy forces first, develops the fight, finds centers of resistance and passes this information back to the main body. Thus, the main body is able to commit its strength where it is most needed, and not haphazardly as it would in a meeting engagement. In defensive operations, unless a unit has absolutely

perfect intelligence (a near impossibility), it generally has no way of knowing exactly where an enemy will commit his main effort, and thus the choice of where to commit strength is an educated guessing game. A defensive security zone helps solve this problem by absorbing the initial attack, identifying axes of advance, potentially defeating the enemy's offensive security, inflicting casualties and hopefully forcing the enemy to fully deploy before reaching the main defensive belt. These actions allow the defender the luxury of choosing how to strike back even when it does not initially possess the initiative.

In the operational-security fight, Cavalry is echeloned in front, making the first contact, shaping the battle for the larger force, then handing the fight off to tactical Cavalry formations or main force units. Needless to say, with the inherent dangers of this role, operational Cavalry requires a unique mix of survivability, lethality and mobility.

In World War II, operational Cavalry screened divisional, corps and army flanks, fronts and rears with regularity in both offensive and defensive roles. The 2nd MCG fought through a German security zone in front of the Moselle in early September, and followed it with a grueling example of a defensive guard around Lunéville, wherein the Cavalry delayed a German counterattack long enough for XII Corps to respond to the danger on its flank.⁷ The 106th MCG guarded the flank of the XV Corps as it attacked through the Saverne Gap, identifying and slowing a German counterattack prior to handing off the battle to the infantry.⁸ Finally, throughout the drives to the Rhine and beyond, corps Cavalry protected the main bodies of their corps from German ambushes and flank attacks.

Beyond these and other high-profile missions, the Cavalry groups provided area security in corps and army zones, preventing significant losses to vital supply echelons. Also, Cavalry troops could also be found securing corps- and army-level headquarters due to their firepower and mobility.

Liaison/coordination

In addition to its combat roles, Cavalry also excels at liaison and coordination

duties. When multiple formations are moving across the battlefield, their perimeters are areas of particular danger. Friendly units could engage one another, entangle their formations due to lack of traffic control or leave gaps in the line while assuming the other unit has taken responsibility. Some of these problems can be ameliorated through proper staff work and coordination. Technology also can ameliorate the problem. However, on the ground, there are still chances for things to go wrong, and technology can fail. The solution to this problem is for adjacent units to talk directly to one another and to establish physical coordination at contact points.

However, at the operational level, this solution becomes more challenging. Historically, entire units have been given responsibility to accomplish this task. This organization must be able to keep pace with both its parent and the unit with which it is trying to coordinate. Also, although this is an important task, it is rarely one that justifies committing line infantry or Armor formations. What is needed is a relatively small, mobile formation, with enough radios and combat power to talk, keep up and take care of itself without distracting from the main effort – in short, Cavalry.

Throughout the European campaign of 1944-45, Cavalry provided cross-boundary cooperation, particularly at the army and army group level. The unique configuration and equipment of the Cavalry particularly suited them to this role, as radio detachments could reside at adjacent headquarters to provide another radio net exclusively committed to lateral communications. In one notable instance, 6th MCG helped LTG George Patton knit together his Third Army across 475 miles of France.⁹ In situations where the next unit over might not only be from a different army group but a different nation, anything that could enhance communications between units was a good thing. Finally, the Cavalry had the mobility to quickly move to and establish contact points, the physical meeting of adjacent units. These points complemented radio coordination with face-to-face contact, weaving the two formations together.

Economy of force

Finally, economy of force is defined as “the allocation of minimal combat power to secondary efforts.”¹⁰ While this is a fairly obvious concept, the application becomes much more difficult in combat. An area that is secondary to the friendly force might not be so to the enemy. The Ardennes Forest in 1940 and in 1944 is a perfect example. Therefore, a unit conducting an economy-of-force mission must be robust enough to handle unexpected circumstances but not so large as to defeat the point of economizing combat power. The inherent mobility and combat power of American operational Cavalry made it often uniquely qualified to fulfill such a role.

In 1944, 4th MCG covered such vast distances for VII Corps that it had to be relieved by an entire corps twice in nearly a month.¹¹ The 3rd MCG covered half of the XX Corps’ sector in the fall of 1944, allowing for massed combat power in the November crossing of the Moselle.¹² The 2nd MCG covered a corps’ worth of front along the Moselle in the winter of 1944-1945, allowing XII Corps to concentrate its infantry divisions on much smaller fronts (Figure 1).¹³ The 11th, 15th and 113th MCGs helped Ninth Army stretch its limited resources over a large front during the Ardennes offensive.¹⁴ American forces gained success on the attack by massing combat power, attacking with regiments or even divisions in column. Yet operational requirements so stretched American units that they became used to attacking with no reserve.¹⁵ These two facts should have been mutually exclusive. However, the presence of the Cavalry helped corps and army commanders meet that need. Without the important capabilities offered by these formations, it is doubtful that the Americans could have succeeded, given the already stretched nature of the line formations.

Need for operational Cavalry

While the above examples all stem from World War II, it is not the only modern conflict where these formations have proved valuable. In Korea, the lack of operational Cavalry allowed for serious surprises to befall the

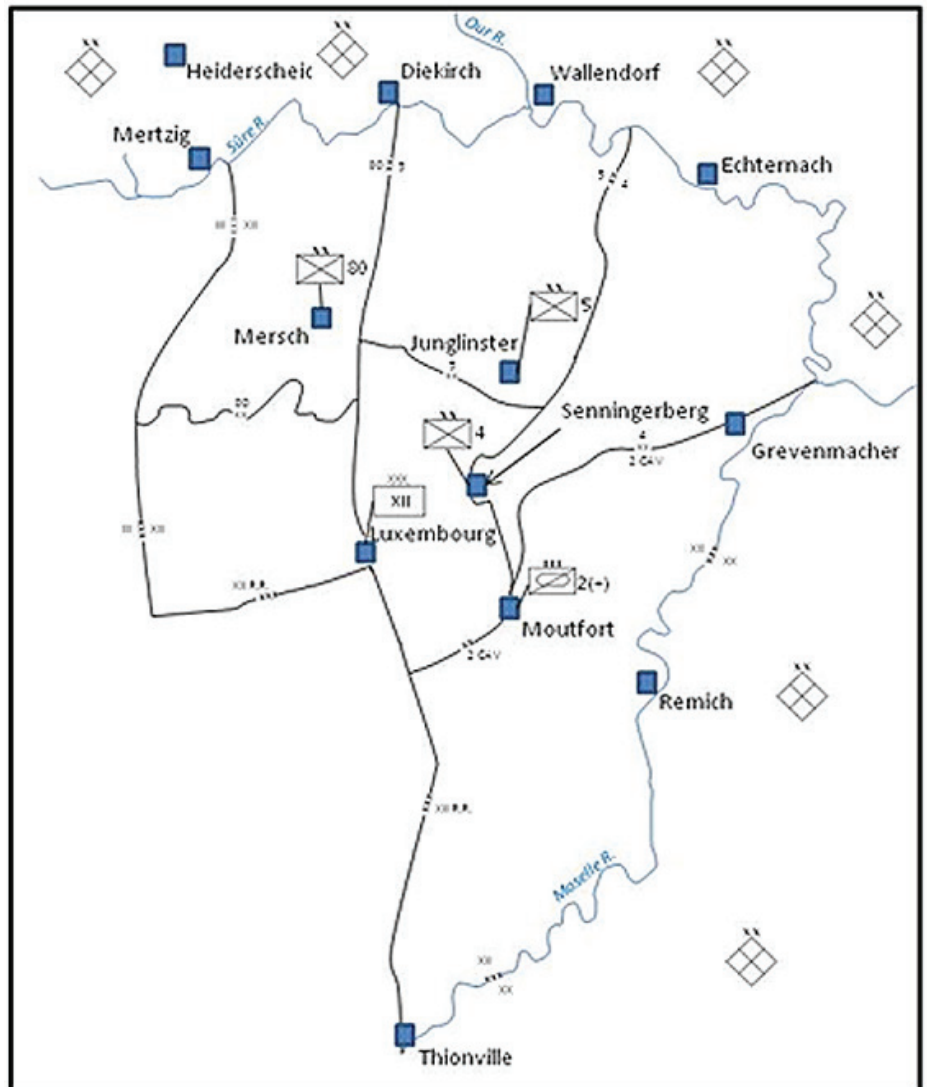


Figure 1. Dragoons hold the XII Corps flank in December 1944. (Map by Mariann K. Nance)

United Nations forces south of the Yalu River.¹⁶ In Vietnam, 11th ACR proved its worth in area security operations throughout the country. In Operation Desert Storm, 2nd ACR led VII Corps into the Iraqi Republican Guard, while 3rd ACR maintained the connection between VII and XVIII Corps. Finally, in 2003, 3-7 Cavalry demonstrated that a divisional Cavalry squadron equipped with modern technology could serve at the operational level, protecting the advance of 3rd Infantry Division to Baghdad.

Since 2003, the U.S. Army has not had the need to maneuver more than one BCT at a time across the battlefield as it conducts wide-area security missions in pursuit of insurgents and terrorists in Iraq and Afghanistan. Moreover, the Army is shrinking, and days of

corps- and army-level maneuver are more than likely well behind us, if for no other reason that we no longer possess the capability of massing more than a couple of divisions in one place, and that would require the full resources of the military. In this world, does operational Cavalry still have a reason to exist? The answer is an unequivocal yes.

Although the days of corps maneuver are probably gone for the foreseeable future, for the modern Army, the division has assumed the operational role the corps held throughout much of history. Thus, while we will probably never again see a full corps deployed in action, there are multiple instances wherein two or more brigades might have to operate in tandem across the battlefield. In this instance,

operational Cavalry comes to the fore. While both brigades might possess their own reconnaissance squadron, neither possesses the capability to perform traditional Cavalry missions for the entire force. Even if one BCT did surrender its reconnaissance squadron for the good of the division, that brigade would then lose its tactical Cavalry, making it less capable than designed, as well as defeating the doctrinal concept of echeloned security. Moreover, the current brigade recon squadron simply does not have the combat power to conduct high-intensity security operations without significant augmentation. While this approach worked in World War II, the modern U.S. Army cannot afford to have units incapable of accomplishing their primary missions without reinforcement.

While we might rely on technology to prevent surprise at the operational level, there simply exist too many ways to spoof, evade, jam or otherwise avoid sensors. Technology can enhance organizations but cannot replace them. Therefore, what is needed is a formation that can fill the niche of operational Cavalry without culling combat power from deployed BCTs. This future operational Cavalry must have the mobility to keep pace with high-tempo armored operations, the survivability and lethality to fight for information and conduct security operations, and the ability to be as self-sustaining as its next-higher-level organization.

Cavalry squadrons

While some might argue for a return to an ACR-level reconnaissance and security formation, this simply will not do.¹⁷ The Army designed the ACR to provide Cavalry functions to a corps. The ACR consisted of six battalions' worth of combat power with an aviation squadron and an artillery battalion.¹⁸ In the Army of 2014 or 2025, placing such an organization in front of a divisional formation would simply be overkill and far too expensive to sustain. With the advances of technology, as well as the constraints of force structure in mind, the Army should structure its operational Cavalry around a squadron concept – much like the divisional Cavalry of the Army of the pre-modular era. These formations were the

culmination of decades of historical and combat experience. It would be a shame to simply throw this knowledge away.

Where do these formations come from? An ABCT should be off-ramped and converted into about three heavy divisional Cavalry squadrons. While this is a controversial and painful recommendation, it is a necessary move unless funds can be found to raise a BCT's worth of combat power. If the U.S. Army is serious about conducting decisive-action operations above the brigade level, operational Cavalry is an absolute requirement. Moreover, three squadrons of divisional Cavalry would give the force enough flexibility to conduct up to three division-level operations simultaneously or provide enough combat power for a sustainable rotation in prolonged operations like Iraq or Afghanistan.

Although the preferred course of action would be for each of these divisional Cavalry squadrons to be assigned to a parent division, another course of action might be that they are all assigned to a single BCT – resurrecting a Cavalry regiment. However, this organization would truly be modular in that the individual squadrons would be fully self-sufficient in logistics, and the regimental headquarters would exist for training and administrative functions only. This approach would also allow the armor force to create its own "elite" organization, serving much the same role as the old ACRs or 75th Ranger Regiment for the infantry. Finally, in extreme need, the entire Cavalry regiment could be deployed *en masse* to serve as corps Cavalry.

These new divisional Cavalry squadrons should look much like their predecessors, though with modifications for advances in technology. However, there will be some differences. Modern operational Cavalry requires aviation assets – modern history is persuasive in this regard. Originally, two troops of aeroscout OH-58s filled this requirement for divisional Cavalry. Unfortunately the Kiowa is being phased out. A troop of Apaches might provide some of the same capabilities, although the sustainment of even a single troop of Apaches would strain the logistics of a squadron-level

organization. Armed unmanned aerial systems technology is not yet at the level where a squadron could effectively wield such an asset. Therefore, divisional Cavalry might have to rely upon habitual relationships with combat-aviation brigades for aerial support. This is not ideal, but gaps in capability might make this compromise a reality.

Another point of contention might be whether these squadrons should be like the old divisional Cavalry organization of only three ground troops, or like the ACR squadron of three troops and a tank company. The inclusion of the tank company will give the squadron more ability in the security role but might prove too expensive to include in a budget-constrained environment. However, the capabilities provided by the tank company are essential to the survivability of the organization in a high-intensity situation and should be included, as operational Cavalry must be able to fight and win without substantial augmentation. The older divisional-Cavalry model assumed that the ACR would be echeloned to the front providing the stand-alone cover mission – a justification that is no longer valid.

Finally, the artillery battalion attached to the force-provider BCT should be retained but have its batteries split, with one to each divisional Cavalry squadron. Cavalry, by its nature, will operate well forward of the rest of the division and cannot depend on fire support from the BCTs. Moreover, artillery support is essential to success in security missions as well as economy-of-force operations. Therefore, the Cavalry will need to bring its own guns with them without depriving the BCTs of their organic artillery. The success of 3rd ACR in operating decentralized artillery batteries has already proven the ability of such an organization to exist.

While the last half of this article has proposed many options, they are merely suggestions. There are many ways to achieve similar effects. However, the bottom line is that operational Cavalry must return to the force. The Army is more than simply a collection of brigades. It is a fusion of disparate elements, all with their own task, combining to achieve results greater than any of the individual parts could

achieve. Going into a high-intensity conflict involving multiple brigades without operational Cavalry would be akin to crossing the line of departure without all your equipment – ill advised and needlessly assuming risk.

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Notes

¹ Operational Cavalry refers to formations making an impact on the theater-level battlefield, either corps or division in the modern era. Tactical Cavalry are forma-

tions providing service to smaller formations.

² Department of the Army, Field Manual (FM) 1-02, **Operational Terms and Graphics**, Washington, DC: Government Publishing Office, 2004.

³ "4th Mechanized Cavalry Group After-Action Report, June 1944," Entry 427, Record Group (RG) 407, National Archives II.

⁴ Rose, Ben, editor, **The Saga of the Red Horse**, Nijmegen, Holland: N.V. Drukkerij G.J. Thieme, 1945.

⁵ "117th Cavalry Reconnaissance Squadron After-Action Report August 1944," Entry 427, RG 407, National Archives II.

⁶ FM 1-02.

⁷ "2nd Mechanized Cavalry Group After-Action Report, September 1944," Entry 427, RG 407, National Archives II, Sept. 18.

⁸ "106th Mechanized Cavalry Group After-Action Report, November 1944," Entry 427, RG 407, National Archives II.

⁹ Allen, Robert S., **Patton's Third U.S. Army – Lucky Forward**, New York: Manor Books Inc., 1947; **Unicorn Rampant – The History of the Sixth Cavalry Regiment/Group at Home and Abroad**, Sixth Cavalry Association, 1951.

¹⁰ FM 1-02.

¹¹ "4th Mechanized Cavalry Group After-Action Report, September 1944," Entry 427, RG 407, National Archives II; "4th Mechanized Cavalry Group After-Action Report, October 1944."

¹² "Patton's Ghost Troops" – After-Action Report 9 August 1944-9 May 1945," Phoenix: 3rd Cavalry Veteran's Association, 1974.

¹³ "XII Corps Report of Operations December 1944," 212, Entry 427, RG 407, Na-

tional Archives II, Ops Map #8.

¹⁴ The Ninth Army's official history records the formation holding 40 miles with five divisions. Left out of the count were the Army's three Cavalry groups. **Conquer: The Story of the Ninth Army**, Washington, DC: Infantry Journal Press, 1947.

¹⁵ Doubler, Michael, **Closing with the Enemy: How GIs fought the War in Europe, 1944-1945**, Lawrence, KS: University Press of Kansas, 1994.

¹⁶ The 1st Cavalry Division, despite the name, in the winter of 1950 was simply an infantry division by another name and not being used as Cavalry.

¹⁷ MAJ Keith Walters argues passionately in his article "Who Will Fulfill the Cavalry's Functions?" for restoration of 3rd ACR. While he convincingly proves the need for reconnaissance and security, he focuses solely on restoring the ACR and not on other possibilities. Walters, "Who Will Fulfill the Cavalry's Functions?" **Military Review**, Volume XCI, No. 1 (January-February 2011).

¹⁸ Each of the regiment's three Cavalry squadrons possessed 41 tanks, 41 M3 Cavalry Fighting Vehicles and a battery of six M109s.

Acronym Quick-Scan

ACR – armored cavalry regiment
BCT – brigade combat team
FM – field manual
MCG – mechanized cavalry group
RG – record group



Figure 2. Headquarters U.S. Army Armor School leaders CSM Michael Clemens, far left (command sergeant major of the Armor School), and BG Scott McKean, left (Chief of Armor / commandant), pose with Nance as he is awarded a pistol for winning the Starry Writing Competition. Retired MG Terry Tucker, a former Armor School commandant, is also pictured, far right, representing the Cavalry and Armor Association.

Measures of Effectiveness in Army Doctrine

by CPT Tom Westphal and
CPT Jason Guffey

“Measure what is measurable, and make measurable what is not so.” – Galileo Galilei

Measures of effectiveness (MoEs), while commonly defined across Army doctrinal publications, are explained in different and sometimes confusing ways throughout several manuals. For leaders seeking to measure the effectiveness of stability operations at the tactical level, this adds confusion to an already complicated and difficult task. Given the central function of MoEs in evaluating mission success, and the difficulty of conducting successful stability operations, doctrinal guidance on this topic should be as clear, useful and straightforward as possible.

This article will outline how MoEs are currently understood and used in Army doctrine, and will give recommendations on how doctrine can be adjusted to give more useful guidance on the use of MoEs to Army leaders, particularly those conducting stability operations in the contemporary operating environment (COE).

Definitions

Doctrinal definitions from Army Doctrinal Reference Publication (ADRP) 1-02, *Terms and Military Symbols*:

- **Assessment** – (Department of Defense (DoD)) 1. A continuous process that measures the overall effectiveness of employing joint force capabilities during military operations. See Field Manual (FM) 3-07, *Stability Operations*. 2. Determination of the progress toward accomplishing a task, creating a condition or achieving an objective. (Joint Publication (JP) 3-0, *Joint Operations*)
- **Endstate** – (DoD) The set of required conditions that defines achievement of the commander’s objectives. (JP 3-0)

- **Measure of performance (MoP)** – (DoD) A criterion used to assess friendly actions that is tied to measuring task accomplishment. (JP 3-0)
- **MoE** — (DoD) A criterion used to assess changes in system behavior, capability or operational environment that is tied to measuring the attainment of an endstate, achievement of an objective or creation of an effect. (JP 3-0)
- **Indicator** – (Army) In the context of assessment, an item of information that provides insight into an MoE or MoP. (ADRP 5-0)

Understanding effects – academic underpinnings

It is imperative to understand that regardless of what planning process or paradigm is used, our actions create effects, and there has to be an attempt to measure our effects by doing more than just measuring performance. Actions will result in effects, both positive and negative. These effects encompass the full range of possible outcomes (or consequences of actions) across the full spectrum of conflict and occur at all levels of war.¹

Within the operational environment, we are trying to determine causation to develop actions to reach a desired outcome (endstate). The COE consists of complex problems, and our planning process demands we know as much as possible about the situation if we are to develop actions to create the necessary conditions for the desired endstate. Part of the planning process is to predict the outcome from our actions taken. This can be an extremely complex task when each problem is distinctive unto itself, yet together shape the operational environment and can make it difficult to predict effects from individual actions.²

While we can rarely be certain of an outcome, we make assumptions based

on existing facts to establish causation between actions and results. These facts should include past inputs and their outcomes. During this process, we must be careful to distinguish between correlation and causation. Correlation means that two events tend to occur together with some frequency, but this does not necessarily imply causation.

We can only determine causation by developing a hypothesis, which will attempt to find the correct way of linking our actions to the desired effects.³ Put simply, if we do “X,” we expect to get “Y” result. As with any hypothesis, there has to be a method for determining if we were correct. Here, it becomes important to include MoEs within the planning process to help facilitate success.⁴

A military-planning process wherein a planner must consider causation and correlation, and then attempt to predict effects on the operational environment, is similar to the scientific method in that they both attempt to establish a relationship between inputs and outputs. An input is simply what goes into the action taken (what are we doing); the output is the direct result of our input. For example, we can hypothesize that if patrols increase (input), then the local populace will be more secure (output). Some form of MoP can typically measure both the input and output, but neither of these can determine if there has been a decrease in violence. To determine this, we use the outcome, which is the change because of the output. Within the operational environment, the outcome is primarily determined by human behavior, which is gauged by MoEs.⁵

Joint doctrine, effects and assessment

Joint doctrine asserts that well-planned actions create effects to achieve objectives toward attaining an endstate.⁶ Working through this process means nesting objectives, effects

Assessment Levels and Measures

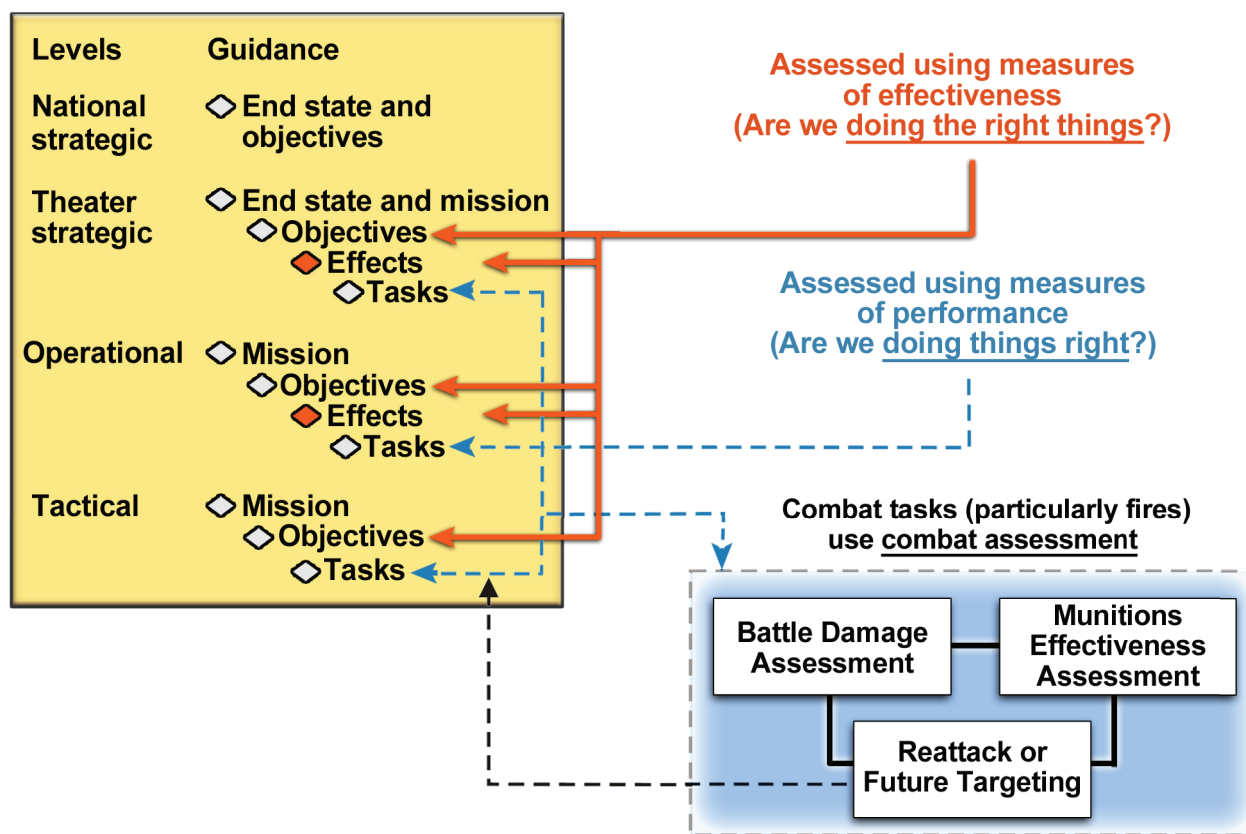


Figure 1. Assessment levels and measures (from JP 5-0, Page D-7, Figure D-1).

and endstates. They must be understood to successfully achieve desired goals.⁷ JP 3-0 states, “An objective is the clearly defined, decisive and attainable goal toward which every operation is directed, or the specific target of the action taken. It is aimed toward a given purpose – the purpose being the why.”

From objectives, the endstate is the set of required conditions that defines achievement of these objectives. Since military operations are by nature actions, and actions create effects, this would imply that the goals for objectives should include desired effects. This establishes a direct relationship between actions to effects, and to the desired endstate.⁸

JP 5-0 states that assessment occurs at all levels and MoEs are created to support strategic and operational mission accomplishment.⁹ At the tactical level, missions, objectives and tasks are to be assessed, while effects are measured

above the tactical level. This way of thinking supposes that commanders’ actions at the tactical level cannot be gauged within their areas of operation (AOs). However, effects at the tactical level should also be assessed to fully integrate tactical-level actions with the broader operational picture. The effects of tactical tasks are often physical in nature, but as JP 5-0 states, can also reflect the impact on specific functions and systems.¹⁰ Tactical objectives are usually associated with a specific target; however, according to doctrine, this action will result in some effect. The tactical level of war does not exist in a vacuum, and tactical operations create effects that have to be understood at the tactical level to help higher-level commanders better understand conditions in their AOs.

This gap in current doctrine is depicted in Figure 1. MoEs are used to assess objectives and effects at the strategic and operational level, yet are only used to assess tactical objectives.

While each level of war and command have endstates, their endstates are in reality objectives to meet the strategic endstate, as shown with the national and theater level guidance in Figure 1. To work toward the endstate, the lowest levels of war must ensure their objectives are working toward the endstate. JP 5-0 states that “[c]ommanders who are skilled in the use of operational art provide the vision that links tactical actions to strategic objectives.”¹¹ To ensure objectives are met is to assess effects, which can only be accomplished with MoEs; otherwise, we run the risk of only assessing input.

JP 3-0 states, “The operational environment is a composite of the conditions, circumstances and influences that affect the employment of capabilities and bear on the decisions of the commander.”¹² Also, the operational environment is influenced by military actions that cause effects. As such, large-scale operations down to the smallest battle will result in some

effect, likely indirect, that either works for or against the desired endstate. Likewise, a “good” commander’s intent is based on effects.¹³ The outcomes of tactical actions must be tied to strategy via the operational level of war, and this can be facilitated by including MoEs in tactical-level planning and analysis.

Assessment, stability doctrine and MoE

Building on concepts described in joint doctrine, Army doctrine also requires commanders to envision an endstate to their operations that consist of a set of future conditions describing successful completion of their mission. It further requires that continuous assessments be conducted to determine progress toward achieving this goal. As part of this continuous assessment, commanders and their staffs use MoEs to evaluate progress toward attaining the desired conditions and to aid them in determining why the current degree of progress exists.

This is the case in all types of military operations. However, during stability

operations, using MoEs properly can be extremely challenging for leaders at the tactical level.

MoE

At their most basic level, MoEs should be developed to measure those items of information within the operational environment that give signs of progress toward creating the conditions described in the commander’s endstate. MoEs are evaluated using subordinate measurement tools called *indicators*, which are items of information related to the MoE. Each of the conditions may be measured by one or more MoEs, while each MoE may be informed by one or more indicators (Figure 2).

While simple to understand in theory, creating and choosing appropriate MoEs and their supporting indicators can be an extremely complicated task in practice. We need to know not only what to assess, but also how to actually assess it.¹⁴ This is no small undertaking, and deciding what to measure can determine whether there is actual progress toward the endstate. This makes the endstate that much more important. To fully reach any goal, the

tactical level must be fully nested, which will require using MoEs to understand effects at the lowest levels because desired effects are nothing more than desired results from actions taken to achieve objectives.¹⁵ Unfortunately, doctrinal guidance on the subject is confusing and inconsistent, making it more difficult for tactical leaders attempting to make sense of it.

Chapter 7 of Army Tactics, Techniques and Procedures (ATTP) publication 5-0.1, **Commander and Staff Officer Guide**, contains some of the clearest and most straightforward doctrine on the subject. This section states that when selecting and writing MoEs, Soldiers should:

- Select only MoEs that measure the degree to which the desired outcome is achieved;
- Choose distinct MoEs;
- Include MoEs from different causal chains;
- Use the same MoEs to measure more than one condition when appropriate;
- Avoid more reporting require-

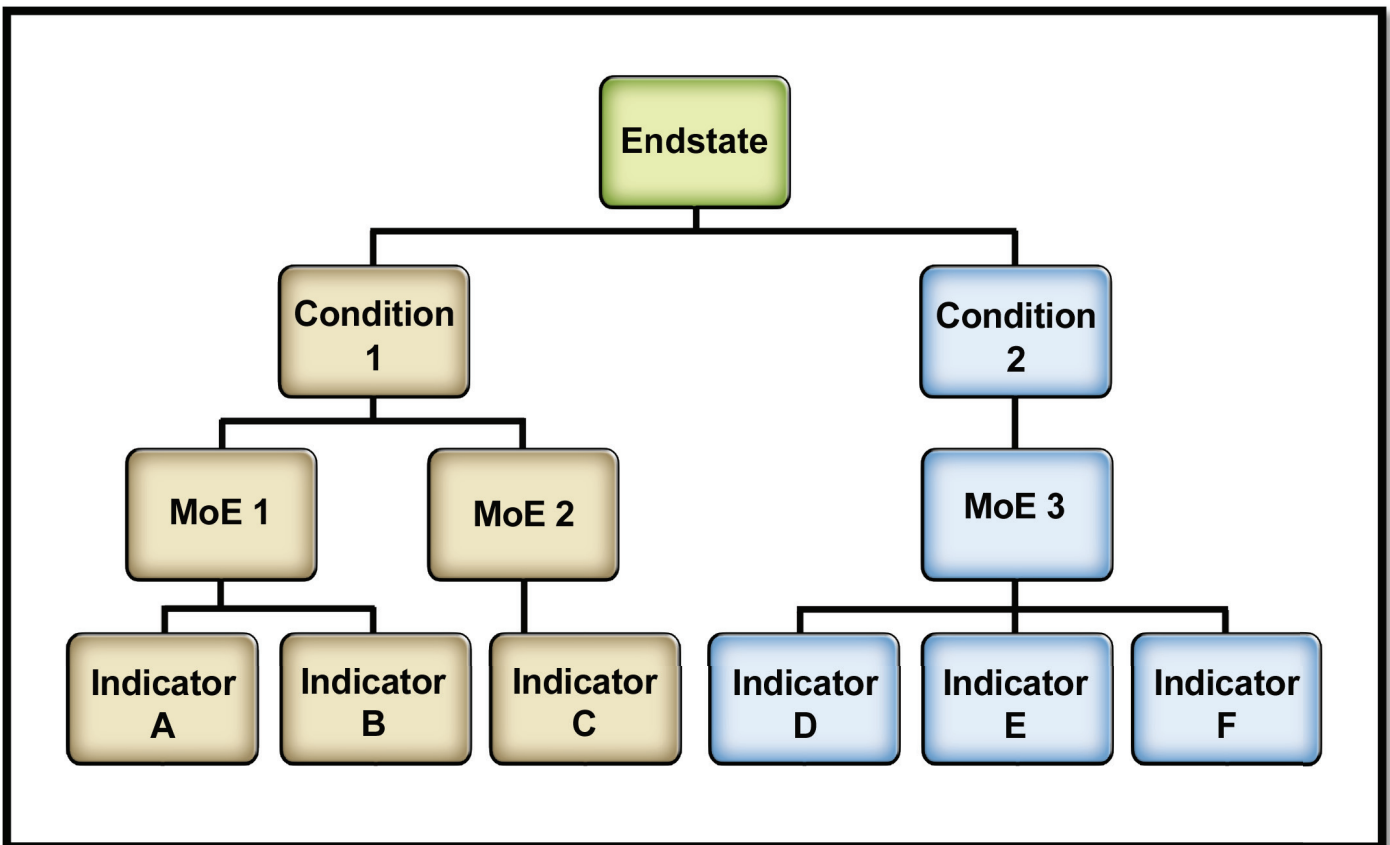


Figure 2. Example of the relationship between the endstate, conditions, MoE and indicators.

- ments for subordinates;
- Structure MoEs so that they have measurable, collectable and relevant indicators;
- Write MoEs as statements, not questions; and
- Maximize clarity.¹⁶

These guidelines are useful to tactical leaders and meant to apply to all types of operations. Several manuals relevant to conducting these types of operations – including FM 3-24, FM 3-24.2, Army Technical Publication (ATP) 3-57.20 and ADRP 3-07 – have their own guidelines for what should characterize an MoE. However, these guidelines are often incomplete, inadequate or address similar concepts with different terminology, and they can confuse the reader.

For example, both FM 3-24 and FM 3-24.2 list the same four characteristics MoEs should have.¹⁷ However, many of these concepts are already addressed in the guidance listed in other manuals, albeit with different or less concise terminology (Figure 3). Only listing these four characteristics gives the impression they are the sole considerations that should be taken into account, and using differing terminology among doctrinal references can foster more confusion.

Indicators

Selecting and writing appropriate indicators to inform the evaluation of MoEs is another task that is simple in theory but difficult in practice, especially in complex operational environments. Joint and Army doctrine define

and use indicators in different ways, and Army doctrine’s guidance is fragmented throughout several manuals. Understanding doctrine’s approach to developing indicators is critical to the success of assessment efforts.

ADRP 5-0 recommends that a mix of quantitative and qualitative indicators are used to evaluate MoEs to mitigate the risk of misinterpretation and overcome the limits of raw data in understanding complex situations.¹⁹ This is echoed in FM 3-24, which affirms this is necessary to effectively assess the social variables that are critical to mission success in stability operations.²⁰ ATP 5-0.1 provides some useful guidance on the subject by requiring that staffs develop indicators that are “measurable, collectable and relevant.”²¹ ADRP 3-07 adds a few worthwhile elements to this description by providing the following guidance for selecting and using indicators in stability operations:

- “In many cases, indicators that directly assess a given stability task are not available. In these cases, proxy indicators may be necessary. Proxy indicators are indicators that measure second-order effects related to the activity that forces need to measure.”
- “Effective forces consider responsiveness for selecting measurement tools in stability. In stability, responsiveness is the speed with which a desired change can be detected by a measurement tool.”
- “A single indicator can inform multiple ... [MoE].”²²

This guidance is valuable, if a little scattered, forcing leaders to comb through multiple doctrinal sources to effectively use it.

A useful way for tactical leaders to think about indicators may be to define them along the same lines proposed by doctrine for defining evaluation criteria.²³ Indicators could be broken down into five elements:

- **Short title** – the indicator name;
- **Definition** – a clear description of what the indicator is measuring;
- **Unit of measure** – may be quantifiable or qualitative;
- **Benchmark** – a value that would define the desired state in terms of the particular aspect of the operational environment being measured;
- **Formula** – an expression of how changes in the value of the indicator affect the MoE (i.e., is more or less better?)

While this paradigm may not be appropriate in every situation, this may help clarify the process for some leaders and make it easier to explain the logic of their assessment plan to commanders and their Soldiers.

Conclusion

Evaluating progress toward the desired endstate during stability operations can be a challenging and complicated undertaking. MoEs and their supporting indicators play a critical role in this process, making clear, useful and straightforward doctrinal guidance on

Doctrinal publication identifier and short title

MoE Doctrinal Themes	JP 3-07	ATTP 5-0.1	ADRP 3-07	FM 3-24	FM 3-57.20
	Stability Operations	Cdr and Staff Handbook	Stability Operations	Counterinsurgency	Foreign Humanitarian Assistance
Measurable	X	X		X	X
Discrete		X		X	
Relevant	X			X	X
Responsive	X		X	X	X
Resourced	X				
Appropriate					X
Realistic					X

Figure 3. Guidance on characteristics of MoEs compared across selected stability-related joint and Army doctrinal publications.¹⁸

the subject extremely important. Leaders need to have a clear understanding of this process to succeed in the COE. Investing more time and energy in making doctrine's approach to the subject more coherent could potentially pay enormous long-term dividends.

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Notes

¹ The Air and Space Power Course, "Effects-Based Operations," United States Air Force.

² Ruby, Tomislav Z., "Effects-Based Operations: More Important Than Ever," *Parameters*, Autumn 2008.

³ Morrissey, Michael T. MAJ, "Endstate: Relevant in Stability Operations?" master's thesis, U.S. Army Command and General Staff College, Fort Leavenworth, KS, 2002.

⁴ Ibid.

⁵ McCormick, Shon MAJ, "A Primer on Developing Measures of Effectiveness," *Military Review*, July-Aug 2010.

⁶ DoD, JP 3-0, *Joint Operations*, Washington, DC: Joint Chiefs of Staff, Aug. 11, 2011.

⁷ Gardner, David W. MAJ, "Clarifying Relationships between Objectives, Effects and Endstates with Illustrations and Lessons from the Vietnam War," master's thesis, Joint Forces Staff College, Norfolk, VA, 2007, abstract.

⁸ DoD, JP 5-0, *Joint Operation Planning*, Washington, DC: Joint Chiefs of Staff, Aug. 11, 2011.

⁹ Ibid.

¹⁰ Ibid.

¹¹ Ibid.

¹² JP 3-0.

¹³ Ruby.

¹⁴ Ibid.

¹⁵ Ibid.

¹⁶ Department of the Army, ATP 5-0.1, *Commander and Staff Officer Guide*, Washington, DC: Army Publishing Direc-

torate, September 2011.

¹⁷ Department of the Army, FM 3-24.2, *Tactics in Counterinsurgency*, Washington, DC: Army Publishing Directorate, April 2009; Department of the Army, FM 3-24, *Counterinsurgency*, Washington, DC: Army Publishing Directorate, December 2006.

¹⁸ Data for Figure 3 taken from JP 3-07, ATP 5-0.1, ADRP 3-07, FM 3-24, ATP 3-57.20.

¹⁹ Department of the Army, ADRP 5-0, *The Operations Process*, Washington, DC: Army Publishing Directorate, May 2012.

²⁰ FM 3-24.

²¹ ATP 5-0.1.

²² Department of the Army, ADRP 3-07, *Stability*, Washington, DC: Army Publishing Directorate, August 2012.

²³ ATP 5-0.1.

Acronym Quick-Scan

ADRP – Army doctrinal reference publication

AO – area of operation

ATP – Army Technical Publication

ATTP – Army Tactics, Techniques and Procedures (publication)

COE – contemporary operating environment

DoD – Department of Defense

FM – field manual

JP – joint publication

MoE – measure of effectiveness

MoP – measure of performance

'Driver, How Much Fuel Do We Have?' – An Update

An updated and easy way to report accurately.

by LTC William Kepley

In the September-October 1996 issue of *ARMOR*, then-SSG Steve Krivitsky¹ published a simplified way to determine how many gallons of fuel remained in an M1A1 based on each fuel-cell level (left front, right front and rear).

With the M1 family of vehicles almost completely converted to a “pure-fleet” M1A2 and its smaller-capacity fuel cell, Krivitsky’s article needs updating based upon the current M1A2 tank fleet. While Krivitsky’s article focused exclusively on the M1A1 tank, this update also includes the other armored brigade combat team (ABCT) primary vehicles: the M2A3 Bradley, M1 Assault Breacher Vehicle (ABV), M9 Armored Combat Earthmover (ACE), M109A6 Paladin and M992 Field Artillery Ammunition Supply Vehicle (FAASV). This update provides an easy method for individual vehicle commanders to report on-hand fuel, and then for others at battalion and BCT level to accurately forecast how much fuel is required to top off their units.

Fuel is forecast, ordered and distributed by gallons, not by color status (black/red/amber/green). If a company executive officer reports Company B is amber on Class III, that can mean anywhere from 60 percent to 80 percent on hand. If the unit is closer to 60 percent on hand, B Company might not get enough fuel for the next mission; or, if closer to the 80 percent mark, the company may receive too much fuel. Accurate fuel projections are needed to ensure that neither time nor fuel is wasted, and this update provides a method to ensure accuracy.

To read the chart for the M1A2 (Figure 1), the tank commander asks the driver to read the fuel levels in each of the fuel cells and then cross-references the levels to get the total number of gallons. For example, right front is

Right front	Left front	Rear	Rear ¼	Rear ½	Rear ¾	Rear full
Empty	Empty	0	47	95	142	189
	¼	27	74	122	169	216
	½	54	101	149	196	243
	¾	80	127	175	222	269
	Full	107	154	202	249	296
¼	Empty	38	85	133	180	227
	¼	65	112	160	207	254
	½	92	139	187	234	281
	¾	118	165	213	260	307
	Full	145	192	240	287	334
½	Empty	75	122	170	217	264
	¼	102	149	197	244	291
	½	129	176	224	271	318
	¾	155	202	250	297	344
	Full	182	229	277	324	371
¾	Empty	112	159	207	254	301
	¼	139	186	234	281	328
	½	166	213	261	308	355
	¾	192	239	287	334	381
	Full	219	266	314	361	408
Full	Empty	150	197	245	292	339
	¼	177	224	272	319	366
	½	#REF!	251	299	346	393
	¾	230	277	325	372	419
	Full	257	304	352	399	446
		0	47	95	142	189

Figure 1. M1A2 fuel remaining, in gallons.

half-full, left front is ¾ full, rear is half-full, so that equals 250 remaining gallons.

The reading is similar for the ABV chart (Figure 2). (The ABV is built on an M1A1 chassis.)

For the M2 Bradley (Figure 3), the level line slowly drops as fuel is expended and stays in the green area until it reaches 1/8 remaining, or 23 gallons. As the level drops, the brigade commander can then report the amount of fuel remaining, and his executive officer can plan accordingly.

The M9 ACE fuel gauge reads much like a car, and the corresponding gallons are listed in Figure 3.

The Paladin (Figure 4) and FAASV (Figure 5) are similarly listed.

Again, the objective is to transmit the correct on-hand amount of fuel, by platoon, to the company executive officer or command post. With this information, a company roll-up amount of fuel on hand can be sent through appropriate channels to the brigade support battalion’s (BSB) support operations officer. The BSB will then

Right front	Left front	Rear	Rear ¼	Rear ½	Rear ¾	Rear full
Empty	Empty	0	62	124	186	248
	¼	27	89	151	213	275
	½	54	116	178	240	302
	¾	80	142	204	266	328
	Full	107	169	231	293	355
¼	Empty	38	100	162	224	286
	¼	65	127	189	251	313
	½	92	154	216	278	340
	¾	118	180	242	304	366
	Full	145	207	269	331	393
½	Empty	75	137	199	261	323
	¼	102	164	226	288	350
	½	129	191	253	315	377
	¾	155	217	279	341	403
	Full	182	244	306	368	430
¾	Empty	113	175	237	299	361
	¼	140	202	264	326	388
	½	167	229	291	353	415
	¾	193	255	317	379	441
	Full	220	282	344	406	468
Full	Empty	150	212	274	336	398
	¼	177	239	301	363	425
	½	204	266	328	390	452
	¾	230	292	354	416	478
	Full	257	319	381	443	505

Figure 2. ABV (M1A1 chassis) in gallons.

determine how much fuel is required and how it will be transported to the maneuver and supported battalions.

Bradley - in gallons		M9 ACE - in gallons	
Full	175	Full	143
		7/8	126
7/8	154		
¾	132	¾	107
5/8	110	5/8	90
½	88	½	72
3/8	67	3/8	54
¼	44	¼	36
1/8-Low	23	1/8	19
Empty	0	Empty	0

Figure 3. M2 Bradley and M9 ACE.

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Notes

¹ Krivitsky is now branch chief, weapons and gunnery doctrine, MCoE, Fort Benning.

Paladin fuel in gallons	
Full	157
88%	138
75%	118
63%	99
50%	79
38%	60
25%	39
13% 1/8	20
Empty	0

Figure 4. M109A6 Paladin fuel status in gallons.

M992A3 fuel in gallons	
Full	157
88% 7/8	138
75% 3/4	118
63% 5/8	99
50% 1/2	79
38% 3/8	60
25% 1/4	39
13% 1/8	20
Empty	0

Figure 5. M992A3 FAASV fuel status in gallons.

TACTICAL DECISION EXERCISE

Tactical Vignette 14-02: Showdown in the Central Corridor

WHAT'S
YOUR
NEXT
MOVE?



Situation

You are the commander of Company A, 1-8 Cavalry. Your infantry company team consists of one tank and two mechanized platoons; you have an attached engineer platoon and mortar section following in support. Your company has priority of fires. The terrain is mostly open desert flanked by mountains, with some high terrain in

the center of the zone. We are attempting to deny enemy advancement into the country's capital.

You are first in the order of march for the battalion as it conducts a movement-to-contact. The battalion's purpose is to find, fix and destroy the advance guard of a brigade tactical group (BTG) moving east, allowing your

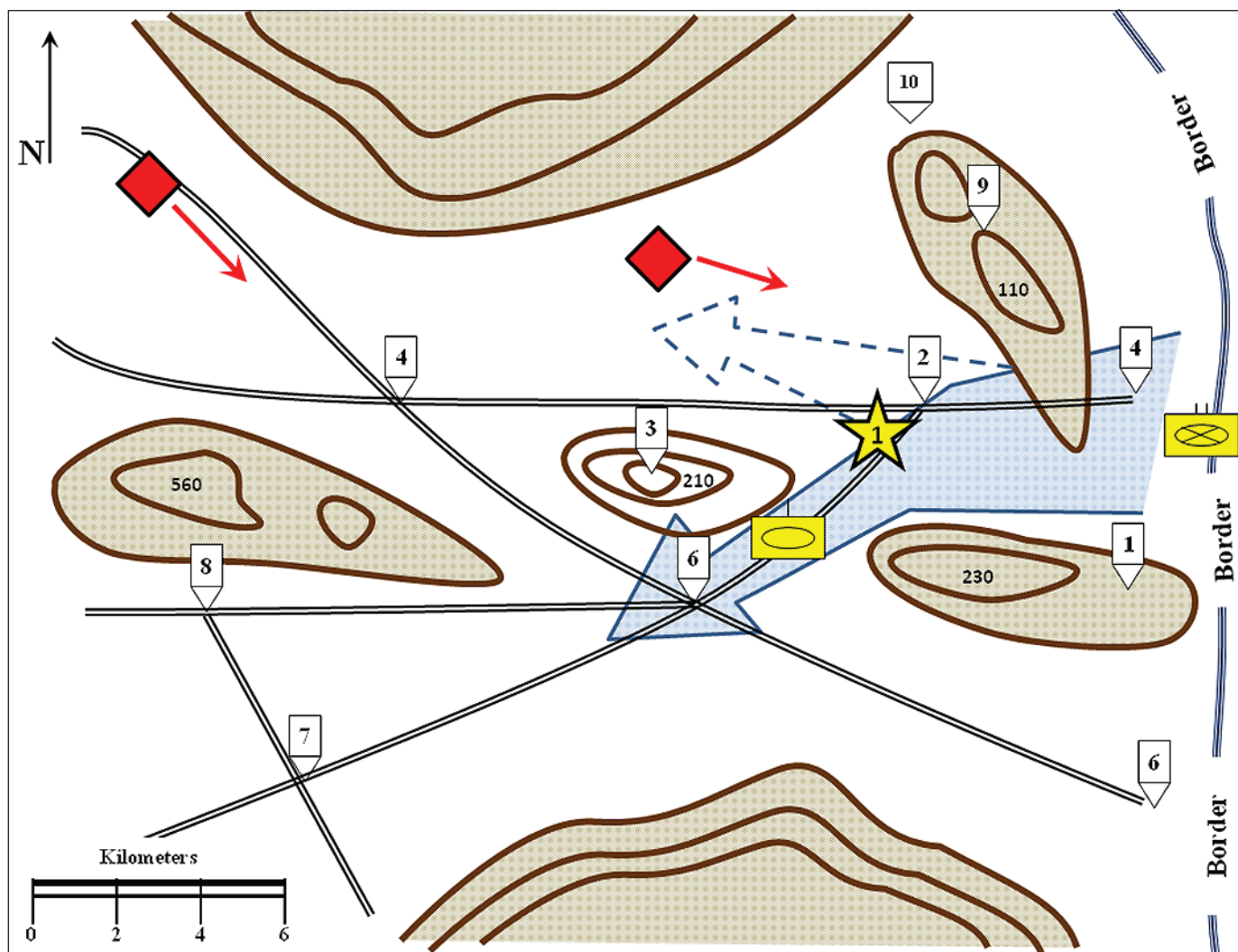
brigade to destroy the main body with enough combat power left to block a second-echelon detachment.

Task and purpose

2/1 Cavalry:

Task: Destroy the BTG.

Purpose: Prevent the motorized rifle



division from crossing east of the international border.

1-8 Cavalry:

Task: Destroy the BTG's advance guard.

Purpose: Enable 2/1 Cav to destroy the main body.

Company A, 1-8 Cav:

Task: Fix and destroy the forward reconnaissance detachments.

Purpose: Enable 1-8 Cav to destroy the advance guard.

Scenario

As you reach Checkpoint (CP) 2, based on his decision support criteria, your battalion commander decides to move your company south toward CP 8 to gain contact with the reconnaissance detachment, suspected to be at CP 8. As you approach the intersection at CP 6, your trail platoon reports about 20 vehicles in formation, moving east and starting to deploy north of CP 3. A moment later, you notice a Blue Force Tracker (BFT) icon appear from brigade

reconnaissance assets reporting some 35 vehicles north of Hill 560 moving east toward CP 4. You assume that the element identified by 1st Platoon must be the reconnaissance detachment and that it is probably deploying to engage the battalion from Hill 110 (vicinity CP 9), and you are unsure of the element identified on BFT.

You attempt to contact the battalion commander or S-3 on the command net but receive no response. BFT has the battalion frontline trace about 15 minutes out from CP 2. Based on the brigade spot report, you estimate that the BTG is at least 20 minutes from CP 4. It will take you about the same amount of time to move northeast to engage the reconnaissance detachment or northwest to intercept the unidentified element on BFT.

In two minutes or less, make your decision and issue your fragmentary order and any other reports you would submit.

Acronym Quick-Scan

BTG – brigade tactical group
BFT – Blue Force Tracker
CP – command post

SADDLES AND SABERS



70th anniversary of Battle of St. Vith: Timeline of St. Vith

Editor's note: The U.S. Army marks the 70th anniversary of the Battle of St. Vith in mid-December 2014. Although another battle in the overall Battle of the Bulge, the battle for Bastogne, is better known, Armor and Cavalry defensive actions at St. Vith helped break the back of Hitler's Ardennes offensive. As LTG Troy H. Middleton assessed in the foreword to the Armor School's publication *The Battle at St. Vith, Belgium*, "Two of the most important tactical localities on the 88-mile front held by the VIII Corps in the Ardennes Forest at the beginning of the Battle of the Bulge ... were Bastogne and St. Vith. Through these localities were the road nets that, if held, would disrupt the plan of any aggressor. Bastogne was an important communications center

and was worth the gamble made for its defense. Its garrison wrote a brilliant chapter in history by denying the locality to the enemy; therefore, much of the comment pertaining to the Battle of the Bulge has centered around this important terrain feature. This fact has caused many to lose sight of the importance of St. Vith and the gallant stand made for its defense by elements of corps troops, by remnants of 106th Division and by [Combat Command B (CCB)] of 7th Armored Division. ... In my opinion, it was CCB that influenced the subsequent action and caused the enemy so much delay and so many casualties in and near this important area. Though *Armor* was not designed primarily for the role of the defensive, the operation of CCB was nevertheless a

good example of how it can assume such [a] role in an emergency. Its aggressive defense measures completely disrupted the enemy's plan in the St. Vith sector." The same publication, in its introduction, stated, "The stand at St. Vith has been recognized by both German and Allied commanders as a turning point in the Battle of the Bulge." **ARMOR** magazine brings you the good, bad and ugly regarding the Battle for St. Vith and the on-scene leadership that made the difference in the battle. First, the scene-setting.

Summary

The Battle of St. Vith, which began Dec. 16, 1944, was part of the Battle of the Bulge. St. Vith represented the right flank in the advance of the

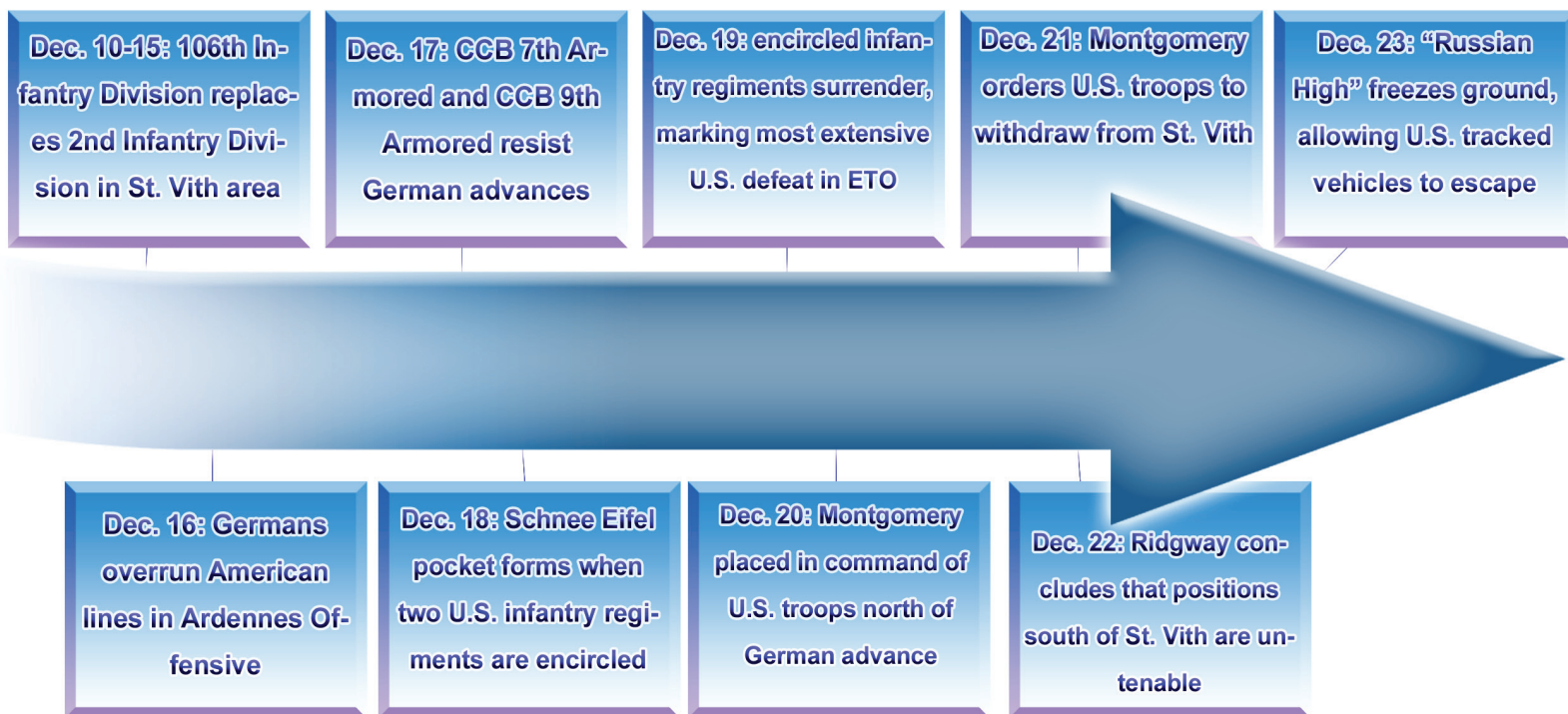


Figure 1. Timeline of Battle of St. Vith.

German offensive, which intended a pincer movement on U.S. forces through the Losheim Gap and toward the ultimate objective of Antwerp.

The town of St. Vith, Belgium, was a vital road and rail center the Germans needed to supply their offensive. St. Vith was also close to the western end of the Losheim Gap, a critical valley through the densely forested ridges of the Ardennes Forest and the German offensive's axis. Therefore St. Vith was a "must capture" by the German LXVI Corps and its 5th and 6th Panzer armies.

Opposing the Germans were units of U.S. VIII Corps. These defenders were led by U.S. 7th Armored Division and included 424th Infantry (106th U.S. Infantry Division), elements of 9th Armored Division's CCB and 112th Infantry Regiment of U.S. 28th Infantry Division. Over the course of almost a week, 7th Armored Division – plus those elements of the 106th Infantry, 28th Infantry and 9th Armored Divisions – absorbed much of the weight of the German drive, throwing the German timetable into disarray before being forced to withdraw west of the Salm River Dec. 23.

Under orders from Field Marshal Bernard Montgomery, 7th Armored gave up St. Vith Dec. 21, 1944, and U.S. troops fell back to positions supported by 82nd Airborne Division to the west, as noted. However, even in retreat, 7th Armored presented an imposing obstacle to a successful German advance. By Dec. 23, as the Germans shattered their flanks, the defenders' position became untenable, and U.S. troops were ordered to retreat west of the Salm River. As the German plan called for the capture of St. Vith by 6 p.m. Dec. 17, the prolonged action in and around it presented a major blow to their timetable.

Dec. 10-15

The 106th Infantry Division (422nd and 423rd Regiments), a "green" unit, replaces the veteran 2nd Infantry Division Dec. 11 in the area of St. Vith and the *Schnee Eifel* (Snow Plateau). Parts of 106th are deployed east, with most of its force isolated on the Schnee Eifel. The 106th's 424th Infantry Regiment is sent to Winterspelt. On the eve of the battle, the 106th is covering a front of



Figure 2. The battleground of the Germans' Ardennes offensive was on Belgium's southeastern side, Luxembourg's northern tip and Germany's western border.

almost 26 miles.

The 14th Cavalry Group, commanded by COL Mark Devine, moves into the area. Supporting 14th are 820th Tank Destroyer Battalion, with 12 three-inch towed anti-tank guns, and 275th Armored Field Artillery Battalion, with 18 M7 Priest self-propelled howitzers. The headquarters group also brings with it a second cavalry squadron (18th Cavalry Reconnaissance Squadron) to screen the Losheim Gap, which is on 106th Division's left flank.

The defenders' battleground is the Ardennes. Most of the Ardennes is in southeastern Wallonia, the southern and more rural part of Belgium. The southern part of the Ardennes is also the northern section of Luxembourg, and on the southeast, the Eifel region continues into Germany. The region is typified by steep-sided valleys carved by swift-flowing rivers, the most prominent of which is the Meuse River. Much of the Ardennes is dense forests, with mountains averaging around 1,148 to 1,640 feet high but rising to more than 2,276 feet in the boggy moors of the Hautes Fagnes (Hohes Venn) region of southeastern Belgium. The Ardennes' most populous cities are Verviers in Belgium and Charleville-Mézières in France, both exceeding 50,000 inhabitants. The Ardennes is otherwise relatively sparsely populated, with few of the cities exceeding 10,000 inhabitants – with a few exceptions like Eupen or Bastogne.

The two cavalry squadrons, 14th and 18th, set up fortifications in small

villages in the area. This transforms them into isolated strongpoints guarding road intersections. Most of their supporting firepower comes from LTG Troy Middleton, commander of VIII Corps, who arranges for eight of his 13 reserve artillery battalions to support the area of the Schnee Eifel and the Losheim Gap, the central area of his front line.

Dec. 16

The German Ardennes-Alsace Campaign attack is thrown in force at U.S. 106th Infantry Division. A little before 5:30 a.m., a selective German artillery bombardment begins to fall on 106th's forward positions on the Schnee Eifel, moving gradually back to the division headquarters in St. Vith. This attack cuts up most of the telephone wires the U.S. Army uses for communications. The Germans also use radio-jamming stations that made wireless communications difficult. This has the effect of breaking the defense into isolated positions, and denies corps and army commands information on events at the front line.

German soldiers find an undefended gap running between Weckerath to Kobscheid in the north. This movement coincides with a southern advance around the right flank of the Schnee Eifel through Bleialaf to Schoenberg, surrounding U.S. positions on the Schnee Eifel ridge. This double envelopment comes as a complete surprise to U.S. forces due to intelligence failures at First Army level.

LTG Courtney Hodges, commander of First Army, and Middleton commit combat commands of 7th and 9th Armored Divisions to support the 106th Division's defense. MG Alan Jones, the 106th's commander, sends reinforcements to Winterspelt and Schoenberg around noon. COL Charles Cavender of 423rd Regiment counterattacks, which retakes the village of Bleialf.

The Germans capture Steinebruck (six miles east of St. Vith), with its bridge over the Our River.

The only significant check in the German advance is at Kobscheid, where 18th Cavalry Reconnaissance Squadron had circled the village with barbed wire and dug in machineguns from

their armored cars. Here, they hold the village for the day; after dark, they destroy their vehicles and abandon their positions, withdrawing to St. Vith. In other villages, the cavalry troops are forced to withdraw earlier in the day to avoid being surrounded and cut off. Devine directs the squadron to take up positions on a new defense line along the ridge running from Manderfeld to Andler, on the north side of the Our River.

Village strongpoints set up by the U.S. cavalry groups, plus sustained artillery fire from VIII Corps reserve units and 106th Division units, deny German units the roads.

Dec. 17

Before dawn, the German LXVI Corps renews its advance on the Our River. Winterspelt falls early in the day. The Germans then advance to the critical bridge at Steinebruck and past it, but are thrown back by a CCB 9th Armored Division counterattack.

BG Bruce Clarke, leader of CCB 7th Armored Division, arrives at Jones' headquarters in St. Vith in the morning with news that his command is on the road to St. Vith but will likely not arrive until later that afternoon due to its progress being snarled on the roads. Adding to this bad news for Jones, who is hoping for deliverance by the arrival of organized reinforcements, the situation isn't improved by the appearance of a demoralized Devine with news that German Tiger tanks are right on his heels. Devine is sent to a higher commander to make a "personal report." With the appearance of German scouts on the hills east of town, Jones decides he has had enough. He turns over defense of the area to Clarke.

Clarke sees his first task as getting his command into St. Vith. By midnight he sets up the beginnings of a "horseshoe defense" of St. Vith, a line of units to the north, east and south of town. These units come mainly from 7th and 9th Armored Divisions but include troops from 424th Regiment of 106th Division, and various supporting artillery, tank and tank-destroyer battalions.

Dec. 18

As German troops mass on the

From introduction to the Armor School's publication *The Battle at St. Vith, Belgium*:

"It had taken 2½ hours for a company to move three miles – all because of the vehicles fleeing to the rear with men who refused to pull aside and let troops through (troops who actually would save them if they could reach the town before the Germans did). There was one of the biggest tragedies of St. Vith; that American soldiers fled, and by their fleeing crowded the roads over which reinforcements were coming; and thus prevented the arrival of these reinforcements in time to launch a counterattack to save the 422nd and 423rd Infantry Regiments, then cut off by the Germans east of St. Vith." –MAJ Donald P. Boyer Jr., personal report on traffic conditions, Vielsalm-St. Vith Road, Dec. 17, 1944. Boyer was S-3 of 38th Armored Infantry Battalion, 7th Armored Division.

"The panic of the afternoon of Dec. 17 was so great at the road crossing just west of St. Vith that an officer I stationed there to stop rearward movement was pushed aside by senior officers and I had to take charge personally to control the traffic." –GEN Bruce C. Clarke

"All manner of reports were received indicating that the enemy was bypassing the 7th Armored Division's positions on the north and rolling up the flank on the southeast, making the St. Vith sector comparable to a thumb protruding into the enemy's mouth; and it seemed that this thumb could be easily bitten off."

opposite bank, 9th Armored blows up the bridge on the Our River at Winterspelt. Americans fall back to a defensive line with 7th Armored Division on the left and 106th's 424th Regiment on the right. The Germans overrun Bleialf and Andler. The Germans capture the bridge at Schoenberg by 8:45 a.m., cutting off American artillery units attempting to withdraw west of the Our River.

The 106th Infantry Division's 422nd and 423rd Infantry Regiments are encircled

and cut off from the rest of the division by a junction of enemy forces near Schoenberg. After they receive an order from Jones at 2:15 a.m. to break out to the west along the Bleialf-Schoenberg-St. Vith road (Jones told them to "clear the area of Germans in the process"), they begin the breakout at 10 a.m., with COL Charles Cavender leading the attack (commander, 423rd Infantry). By nightfall both regiments had regrouped for a counterattack, covering three miles to the base of the ridge forming the east side of the Our River valley, and are prepared to attack and capture the bridge at Schoenberg at 10 a.m. the next day.

However, they are blocked by the enemy and lost to the division. The German southern pincer, advancing from Bleialf against scattered American resistance, closes at nightfall on the Schnee Eifel Dec. 17. Jones had given the troops east of the Our River permission to withdraw at 9:45 a.m., but it was too late to organize an orderly withdrawal by that time. This order, and the slow German southern arm, gave more Americans a chance to escape, but since they had newly arrived in the area and had few compasses or maps, most were unable to take advantage of the opportunity. The American positions east of the Our River become the Schnee Eifel Pocket.

Dec. 19

At 9 a.m., 422nd and 423rd's positions come under artillery bombardment. The American attack on Schoenberg launches at 10 a.m. as scheduled, but comes under German assault-gun and anti-aircraft gunfire from armored fighting vehicles on the ridge to their front and from German troops firing small-arms fire. This is bad enough, but then tanks appear behind them and it is the last straw – the Americans are under fire from all sides and running low on ammunition. At this point COL George Descheneaux, commander of 422nd, decides to surrender the American forces in the Schnee Eifel pocket. At 4 p.m., this surrender is formalized, and the two regiments of 106th Division and all their supporting units, some 7,000 men, become prisoners of the German army. Among the prisoners is PVT Kurt Vonnegut of 423rd Infantry Regiment, whose

experiences as a prisoner of war form the basis of his novel *Slaughterhouse-Five*.

A different group of scattered American soldiers numbering some 500 men surrender later, and by 8 a.m. Dec. 21, all organized resistance by U.S. forces in the Schnee Eifel pocket ends. This marks the most extensive defeat suffered by American forces in the European Theater of Operations.

Dec. 20

Supreme Commander GEN Dwight D. Eisenhower gives command of all troops north of the German advance to Montgomery, commander of 21st Army Group.

Forces of 82nd Airborne Division make contact with 7th Armored Division, meeting the condition Hodges set for command of the St. Vith forces shifting to XVIII Airborne Corps under LTG Matthew Ridgway.

Dec. 21

Holding St. Vith has become more of a

liability to the Americans than an asset. Attacks from 1st SS Panzer Division have cut the Rodt-St. Vith road. The LVIII Panzer Corps' advance south of St. Vith threatens to close a pincer around the entire St. Vith salient at Vielsalm, 11 miles west of St. Vith, trapping most of First Army.

The German attack on St. Vith begins at 3 p.m. with a heavy artillery barrage. The climax of the attack is the German 506th Heavy Panzer Battalion. Six of the titan Tiger tanks attack from the Schoenberg-St. Vith road against American positions on the Prumberg. Attacking after dark at 5 p.m., the tanks fire star shells into American positions, blinding the defenders, and follow up with armor-piercing shells, destroying American defending vehicles. Around 9:30 p.m., Clarke orders American forces to withdraw to the west. German forces pour into the town, happily looting the remaining American supplies and equipment, in the process creating a traffic jam that prevents pursuit of U.S. forces.

Dec. 22

Ridgway arrives in Vielsalm. He is aware Montgomery has already decided to withdraw from the St. Vith area. Ridgway is still willing to consider holding positions in the area, but interviews with commanders change his mind.

Dec. 23

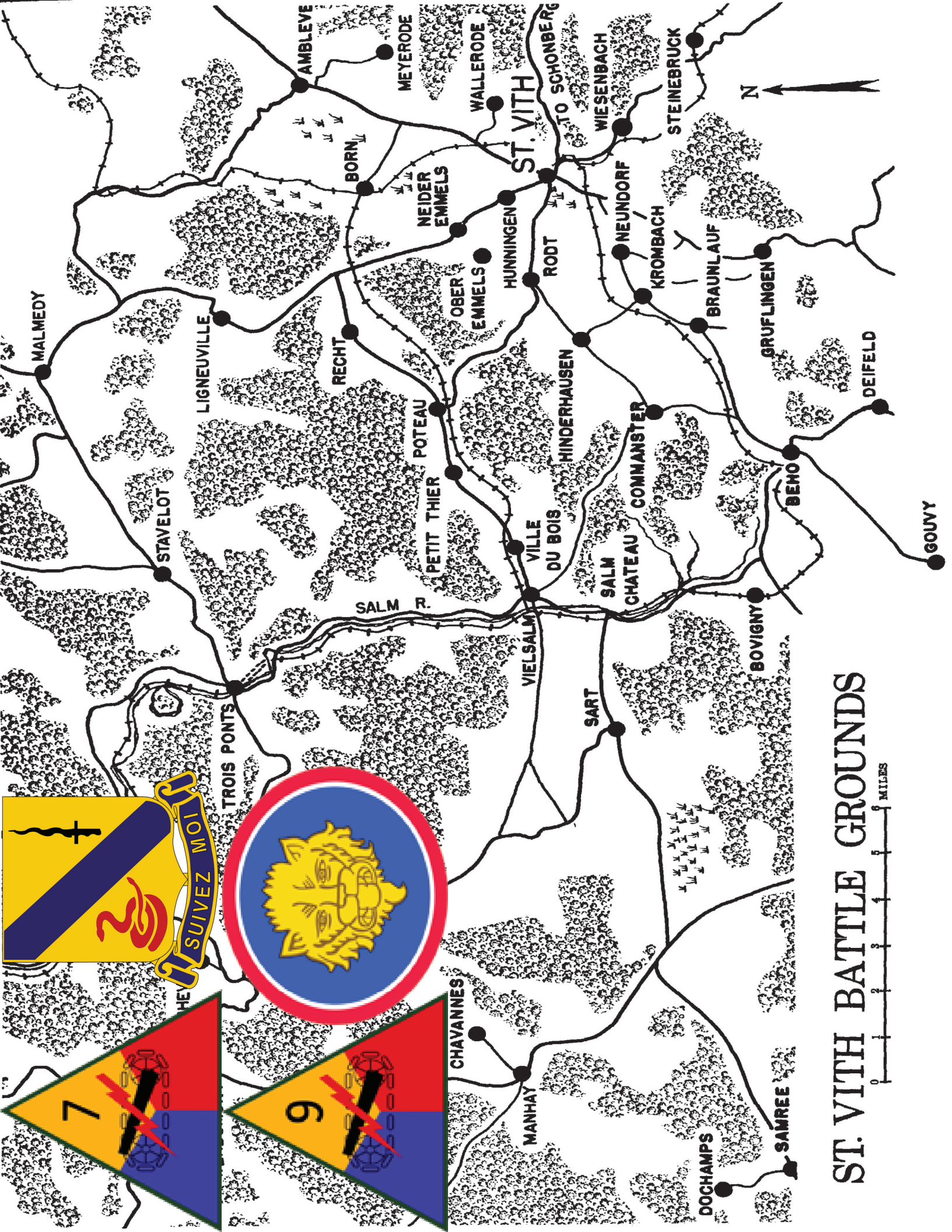
A "Russian High" begins blowing – a cold wind from the northeast and clear weather – freezing the ground and allowing free movement of tracked vehicles and the use of Allied air superiority. American forces are able to escape to the southwest, cross-country to villages such as Crombach, Beho, Bovigny and Vielsalm west of the Salm River. U.S. forces are able to outrun the panzers and join forces with XVIII Airborne Corps.

Acronym Quick-Scan

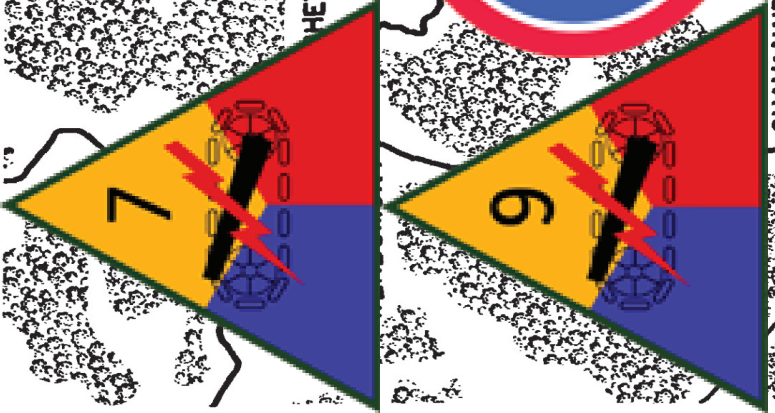
CCB – Combat Command B

Next page: Figure 3. St. Vith, Belgium, and villages in the Ardennes. (Map from the Armor School publication, *The Battle at St. Vith, Belgium, 17-23 December 1944.*)

Unit insignia set on edge of map are for major participants in Battle of St. Vith: 7th Armored Division, 9th Armored Division, 14th Cavalry Group (serpent on shield) and 106th Infantry (lion on blue and red circles).



ST. VITH BATTLE GROUNDS



MALMEDY

STAVELOT

LIGNEUVILLE

TROIS PONTS

RECHT

BORN

AMBLEVE

PETIT THIER

NEIDER
EMMELS

CHAVANNES

MANHAY

VIELSALM

HUNNINGEN

ST. VITH

VILLE
DU BOIS

HINDERHAUSEN

RODT

TO SCHONBERG

SART

SALM

WIESENBACH

CHATEAU
COMMANSTER

NEUNDORF

WALLERODE

DOCHAMPS

SAMREE

BOVIGNY

BRAUNLAUF

STEINEBRUCK

BEHO

GRUFLINGEN

DEIFELD

GOUVY

SADDLES AND SABERS



Cavalry in the Defense: Dec. 16-18, 1944

by retired COL D.J. Judge

"I finally got to bed around midnight. But I could not sleep. I lay awake most of the night mulling over the impact of this massive attack. We had been caught flat-footed. We had to reorganize our strategy, not only to contain the attack but also to make Hitler pay a high cost for mounting it. If we played our cards right, we had a good chance of destroying the German army west of the Rhine. It would mean a radical shift in our thinking and strategic planning. We must break off all offensive attacks, take the full weight of Hodges south and the full weight of Patton north, closing giant pincers sealing the Germans off west of the Roer. It would be a 'Falaise Gap' on a far grander scale. But this time we would have to act with much greater speed and boldness." —GEN of the Army Omar Bradley

Then-LTG Omar Bradley needed time to redirect his 12th Army Group in December 1944 after the massive German Ardennes attack caught his forces "flat footed." A cavalry group would buy him much of the time he needed to recover from the shock of the attack.

While the conduct of war is ever-changing, the nature of war is constant. Battle is a mixture of confusion and disorder. Commanders train their units to master the natural chaos of the battlefield by using firepower, mobility and shock power to overcome an enemy. To maximize the inherent capabilities of cavalry to move, shoot and communicate, commanders task them to perform missions that acknowledge their capabilities and limitations.

The confusion of battle is subject to a host of variables. Most prominent among these are weather and enemy capabilities. These will try the mettle of any combat commander. The mental and physical strength required to successfully operate a cavalry unit under the stress of battle demands the utmost stamina from a leader. When faced with overwhelming odds and adverse weather conditions, one must lead by example, demonstrate technical and tactical competency, interact with subordinates and anticipate how best to employ the unit in the highly fluid environment of combat.

During World War II, 13 mechanized cavalry groups, each with two subordinate squadrons, fought in Europe. Cavalry groups were usually assigned to corps but were occasionally attached – by squadron – to divisions. Cavalry was primarily

intended for reconnaissance missions. However, during the war they were usually employed in defensive, economy-of-force, security or screening missions. Armored field artillery, engineer and tank-destroyer units reinforced the cavalry groups for most missions.²

One of the 13 cavalry groups, the 14th Cavalry Group was assigned to VIII Corps in December 1944. As they manned defensive positions along the German-Belgium border, the German forces in the Ardennes were preparing a full-scale attack that would test the 14th Cavalry Group's leadership. How they acquitted themselves over the first three days of the Battle of the Bulge has been a controversial subject for almost 70 years. Examining the actions of 14th Cavalry and its commanders under the stress of combat provides several lessons on leadership and tactics applicable to today's cavalry force.

Beginning

The U.S. Army's transition from horse cavalry to mechanized cavalry started in the late 1930s. By the time the United States entered the war in 1941, the force-structure alteration was well underway. The horse-mounted 14th Cavalry Regiment transitioned to a mechanized cavalry group in July 1943 under the command of COL Thomas Q. Donaldson Jr. Each cavalry group was assigned two cavalry reconnaissance squadrons (CRS). The squadrons were organized thusly:

- Three cavalry troops, lettered A to C, each equipped with 13 M-8 armored cars or jeeps and an assault gun;
- Troop E, equipped with six M-8 howitzer motor carriages;
- Company F, equipped with a light tank and 17 M-5 Stuart tanks;
- A service company; and
- A headquarters and headquarters company.

The 18th CRS was also assigned to the group in July 1943. LTC William F. Damon, a 1933 Military Academy graduate, commanded the squadron. The men in the squadron recall that he was an impressive officer – tall, neat in dress and utterly devoted to the welfare of his men. Thoughtful, dedicated and knowledgeable, Damon won their loyalty. In return, they had earned his respect.

The group, along with 18th CRS, moved from Fort Lewis, WA,

to Camp White, OR, in October 1943. There the unit performed range firing and maneuver training. In November, 27th CRS arrived at Camp White from duty in Panama. It was redesignated as 32nd CRS and assigned to 14th Cavalry Group. LTC Ernest T. Aldridge assumed command.

Camp Maxey

The group trained in Oregon until April 1944, when they relocated to Camp Maxey, TX. COL Henry H. Cameron assumed command from Donaldson. As with other deployable units, 14th Cavalry underwent testing prior to certification for overseas duty. The Army Ground Forces (AGF) conducted individual and collective evaluations along with monitoring the completion of administrative requirements.³

While at Camp Maxey, 14th Cavalry came under MG John P. Lucas, commander of Fourth Army, headquartered in San Antonio, TX. As such, his inspection teams were responsible for certifying 14th as ready for deployment to the European Theater of Operations (ETO). Tank gunnery formed one of the requirements for certification. After three-plus years of rotating troops through Camp Maxey, the state of available equipment was anything but satisfactory. One observer commented on the situation when he wrote, "The tanks we had to use (the only ones available) were old M-3s, light tanks that had been bounced around over the boondocks for so long that the 37mm guns were loose on their mountings, making accurate fire almost impossible. However, all the orders and instructors stressed the fact that it was a test of equipment as well as men, so we ran the test of each crew with their own tank with very poor results."⁴

The unsatisfactory results of 14th Cavalry's test reached Lucas in San Antonio, and he relieved Cameron from command, replacing him with COL Mark A. Devine Jr., then commandant of the Tank Destroyer School at Camp Hood, TX. Lucas gave Devine a "free hand," and he proceeded along a path designed to "straighten [14th Cav] out."⁵

Devine as commander

Devine – a cavalry officer



Figure 1. During the winter of 1944-1945 in the ETO, vehicles were camouflaged with white paint for use in snow conditions. Here the lead M8 Greyhound armored car has been painted, while the following M8 has not.

commissioned in 1917 from the University of San Francisco – was a "hard-nosed, blunt-talking, spit and polish" officer.⁶ Commissioned too late to participate in World War I, he spent the interwar years undergoing the normal series of military schooling and assignments. Following the end of World War I, he was in the American occupation force of Germany.

Devine was 48 years old when he assumed command of 14th Cavalry Group. It was his first combat assignment. He immediately put his imprint on the unit. A new day had dawned, and it was not a pleasant one for the group. Assuming the evaluation failure to be solely the result of incompetent small-unit leaders, Devine instituted severe and, oftentimes, brutal disciplinary action against any squadron officers who crossed his path. These actions won him few admirers among the officers and men. The group did not fail any more evaluations.

Overseas movement

Before departing Camp Maxey for the port of embarkation (PoE) at Fort Hamilton, NY, 32nd Cavalry's commander ran afoul of Devine. Among other things, Aldridge's habit of chewing tobacco while speaking did not sit well with the new group commander. Devine replaced him with LTC John Murtaugh. Also, LTC Paul Ridge arrived from duty as post exchange officer in the British West Indies. He became the

group executive officer.

The pace of deployment increased as they received complete allowances of combat-serviceable equipment before leaving Camp Maxey. Despite War Department orders to the contrary, Devine directed that all officers were to deploy with their Class A uniforms. At the time, this ensemble included cavalry breeches and boots. Devine believed they were destined for post-war occupation duty.⁷

Once at the PoE, the group boarded the *Queen Mary* Aug. 12, 1944, for the sea journey to England. Arriving in Great Britain Sept. 3, they quickly recovered their ship-transported equipment. By late September, the group assembled some 20 miles to the southwest of the port of Cherbourg at Les Pieux, France.

ETO

Devine's leadership style continued to perplex his staff. For example, he informed the staff that he believed the authorized tents were inadequate and that larger tents were needed. "He was quite adamant on that point, telling us that a capable staff would be able to produce such equipment."⁸ The staff then performed a "midnight requisition" of pyramid tents from a nearby evacuation hospital. Devine was quite pleased with the results of their actions; however, his staff began to question his sense of priorities.

In the minds of the staff, his reaction to what turned out to be a minor incident cast doubt on his ability to maintain his composure under stress. The Channel Islands still contained a German garrison. The group received a report that a large contingent from this garrison would land and conduct operations in their vicinity. The group was directed to repel the invaders. It proved to be a false alarm. The "invasion fleet" turned out to be a group of French fishing boats. Devine's initial reaction startled his staff officers. He "blew his top and started issuing a bunch of conflicting orders, made you wonder what he would do in a real crisis."⁹

Moving through France, the group headquarters arrived in Ettelbruck, Luxembourg, in late October minus their two cavalry squadrons. Prior to departing from group control, another leadership crisis occurred when Murtaugh was found drunk on duty. He was relieved and replaced by the group executive officer (Ridge). The 32nd Cavalry now had its third commander in 11 months.

Replacing Ridge as group executive officer was LTC Augustine D. Dugan, who preferred to be called "Patsy." A 1924 Military Academy graduate, Patsy joined group headquarters in November 1944. Dugan was an outstanding cavalry officer. While serving in Normandy with 8th Infantry Division, he received the Silver Star. He was "easy going, business-like, alert and very likable."¹⁰ In the days to come, Dugan would put these fine qualities to use in the midst of chaos.

Forward to Losheim

As stated earlier, cavalry groups routinely saw their subordinate squadrons attached to divisions for limited combat operations. This was true of 14th Cavalry Group. In early October, 32nd Cavalry was attached to 83rd Infantry Division. They engaged in several minor clashes. On Nov. 15, they moved to the Clervaux region of Belgium. Attached to 8th Infantry Division, they rested and refitted while patrolling along the Our River valley. By Dec. 10, they were enroute to Vielsalm, Belgium.

Their sister squadron, the 18th, left

group control in mid-October and, with 2nd Infantry Division, got their first taste of combat. They pulled into the Losheim Gap region Oct. 22 and came under the control of VIII Corps headquarters. Damon established his headquarters in the town of Manderfeld and deployed his cavalry troops in positions between Lanzerrath and Roth.

Losheim Gap

Along the border between Germany and Belgium, there is only one region conducive to military movement. It is a five-mile wide area known as the Losheim Gap, named for the Belgium town of Losheim. The area contains many valleys and steep hills supported by a limited road network. During World War I, German horse cavalry advanced westward through the gap and quickly reached the Meuse River.

The same thing happened in 1940. Field Marshall Erwin Rommel's division sped through the Losheim Gap to gain the Meuse River and then pushed to the English Channel. These operations took place in the summer months. Now, as snow covered the area that winter of 1944, the Germans again wanted to attain the Meuse River through the Losheim Gap. This time, however, the German army would meet resistance from a small but determined force of American armored cavalrymen.

Mission

LTG Troy Middleton's VIII Corps tasked Devine's group to defend an area of about seven miles between the newly arrived 106th Infantry Division in the south and 99th Infantry Division, assigned to V Corps, in the north. Also, the group was to maintain contact between the two divisions. It reported to 106th Infantry Division. Old acquaintances, Middleton respected Devine's professional opinion and personal actions. He felt confident that Devine would accomplish the mission.

However, the soundest military minds in the Army at the time realized the units in the Losheim area were stretched thin. It was a calculated risk. There were not enough men and equipment to be strong everywhere. This was a quiet area of the line

covered by LTG Courtney Hodges' First U.S. Army. No one anticipated serious action occurring anywhere along the Army's 26 miles of frontage.

Defense

Prevailing doctrine at the time said that the "reconnaissance squadron rarely will be called upon to execute a position defense, but it or its elements may be required to defend observation posts, bridges or defiles to accomplish reconnaissance missions. Defensive action may be required at other times as the result of enemy action. The decision to defend a position rather than to conduct a delaying action should be made only after weighing the advantage to be gained against the risk involved."¹¹

Field Manual (FM) 2-30 implies that a defensive assignment seldom provides cavalry the opportunity to excel. Moreover, the terrain, limited road net and appalling weather precluded 18th Cavalry from taking advantage of its greatest asset – mobility. Given the defensive mission, Damon had few choices. He had to cover a great deal of real estate with a small force.

Map study revealed two main armor avenues of approach. The principal route began on the German side of the border. It started at the village of Hallschlag and then followed the Our River valley through several Belgian villages. The 22-foot-wide macadam road twisted through the villages of Krewinkle, Weckerath, Andler and Schoenberg. The approach terminated in the city of St. Vith. The same type of road system gave an advancing force a secondary avenue of approach. This route began in Losheim. It then crossed Merischeid and Manderfeld. After Manderfeld, the route connected with the principal avenue at Andler. Typical of the terrain, these routes traversed narrow village streets, winding roads and blind turns. It was hardly a high-speed approach. However, both routes allowed movement by heavy military traffic.

To defend the sector, Damon placed his units in a series of strongpoints about 1,000 yards apart along the 9,000-yard front. CPT Stan Porsche led Troop A. Porsche put his 1st Platoon in Kobscheid. The 2nd and 3rd platoons

went into position at Roth. LT Max Crawford of Troop C's 1st Platoon occupied Afst, while LT Ken Farren's 2nd Platoon went into Krewinkle. Troop C's commander, CPT John Walker, placed LT Ledru King's 3rd Platoon between the two towns.

Meanwhile, CPT Stanley Nash of Company A, 820th Tank Destroyer Battalion, put his men and antitank (AT) systems in various positions throughout the sector. LT Walter Gledhill emplaced 1st Platoon minus two squads at Merisheid. LT John Arculeer's 2nd Platoon was at Lanzerrath. LT Carl Johnston's 3rd Platoon moved into Berterath. SGT Joe Fiscus of 1st Platoon took his two-gun squad into Roth.

Although Nash was concerned and uncomfortable with his tactical emplacements, he obeyed the order to occupy the previously attached AT company's positions "man for man, and gun for gun."¹² Flabbergasted by the order, he however complied with the squadron S-3's directive. Nash wondered why no one in the group had allowed him to place his 12 76mm towed AT guns in better positions. He had to cover likely avenues of enemy armored approach throughout the sector. His current locations were unsuitable. Hardly the perfect weapon system, the gun had to be ideally sited and camouflaged. The weapon then had to be dug into position. With a range of 5,500 yards, a catastrophic kill was hardly likely.

However, the round could disable a German tank or soft-skinned fighting vehicle. The key to success lay in the gun's placement – the gun was emplaced to achieve either a flank or rear shot on an approaching enemy formation. The gun then had to be quickly repositioned to avoid destructive enemy counterfire. Placing the weapon in a new position required the crew of 10 to manhandle the 5,000-pound gun back onto the prime mover, an M-3 half-track. This was a dangerous, time-consuming operation to perform, especially when German tanks were breathing down your neck.

Damon had the squadron command post in Manderfeld. When Devine moved up Dec. 11, he placed the group command post in Manderfeld. The

group followed VIII Corps' instructions to avoid alerting the Germans as to the arrival of fresh units by replacing previously held positions "man for man, and gun for gun." It was to no avail; the Germans observed their every move.

From Manderfeld, Damon's Troop E and Company F supported the forward troops. Troop B was in the south under 106th Infantry Division's control.

Behind Manderfeld, 275th Field Artillery established positions in and around the village of Medendorf. Forward-observation posts

were colocated with the cavalry at Merisheid, Afst, Krewinkle, Roth and Kobscheid. They plotted more than 200 artillery targets. A tried and tested artillery unit, LTC Roy Clay's outfit would provide yeoman service in the days ahead.¹³

The cavalry troops were hardly idle while settling into their defensive positions. Crew-served weapons were dismounted, range cards were prepared and 60mm mortars were made ready as they vigorously patrolled the area to their front. If trouble was coming, they wanted to repel it. However,



Figure 2. A *landser* (German machinegunner) marches through the Ardennes in December 1944. The Germans shot this iconic image near the crossroads between Poteau and Recht, site of Kampfgruppe Hansen's ambush of 14th Cavalry Group early the morning of Dec. 18, 1944. The Germans used this image for propaganda.

combat was the farthest thought from their minds. For the last few weeks, they had little if any contact with the enemy. The Germans intermittently fired artillery at them. The Americans believed the artillery firing to be nothing more than harassment.

Enemy

The Germans, however, were in strength across the line from the Americans. The men of 18th Volks Grenadier Division (VGD), under the command of MG Gunther Hoffmann-Schonborn, patrolled the Schnee Eifel area. These were not the soldiers of Rommel's 1940 army. After five years of conflict, the Germans were scraping the bottom of the personnel barrel. The 18th VGD was a typical polyglot division. Formed in Denmark in September 1944, the division had 9,500 men assigned. They were formed into three grenadier regiments: 293rd, 294th and 295th. They were largely untrained civilians, displaced naval personnel and air-force ground crews. They averaged one officer and one noncommissioned officer (NCO) per company.

By early November, the division defended an area along the Schnee Eifel. While in this defensive position, LTC Dietrich Moll, the operations officer, attempted to mold the men into a coherent organization. Using the steady but small flow of previously wounded replacements, Moll organized an NCO training school far to the rear of their positions.

One hundred and fifty of the best men in the division were chosen to attend the school. They were in training when Moll received word of a newly formulated offensive action: Operation Watch on the Rhine. He was shocked. Up to this time, all his plans and training programs had been concerned with a withdrawal under enemy pressure to the Rhine River.

Sworn to absolute secrecy, the division commander received the details of the offensive orders Dec. 9. The orders were simple and to the point. The division was to attack from its current positions to the northwest. The attack would protect the northern shoulder of 5th Panzer Army's penetration. The 244th Assault Gun Brigade would augment the division – this unit contained

a hodgepodge of 40 light-skinned armored vehicles.

Hoffmann-Schonborn could inform his regimental commanders of the attack no earlier than Dec. 13. They in turn could brief their subordinate battalion and company commanders no earlier than Dec. 14. The attack was to take place Dec. 16. Also, the division was forbidden from recalling the men attending the NCO school for fear of alerting the Americans.

Attacking to the north of 18th VGD, 3rd Parachute Division was the spearhead of 6th Panzer Army's 1st SS Panzer Corps. The division enjoyed a superb combat reputation. However, like the 18th, the reputation hardly made up for the inexperience of the present members. Moll learned from his superior, LTG Hasso von Manteuffel, that there would be no artillery preparation fired in support of his operation.

Also, 5th Panzer Army made it clear they planned to bypass the town of St. Vith to the north. This meant that Moll would be attacking to the northwest while other forces attacked to his north. However, the danger of bumping into the other attacking force was minimal. With the danger of fratricide reduced, the formulation of the plan of attack consumed the time available to the division staff.

Initially, 18th VGD formed as a mobile battalion. This element had a 100-man bicycle-mounted reconnaissance company and one company of engineers in horse-drawn wagons. This force was attached to 1818 Tank Destroyer Battalion. The tank-destroyer (TD) battalion contained 12 self-propelled 76mm tracked vehicles. Moll planned either to employ this force as a reserve or to exploit any breakthrough by the attacking regiments.

The division would form three attacking waves from the available force. These elements were designated, respectively, the assault, support and reserves force. The initial wave, the assault force, consisted of about one-third of the troops from the two lead regiments, 294th and 295th Infantry. This force would move out at 4 a.m. Dec. 16. Their task was to infiltrate the thinly held American lines to their direct front. At 5 a.m., another third of

the force, known as the support force, would advance to the northwest against the troopers of 14th Cavalry. The final third of both regiments, the reserve force, was to advance in route formation to link up with the support force.

Once the attack began, Moll fully expected 106th Infantry Division to conduct a violent counterattack into the German defensive positions along the Schnee Eifel. To forestall this expected reaction, 293rd Infantry Regiment was to deploy forward to meet and repel any American attack.

Moll's objectives for each regiment on the first day of the attack were as follows:

- 293rd Regiment – The high ground north of Radscheid after securing the defensive line Bleialf-Radscheid from the anticipated counterattack.
- 294th Regiment – The high ground north of Radscheid after securing the defensive line Auw-Radscheid.
- 295th Regiment – the high ground west of Schlausenbach. The mobile battalion formed the division reserve force.

It was an overly ambitious plan given the division's composition and training. A bold counterattack by the Americans would spell doom for the hapless division. Moll understood this quite clearly. He gave the effort his best. On the other side of the line, men of 14th Cavalry would do their best to frustrate any German attack.

Clearly, both sides would go into battle with strengths and weaknesses. Victory would go to the side that put overwhelming strength against weakness. The battle balanced on quick movement to exploit a given weakness. People at the ground level of military strategy rarely appreciate these fine points. When the attack came, men on both sides would simply fight for survival. Talented, determined leadership forged this natural desire for survival into a formidable weapon. Battlefield success demanded this type of aggressive, concerned leadership. Would it be forthcoming? It was now about 5 a.m. Dec. 16.

Attack

The sound of incoming artillery and rockets broke the relative quiet of the morning. An incredible racket for so cold and bleak a morning, the impacting steel cut wire communications as men dashed for cover. Reports of the firing soon reached squadron headquarters. Despite the assurances of the panzer army commander that there would be no artillery preparation fired, someone failed to get the word and commenced firing at about the time Moll's men were moving out. The barrage continued until about 6:30 a.m.

Mercifully, the intensity of the barrage shifted as 18th VGD came out of the fog. They had a hard time; the lack of training was evident. The attacking regiments lacked the expertise necessary to navigate through the Losheim Gap. To assist them, powerful searchlights stabbed through the fog, guiding their attack. All they had to do was follow the beam. Unfortunately, the beam also silhouetted them against the snow. Untrained and led by inexperienced NCOs, Schonborn's men stumbled through the morning mist toward Manderfeld. As they came into range, the American cavalry outposts extracted a fearful toll. Automatic weapons and canister rounds hurled through the fog, ripping holes in the attackers' ranks.

In Afst, Troop C's T5 Hurley fired belt after belt into the massed German formation. Crawford's outpost destroyed 40. The intensity of the defenders' fire resulted in an enormous expenditure of ammunition. It was going to be difficult, if not impossible, to get ammunition to the beleaguered units. At noon, Damon ordered Walker to withdraw the Afst platoon to Manderfeld through Krewinkle. Before leaving, Crawford destroyed a German assault gun with a wellaimed bazooka shot.

Nash's TD men in the northern portion of the gap took a fearful pounding. Unable to contact anyone for assistance, waves of enemy infantry and armor overwhelmed them. Nash's men withdrew under intense enemy pressure. This portion of the line had little with which to resist. The weather, the weight of the weapons, the onrushing

Germans and the loss of land-line communications to Manderfeld forced the AT gunners to move. In some cases, they abandoned the heavy AT guns. Impacting artillery rounds landed near the M3 half-track, shattering the distributor rotors. Without the prime movers, the weapons could not be moved. Seven of the heavy guns were lost. The Germans would soon employ five of these weapons against the retreating Americans.

Meanwhile, Farren's platoon in Krewinkle confronted a large group of enemy soldiers. Amazingly, the soldiers were marching four abreast, oblivious to the American presence. These Germans were men from the reserve force who believed they were going forward to link up with the successful assault and support forces. They approached in a route-march formation, not expecting anything. Farren's men held their fire until the force was 20 yards from their positions, then they opened fire. The shock power of the platoon's organic weapons, supplemented by 275th Field Artillery's massed artillery, made short order of the enemy. The German searchlights went off as their men struggled to get out of the concentrated fires.

Responding to a request for ammunition, the troop executive officer, LT Aubrey Mills, started forward. A force of 50 Germans quickly surrounded him. Refusing their demands for surrender, Mills ordered his driver to "keep going." It was the last order he ever gave. A rifleman dispatched him with a bullet through the head.¹⁴

Despite the sudden onslaught, Damon was in control of the tactical situation. By 8 a.m., he had moved a platoon of five tanks forward to support King's people in Weckerath. His two line troops continued to offer significant resistance to 18th VGD's men.

Devine moved to restore the line. The group ordered Ridge's 32nd Squadron to traverse the 20 miles from Vielsalm forward to Manderfeld. In short order, the squadron, minus Company F, moved toward Manderfeld.

Company F had been refitting. Given the urgency of the situation, CPT Horace N. Blair quickly reassembled his company. His 17 tanks were speeding

to join the squadron within two hours.

Despite the loss of their AT weapons, LT Walter Gledhill's 1st Platoon (Company A, 820th TD Battalion) in Merisheid poured well-aimed small-arms fire into the attacking Germans. They quickly halted the attackers. Nash now placed his 3rd Platoon on the east side of Manderfeld. The 2nd Platoon guarded the south side of the town. When 1st Platoon linked up with the company, they joined 3rd Platoon.

Early afternoon Dec. 16, 1944

It was now early afternoon. The 32nd rolled into Manderfeld. Troop E was at the head of the column. LT Earle A. Lawton, the commander, placed his 75mm howitzers 1,000 yards west of Manderfeld. Four of his six guns completed the road march. They quickly tied in with 275th Field Artillery's fire-direction center.

Ridge's Troop C now entered Manderfeld. Troops A and B were just outside Andler, five miles to the southwest. Devine directed C Troop to the north. Lawton's guns were directed to support the troop. He then divided Troop A. Two platoons covered the high ground southwest of Manderfeld. The other platoon assumed the gigantic task of covering the area recently vacated by the TD company. (It was an impossible task.) CPT Franklin Lindsey and his Troop B of 18th CRS remained at Andler.

German formations moved into Auw. Devine planned to attack them and sent a reconnaissance patrol out. They encountered strong resistance and barely made it back to Manderfeld. The enemy was too strong in the south, so something had to be done. Devine ordered 32nd to retake Lanzerath to the north. Troop C, supported by Troop E, moved out. They covered three-quarters of the two miles to the village when they were hit by elements of 3rd Parachute Division moving west. The commander of Troop C, CPT Charles Martin, was now in a fierce firefight. Martin's guys barely held their position. Under a terrific pounding, the force returned to the start point.

Devine was intent on regaining lost

ground. A task force formed under the control of MAJ Jim Mayes, 32nd's S3. About 2:30 p.m., Mayes' task force attempted to take Krewinkle. The Germans stopped the Americans cold.

It was now clear that Manderfeld was about to be an island surrounded by strong enemy forces. The group had to reposition to survive. By 4 p.m. that day, it was all over in Manderfeld. The remnants of 18th CRS moved to Heppenbach and Holzheim. The group headquarters went to Meyerode.

As they moved, more bad news reached Damon. The Germans had destroyed Porsche and his troop in Roth and Kobscheid. On the plus side, Fiscus' AT guns extracted a heavy toll from the Germans before succumbing around 3 p.m.

As if things were not bad enough for the Americans, Ridge, commander of 32nd CRS, personally went to "get ammunition." According to observers, he was in a highly nervous state.¹⁵ MAJ John Kracke, the exec, led the squadron in his absence. By early evening, the squadron closed in on Herresbach.

Worried that a German pincer movement from Losheim to Honsfeld and another from Manderfeld to Andler would entrap him, LT Robert Reppa, commander of A Troop, 32nd CRS, moved to Honsfeld where he could observe both approaches. His troop arrived there after a hazardous trip under blackout conditions. He was surprised to find it was the rest center of 394th Infantry Regiment (99th Division). The men in the center believed they were well behind the front lines. They told Reppa to relax. Nevertheless, he established a loose perimeter defense of the town and awaited dawn. When traffic eased, he planned to move west and then south to 32nd's assembly area.

His plan was thwarted. Before daylight, closely following retreating U.S. vehicles, German tanks and infantry moved through the town and made motor escape impossible. Reppa radioed 32nd of this huge armor breakthrough and surrendered. He then joined 92 other A Troopers on the long march into captivity. The lucky ones in the troop escaped on foot.

In Bastogne, to the south of the group, MAJ Levin L. Lee, the group S-4, concluded his duties as a member of a general courtmartial board. Hearing of the attack, he wisely decided not to attempt to rejoin the group until the next morning. Shortly after midnight, he received a call from the group liaison officer with 106th, CPT Garland Jones. Jones told Lee that the group urgently needed ammunition. However, he could not provide Lee with a clear picture of the tactical situation. Lee found a friend in the corps G-2 shop and questioned him about the situation. The friend told him that details were sketchy. However, given the available information, VIII Corps estimated that the Germans were making a limited counterattack to restore lost positions along the Siegfried Line. Again, perceptions lulled the Americans into a false sense of security. The corps staff believed the newly arrived division was just suffering from a bad case of the jitters.

This was hardly the case. The 106th infantrymen had a tough fight on their hands. They were fighting for their very lives. Two of the regiments on the Schnee Eifel were under heavy attack. The hard-pressed regimental commanders pleaded for help. The corps promised assistance to the division commander, MG Alan W. Jones. Given the circumstances, it would be difficult for Devine to get the division commander's attention. Yet, something had to be done – quickly.

Devine was intent on regaining his original positions. To do it, the group needed assistance. He desperately needed ground troops and heavy artillery. The 106th had the assets required for a successful attack. Devine had to persuade the division to release those assets to his control. He went to the division command post to request assistance. Preoccupied with the disintegration of his division, Jones did not see or speak with Devine. For reasons known only to himself, rather than returning to the group, the cavalry commander paced the halls, hoping to see Jones. Devine waited all night without issuing orders for the next day's action. Why didn't he return to his unit? There was much to be done.

Without his direct control and

personal leadership, 14th Cavalry moved through the night. His men were handicapped as much by the psychological impact of the leadership void as by the darkness of the winter night.

At 8 a.m. Dec. 17, Devine returned to his headquarters at Meyerode. He received no forces from the 106th. One thing was clear: he was on his own.

Day 2 (Dec. 17, 1944)

Things were not looking well for the group. The 18th CRS was down to Troop E and Company F. The 32nd CRS did not fare much better. The Germans had destroyed Troop A at Honsfeld. By 8 a.m., Devine discovered that B Troop, 32nd Cavalry, lost 19 men and several vehicles. The Germans caught them on the Auw road east of Schonberg. Yet B Troop extracted a heavy toll from the Germans.

At 10 a.m., patrols reported German tanks at Ambleve. The 32nd CRS now went to Meyerode. They arrived about 11 a.m. Devine directed the group to form a delay line along the Wallerode-Born axis. By 1 p.m., Kracke had the squadron on the specified delay line.

American aircraft now attacked the suspected enemy locations in the gap. Despite the additional firepower, the Germans continued to move relatively unimpeded to the north of the group's delay line. The battered 18th, along with the group headquarters, was forced into Poteau. Confusing moves now took place as the group directed 32nd to move off the delay line to Vielsalm. No enemy action caused them to move. The reasons for the move are unclear. Exhausted, the men struggled to organize for the move in the intense cold.

Kracke, commanding 32nd Cavalry since Ridge's departure, maneuvered the squadron on this demanding day. Kracke was the ideal man for the job. Courageous, he assumed control with the cool confidence of a professional soldier. His task was awesome. Vehicles had to be started, emergency repairs performed and men fed. These tasks demanded time, but time was hardly on his side.

Meanwhile, Lee, the group S-4, was rounding up supply trucks. By noon,

his men loaded them with ammunition and rejoined the group.

Late that afternoon, Devine decided to reconnoiter the Born-Recht-Poteau road system. He left the headquarters with his customary armored car escort. Dugan, the executive officer; MAJ Lawrence Smith, the operations officer; MAJ Jim Worthington, the intelligence officer; and Lee, the logistics officer, accompanied the group commander. The move placed Devine and his key staff members at grave risk.

Who was to manage the battle in Devine's absence? Who was available? Ridge? No one had seen him for two days. Damon? He was readily available, yet he had not been designated as the interim commander.

Meanwhile, the group commander's reconnaissance convoy was slowly treading its way north. At 6 p.m., Worthington, in the lead armored car of the party, saw movement to his front. Figures appeared on the road. The vehicles slowed. As one of the shadows approached, Worthington shouted, "He's a Jerry!" The S-2 promptly shot the enemy soldier. A flare lit the night sky. All hell broke loose as the machineguns of the convoy opened up on the troops deploying from the German vehicles. Bullets flew, crisscrossing the weirdly illuminated scene.

Somehow, the lead armored car in the party managed to turn around and return to Poteau. Devine, Dugan and Smith abandoned their vehicle and fled from the scene on foot. Five hours later, Devine arrived at the group headquarters in Poteau. He had a slight wound from the ambush. Dugan made it back to the command post about 2:30 a.m.

Exhausted from traveling overland for some nine miles, Devine turned to Dugan and said, "Patsy, you take over."

Last day (Dec. 18, 1944)

At 1 a.m., the group headquarters received a message from VIII Corps. Middleton wanted to see the group commander. Damon and Ridge,¹⁶ who had returned, were in the group command post. Damon decided to go to VIII



Figure 3. Vehicle from 18th CRS destroyed at Poteau.

Corps headquarters in Bastogne. Why? There is much speculation over the rationale for his action. Was he going to corps to present his perception of the group commander's management of the battle? There is no record of his discussing the matter with Devine's exec, Dugan. Both Dugan and Ridge were senior to Damon. Yet Damon went to higher headquarters.

The crisis of the moment, however, precluded reflection on Damon's motivation. Again, there was no love lost between the group commander and Damon. Obviously, there were more pressing problems for the group headquarters to contend with this cold night. About this time, Devine was evacuated as a nonbattle casualty.

Dugan was now in command of 14th Cav Group.

He received a message at midnight from 106th Infantry ordering him to attack and seize Born. He asked for a delay. The division granted his request. Dugan left the command post to assess the situation and see to the welfare of the men.

He decided they would attack to seize Born at first light. There was still much to be done. Exhausted but confident, he quickly swung into action. Dugan organized men, equipment and vehicles. With an unlit cigar in his mouth, he gathered four light tanks and a

platoon of assault guns out of the heavy line of traffic streaming westward. Eventually, C Troop of 32nd joined their ranks. Dugan designated Mayes as commander of the attack. The sparse road network was going to impede their progress. The heavy movement of combat-service vehicles to the east only exacerbated the problem for the cavalymen.

Kracke was in Vielsalm. He organized a task force to assist Mayes' outfit. This hastily organized crew went onto the road bucking the westbound traffic. The task force made little headway. It was frustrating. No one would get out of his way. Ridge, the nominal squadron commander, appeared again about nine, arriving from group headquarters in Poteau. Ridge concluded they could not go up the road. Pulling Kracke aside, he announced, "It won't work." He was right. They could not use the road. Task Force Kracke made no further effort to reach Mayes' force.

Meanwhile, Task Force Mayes valiantly attempted to accomplish its mission to no avail. The enemy was too strong. They held open the road running out of Poteau to the west. It was the best they could do under the circumstances. Mayes analyzed the situation and decided to withdraw his meager force to Vielsalm. They made it by late afternoon. Things were quickly coming to a

head for the group.

End of cav stand

The scope of the German onslaught caused several reactions by the Allied command. Units went forward to plug the hole. Large American formations roared out of Holland. Moving into St. Vith, 7th Armored Division assumed control of the group at 1 p.m.

Dugan reported to division headquarters. Returning to the group, he announced that Devine and Ridge had been relieved. Ironically, Middleton ordered Dugan to the shattered 28th Infantry Division. He departed immediately for his new assignment. He would command an infantry battalion for the rest of the war.

At the same time, Damon received a message: "COL [Walter] Stanton, Chief of Staff, VIII Corps, VO (verbal order) attached 14th Cav Gp (Mecz) to 7th Armored Division. [BG Robert] Hasbrouck, commanding general 7th Armored Division, directed that 18th Cav Rcn Sq absorb 32nd Cav Rcn Sq and 14th Cav Gp for the purpose of creating rcn sq capable of operating – completed by 191200 Dec 1944."

The group's 72-hour delay action ended. Decimated, they needed men and material to continue fighting. They withdrew from the battle area.

Conclusions and observations

Battles can be understood on an emotional and intellectual level. Emotionally, those who slug it out in the dark, cold, wet misery of the battlefield understand and appreciate the risks and dangers of close combat. Intellectually, we learn and modify behavior regarding combat operations through map study, after-action reports and the personal recollections of the participants. The latter is the objective of this article, but we can never forget the former or we will fail to appreciate what, how and why human beings react in certain ways.

As cavalry-employment doctrine clearly recognized at the time, area-defensive operations were a high-risk venture for a CRS. There was also the appreciation that the risk could be lessened by supplementing the CRS with

more combat power in the form of artillery, AT weapons and, most importantly, infantry. Only infantrymen, for example, could have defended a given position while the AT weapons of Company A, 820th Tank Destroyer Battalion, repositioned to engage enemy armored forces. Infantrymen to perform this and other tasks were simply not available.

To compensate for this lack of infantrymen, the VIII Corps staff should have done a better job of analyzing the terrain for major avenues of enemy approach. If they had done so, the CRS may well have been assigned a security rather than a defensive mission.

Also, the corps staffs' terrain analysis should have resulted in requesting an armored division to be held in reserve. Recall that the defensive area allotted to 18th CRS was also the seam between two divisions (106th and 99th) assigned to two corps (VIII and V). In reality, this is what happened as 7th Armored Division came down from the north and placed positions in and around St. Vith. The point is that by the time 14th Cavalry Group reached 7th Armored Division, it was combat-ineffective. A planned rearward movement could have avoided this situation. Once again, there is no substitute for terrain analysis and wargaming courses of action.

Did Devine exercise competent command and control of the group during the three days of engagement? He assumed command in May 1944. Despite the administrative chaos, the group was certified for deployment and began movement to the ETO in September, landing in France in October and seeing the two subordinate squadrons immediately assigned to infantry divisions. When did Devine get an opportunity to exercise the unit or effectively interact with his subordinate commanders? The 18th CRS maintained Damon as their commander throughout this period while 32nd CRS saw, in the space of 11 months, their third commanding officer. The first time Devine assumed command of his group occurred Dec. 11. Even then, 32nd CRS was refitting at Vielsalm some 20 miles behind 18th's positions at Losheim. This was hardly a stable environment in which Devine could exercise his unit,

interact with his subordinates and demonstrate tactical competency.

When the attack came some four days later, Devine initially exercised effective control of his battlespace. He directed Ridge to determine enemy intentions by dispatching reconnaissance elements from 32nd to the north and south of the 18th CRS positions. As the 18th crumbled under enemy pressure, the 32nd's commander suddenly departed for the rear, abandoning his own battlespace. Further, 106th Division headquarters at St. Vith could not assist Devine, and there was no other course of action available except to conduct a delay. At this stage, Devine appeared to be ably assisted by Dugan, Damon and Kracke. The redeployment of the group, however, was hopelessly complicated by the myriad of VIII Corps assets clogging the roads.

The various medical and engineer units moving westward out of the battle area inhibited Devine's ability to establish a coherent delay position from which to engage the enemy. It was on the night of Day 2 that we witness the detrimental effects of weather, enemy and fatigue as Devine made a series of poor tactical decisions. Most prominent among these is his recon of the Poteau road system in the dead of night. Why did he personally attempt to execute an easily accomplished subordinate task? Why did he take the entire group staff with him? He may well have been suffering from sleep deprivation, exacerbated by the stress of seeing his unit suffer appalling losses. When he entrusted the command to a subordinate, Dugan, a stable line began to form and some semblance of tactical discipline returned to the group. Unfortunately, by this time, Devine had pushed himself too far, too fast, and physically collapsed. His failure to pace himself in a stress situation led to his subsequent medical evacuation and loss of command.

In the end, what had the group accomplished? The answer is "a great deal." They ravaged 18th VGD to near uselessness. They blunted 3rd Parachute Division's drive. They alerted higher headquarters of a heavy armor attack from the north by 1st SS Panzer Division. Most importantly, they delayed the

enemy in their sector for at least a day and bought Bradley some of the precious time he needed to recover from being caught “flat footed” by the German attack. These were impressive results attained through decisive small-unit leadership, for which little credit has been given to 14th Cavalry Group.

Retired COL D.J. Judge is a former Armor officer. His assignments while on active duty included the faculty of the National War College; chief of staff, Joint Warfare Center, Fort Monroe, VA; deputy G-3, Alaskan Command, Elmendorf Air Force Base, AK; chief, tank gunnery, Fort Knox, KY; and commander, 2nd Battalion, 10th Cavalry, 194th Armored Brigade, Fort Knox. His military schooling includes National War College, Army Command and Staff College, Naval College of Command and Staff, Infantry Officer’s Basic Course and Infantry Officer’s Advanced Course. He holds a bachelor’s of arts degree in political science from Iona College and four master’s of arts degrees: in personnel management from Carnegie Mellon University, in strategic studies from the Naval War College, in international relations from Salve Regina and in history from the American Military University. He is the recipient of the Silver Star and Bronze Star medals, Legion of Merit and Purple Heart, and is a master parachutist, Ranger, Pathfinder and Combat Infantry Badge holder.

Notes

¹ Bradley, Omar GEN, with Blair, Clay Jr.,

A General’s Life: An Autobiography, New York: Simon & Schuster, 1983.

² MilitaryHistoryOnline.com, “U.S. Army In World War II.”

³ Each training location within the United States was under the auspices of a given corps. The corps area was different from a tactical corps. The corps areas were set up in 1920, nine corps areas replacing the six previously existing departments. The department had been the primary geographic organization of the U.S. Army since the War of 1812 and still existed overseas (e.g., Hawaii and Alaska) at the time 14th Cavalry Group was certified. Each corps area, in addition to all department responsibilities, had an assignment to produce sets of corps, divisions and other tactical organizations during mobilization. The corps areas generated the forces, but AGF performed the certification.

⁴ Alexander, Marshall LT, *My Life and Times*. This is a privately published record of Alexander’s service with 14th Cavalry Group in the author’s possession. There are no page numbers. Chapter headings have been used as reference points.

⁵ *Ibid.*, “Prelude and Preparation” chapter.

⁶ *Ibid.*, “Devine Intervention” chapter.

⁷ *Ibid.*, “Invasion” chapter.

⁸ *Ibid.*, “Invasion” chapter.

⁹ *Ibid.*, “Invasion” chapter.

¹⁰ Letter to the author from retired LTC Levin L. Lee, former group S-4, dated June 2, 1990.

¹¹ FM 2-30, *The Cavalry Reconnaissance Squadron*, War Department, Washington, DC, Aug. 28, 1944.

¹² Letter to the author, CPT Stanton H.

Nash, dated Jan. 14, 1986.

¹³ The details on 14th Cavalry Group during the battle are derived from a variety of sources. The most prominent are *Lion In The Way* by COL R. Ernest Dupuy, *A Time For Trumpets* by Charles B. MacDonald and *The Bitter Woods* by John S.D. Eisenhower.

¹⁴ Mills was posthumously awarded the Distinguished Service Cross for his heroic action.

¹⁵ Dupuy.

¹⁶ Ridge abruptly departed 32nd CRS as the Germans closed on the main battle area. However, his absence from 1:30 a.m. Dec. 17 until about 2 a.m. Dec. 18, 1944, did not materially affect 32nd’s combat performance. His highly capable executive officer, Kracke, ably assumed command in Ridge’s absence. After Ridge’s relief Dec. 20, Kracke retained command of the squadron until the war’s end. (National Archives and Records Administration, *History of the 32nd Cavalry Reconnaissance Squadron (Mechanized) 13 October 1944 - 28 December 1944.*)

Acronym Quick-Scan

AGF – Army Ground Forces

AT – anti-tank

CRS – cavalry reconnaissance squadron

ETO – European Theater of Operations

FM – field manual

NCO – noncommissioned officer

PoE – port of embarkation

TD – tank destroyer

VGD – *volks grenadier* division

For more information on the battles within the larger framework of the Battle of the Bulge, the Maneuver Center of Excellence’s Donovan Research Library has monographs on the Battle of the Bulge from both from the infantry and armor viewpoint. Armor School student papers are on-line at <http://www.benning.army.mil/library/content/Virtual/Armorpapers/index.htm>. A sampling:

- Committee 3 of the Officers’ Advanced Course 1948-1949 (MAJ William E. Dressler, MAJ John W. Hopkins, MAJ Leslie F. Palmer, CPT George S. Andrew Jr., CPT Allen E. Ferguson, CPT James W. Peyton Jr., CPT Harold S. Walker Jr.), “2nd and 3rd Armored Divisions in the Ardennes Campaign, 16 December 1944 to 16 January 1945”
- MAJ J.L. Michael Greene, “Contact at Houffalize, Belgium — Contact of the 1st and 3rd Armies”

Maps for the papers may be found at <http://www.benning.army.mil/library/content/Virtual/Donovanpapers/maps/index.htm>. West Point offers maps at <http://www.westpoint.edu/history/SitePages/WWII%20European%20Theater.aspx>.

If you are on Fort Benning, refer to <http://www.benning.army.mil/library/content/Virtual/Documents/Hardcopy/index.htm> and check out Donovan’s historical paper documents. According to chief librarian Ericka Loze-Hudson, Donovan has some after-action reviews from armored divisions that cover the period.

SADDLES AND SABERS



70 Years On: Battle of St. Vith

Lessons of leadership focusing on the armored side.

by retired COL Bart Howard

No matter how technology changes, the importance of leadership will never alter. Leadership will continue to be the intangible ingredient of success in conflict. Whether outnumbered or outgunned, the force that can exploit success, remain flexible, execute mission command and has the will to prevail – even under the harshest environmental conditions – may prevail.

In December 1944, in the small town of St. Vith, Belgium, American soldiers fought in one of the most savage engagements in the U.S. Army's history. Their actions had implications far beyond their immediate foxholes and frozen tanks. Despite total tactical surprise, overwhelming odds and the coldest winter in generations, the young soldiers held off a determined enemy and denied the enemy any strategic success.

St. Vith is a story that is both commendable and tragic because combat is a human endeavor. Every leader has a unique "DNA" comprised of competence, training and resilience. In the same way, every unit has a breaking point, a threshold where defeat or victory can change in a matter of minutes. This is the story of American leadership in the Battle of St. Vith. As we observe the battle's 70th anniversary, it is fitting to recognize that leadership remains relevant in modern combat operations.

Opening moves

The evening of Dec. 16, 1944, was relatively quiet in the Ardennes sector.

Strategic background

In December 1944, the Allied armies looked back at an incredible six-month period. In June 1944, the long-awaited invasion of Europe had begun, and after the landings at Normandy and a bitterly fought breakout, the German army had been dealt a crushing blow. By September 1944, the German Western Front was collapsing, and the Wehrmacht was retreating toward the German homeland. The Allies pursued, using their advantage in mechanized warfare and industrial might, but by October had failed to inflict a mortal blow. The combination of a lack of strategic focus, untimely poor weather, dwindling logistics and the remarkable resiliency of the German army did not allow the Allies to push on as rapidly as desired. Recent offenses into German soil, such as the attack on the Hurtgen Forest near Aachen, had revealed that without the use of airpower or imaginative maneuver, front-line combat could still descend into the horrors of World War I.

Allied leaders pondered the next move and accepted that there would be little change in conditions in December 1944. They were not aware of the massive enemy preparations only a few kilometers to their east.

As a supreme dictator, Adolf Hitler had no need or desire for staff feasibility studies. He relied on his "intuitive" and once he made a decision, the German General Staff was held to executing his will. This bizarre environment was evident Sept. 16, 1944, when Hitler first revealed to his senior generals that he had made a "momentous" decision. The German army would resume the offensive and attack through the thickly forested Ardennes Forest in southern Belgium. The timeframe for the attack would be the dead of winter.

The winter of 1944 was one of the worst in a generation. Snow and rain slowed ground movement. Fog grounded air operations for days on end. U.S. tactical air operations were inflicting devastating results on the German army. Movement by daylight brought deadly strafing fire from ubiquitous Allied fighter-bombers. Hitler knew this and thus directed the offensive when the weather was at its worst, denying the Allies the full use of tactical air.

Hitler recognized that he could not defeat the mighty Allied juggernaut, whose logistic base, under steadily increasing American presence, was developing to a point where losses of men and material were replaced within days, if not hours. In Hitler's mind, the political alliance of the United States and Great Britain was "unnatural" and could be exploited if dealt a massive

continued next page

Although there had been scattered reports of a German materiel build-up to the east, the consensus of intelligence summaries discounted any large-scale attack. Much has been written about the intelligence failures of the opening days of the Battle of the Bulge; suffice to say, it may be a classic example of “mirror imaging,” whereas American conventional thought was to think what they would do if placed in a similar situation. A large scale of attack through restricted terrain – using precious reserves with inadequate fuel and an unrealistic timetable of advance – was not a course of action any American staff would entertain.

In 1944, the town of St. Vith was considered unremarkable except for the fact that five roads converged there. The Ardennes Forest region was covered in snow and slush, and all ground movement depended on the simplest logging trail or hardened path. Thus a plain country road took on disproportional worth. Three rail lines passed through St. Vith, turning this inconsequential town into a vital objective of the impending attack.

In the St. Joseph School on the

military blow. He would devise a scheme of maneuver whereas under intense secrecy, newly created and equipped German armies would slash through the Allies’ weakest front, the Ardennes Forest, seize the critical port of Antwerp and deal a mortal blow to the political will of the alliance. So weakened, the Allies would begin to bicker and break to the will of their angered citizens. With the war in the west suspended, Hitler could turn to his mortal enemy, the Soviets.

These were the illusions of a madman, and the German generals, notwithstanding only the most fanatical, knew this when this fanciful plan was revealed to them. Knowing they could not change Hitler’s mind, some German generals focused on the mission at hand and the situation’s few positive aspects. By the immense will of the Fuhrer, a powerfully equipped, reconstituted force now stood poised to deal a powerful blow. If undetected, it could surprise the ill-prepared and thinly placed American lines and penetrate quickly to deep strategic objectives. Speed and momentum were essential to success.

southern edge of St. Vith, 50-year-old Washington native MG Alan W. Jones, commander of 106th Infantry Division, was uncomfortable with the circumstances in which he now found himself. His 106th “Golden Lions” were a classic “green” unit and an example of the downfalls of the highly industrialized U.S. Army mobilization and training system. The 106th had formed in 1942 and had participated

in the Tennessee Maneuvers and all subsequent requisite training. That said, the heart of the division had changed a number

of times as trained noncommissioned officers and officers were ripped out to form the nucleus of newly forming divisions. Like a vast factory line, this cycle occurred over and over.

After arriving in England Nov. 17, 1944, the 106th trained for a mere 19 days and then was rushed to France. Their introduction to the front was not unlike the reception of the many fresh replacements that were arriving to veteran units that winter of 1944. Arriving in open trucks in the dead of winter, cold and miserable, the 106th’s troops conducted a relief-in-place with the veteran 2nd “Indianhead” Infantry Division – “man for man and gun for gun.” The 2nd Division veterans had



Figure 1. St. Vith, Belgium, in 1944 (left) and now. The town was destroyed in the fighting between German and American forces in World War II.

fought in the bloody Hurtgen Forest and had little sympathy for the 106th. They told the uneasy new soldiers, many only in their late teens, that they were coming to a “rest camp” and a “honeymoon sector.”

Nothing happened in the Ardennes. It was where new units were sent to learn the ropes, or veteran units to get a short rest.

Despite this casual attitude, Jones believed he had inherited a bad hand. The entire tactical layout did not meet any training he had received during his 27-year Army career. Two of his infantry regiments, the 422nd and the 423rd, were situated about 16 miles east of St. Vith along a terrain feature known as the *Schnee Eifel* (Snow Plateau). The steep hills, thick forests, lack of trails and swollen Our River hindered mutual support and made isolation a real possibility. His remaining regiment, the 424th, was due south of St. Vith.

If there was a bit of comfort for Jones, it was the presence of Combat Command B (CCB), 9th Armored Division, which was assigned in his area of operations. CCB consisted roughly of a modern brigade combat team of two armor battalions and one armored infantry battalion, augmented with supporting artillery and service-support units. CCB was led by the confident and combat-tested 50-year-old BG William M. Hoge. Hoge’s M4 Sherman tanks offered Jones the only mobile force poised to react to enemy actions, although they were forced to operate on roads since the ground remained a mixture of slush and mud.

Jones was also concerned about his northern flank, where there was a known vulnerability in the Losheim Gap. This seven-mile stretch of rolling hills was the scene of military invasions since the 1870s. The 14th Cavalry Group was assigned the mission of screening this critical area. Armed with armored cars, jeeps and some light tanks, the 14th could not doctrinally do much in this sector other than observe, report and call for artillery fire. Leading 14th Cavalry Group was 48-year-old COL Mark A. Devine, a controversial disciplinarian who once “inspected the fingernails of his men at the front line as an indicator of good order.”

On the evening of Dec. 15, most of 14th Cavalry was just trying to stay warm – and for a few brief moments, think of home. The most popular song that December was “I’m Making Believe” by the Ink Spots.

So Jones mulled over his options, and his staff noted his somber mood. The weight of command was upon his shoulders. He cared for his soldiers deeply. It was personal to him. His only son, LT Alan W. Jones Jr., was 21 years old and awaiting news of the birth of his first child back in Washington, DC. That evening, he was forward on the Schnee Eifel, serving as a junior staff officer in 423rd Regiment.

Commissioned in ROTC in 1917, Jones had served in the right assignments, attended Leavenworth and earned his right to command a division. As did many of his generation – GEN Dwight D. Eisenhower included – Jones had missed the “Great War” and, perhaps conscious of his lack of experience in combat, was reluctant to make any protests to his corps (VIII Corps) commander, LTG Troy H. Middleton. Reports of increased activity and the sounds of tank movement in the misty forests east of forward positions came into 106th’s headquarters, but VIII Corps discounted these reports as the indicators of a junior “green” unit.

‘We gamble everything’

A few kilometers to the east, the senior leader of the German 5th Panzer Army, 47-year-old LTG Hasso von Manteuffel, had meticulously prepared for the battle. A hands-on leader, he conducted his own reconnaissance and observation of American positions. Barely five feet tall, he was a dynamo of energy and was recognized as one of the most professional leaders in the German army. Not a fanatic, Manteuffel knew the odds were against his force, but perhaps with daring and his renowned drive, he could push past the thin American defenses and thus past St. Vith and Bastogne.

The 5th Panzer Army consisted of three corps of two armored and six *volks-grenadier* (VGD) or people’s divisions. On paper, 5th Panzer Army sounded impressive, but on closer examination,

one would have seen ranks full of either the very young or old. Drained by the massive Soviet war machine, Germany had expanded its draft to take those who would not have qualified in 1939. Unlike the American army, the German army was not fully mechanized and still relied on a surprising number of draft horses to move supplies and even towed artillery. That said, with localized superiority of forces, an increase of ammunition stockpiles and a sprinkling of colossal 70-ton “Royal Tiger” tanks, the attacking force must have felt a surge of optimism as the first rounds of the opening barrage flashed into the cold winter sky. Audacity had carried Germany to victory in these very same woods in May 1940. The night before the battle, the German forces read an official communiqué which bluntly informed them that now they gambled everything.

Ghost Front awakes

Some soldiers reported seeing pinprick flashes of artillery fire in the sky before shells howled down on their positions, spreading shards of shrapnel, earth and tree fragments. Although the artillery strike caused some casualties, for the most part, the greatest effect was a disruption of communications throughout the 106th defensive line. Units relied heavily on wire communication, and the barrage had ripped apart miles of telephone lines. Radio communication had been severely limited for security purposes. When the fickle radio sets were finally turned on, many units discovered that German radio units had deliberately jammed the airwaves with musical records.

As soldiers jumped out of their billets and forward strongpoints prepared for action, ghostly figures in white camouflage emerged out of the thick woods in great number. The chatter of machineguns began to rattle all across the many villages and outposts. At this point, the battle could not be viewed as a coherent maneuver but as a patchwork of small, desperate battles at squad and platoon level. Some soldiers were killed outright; some panicked and fled in any available vehicle; many stood their ground and fought with determination. Small-unit leaders

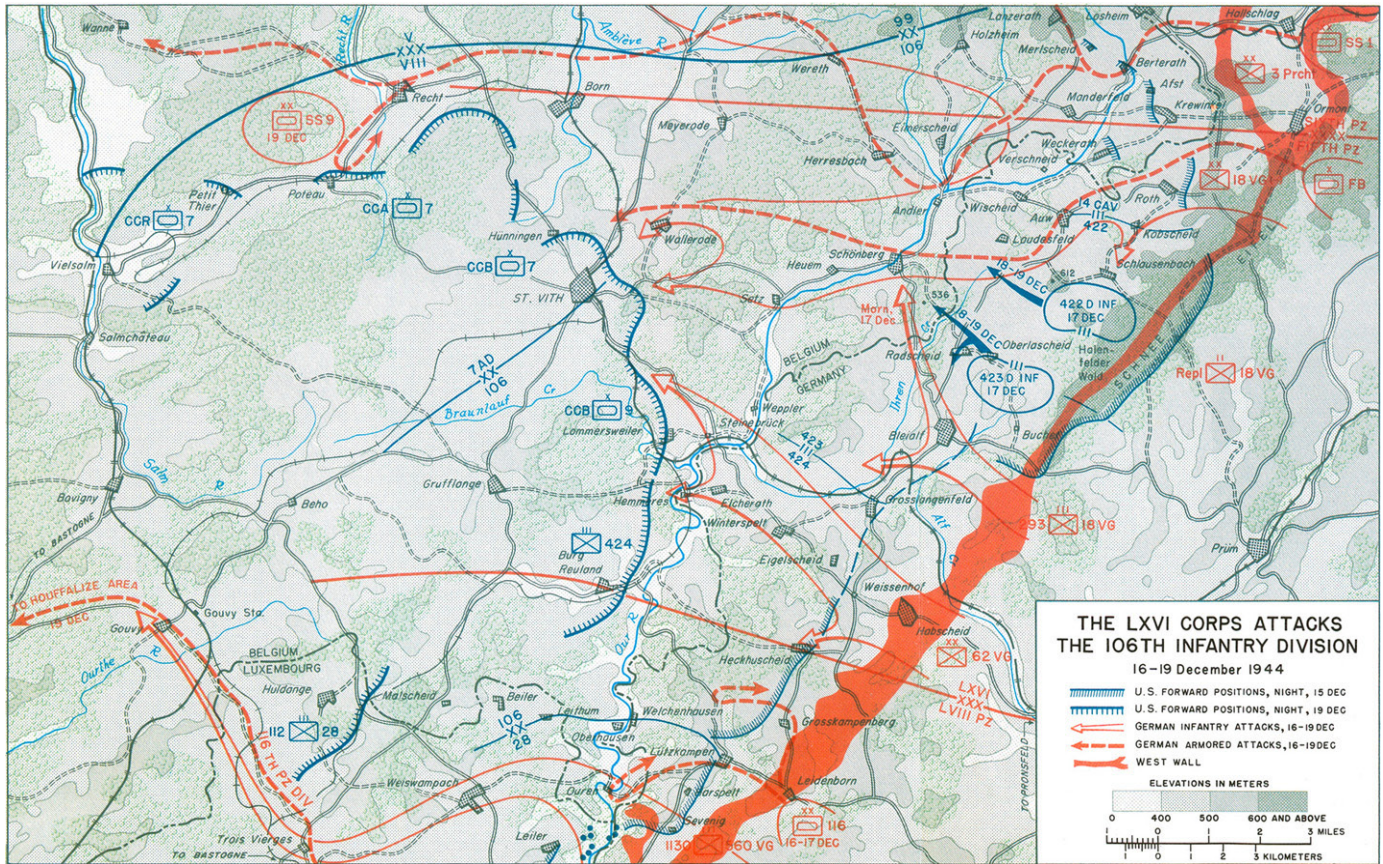


Figure 2. The ‘Ghost Front’ awoke when the German LXVI Corps surprised 106th Infantry Division and crossed into American lines Dec. 16, 1944. LXVI Corps, 5th Panzer Army, was assigned the capture of St. Vith. The Germans called their counteroffensive the ‘Watch on the Rhine’ (*Wacht am Rhine*) plan. The solid orange line is the Siegfried Line, or the West Wall. (Map by H.C. Brewer Jr., U.S. Military Academy History Department)

were the difference.

Jones must have felt enormous stress as his division command post attempted to gain a coherent picture of what was happening to the east. After all the exercises and maneuvers but with little more than 100 hours in a combat zone, 106th's headquarters was completely blind.

To the north, 14th Cavalry was beginning to unravel. Possessing few anti-tank weapons, shocked at the size of the attack and without any orders, roads began to clog with vehicles desperately moving to the rear. When Devine entered his command post, he found it to be a “shambles.” Panic was contagious. The squadron commander of 32nd Cavalry had left his forward position in a “nervous” state to “find ammunition” in the rear and handed over command to his executive officer, MAJ John L. Kracke, who remained in command for the rest of the battle.

‘Lucky 7th’

More than 40 miles to the north in

“It had taken 2½ hours for a company to move three miles – all because of the vehicles fleeing to the rear with men who refused to pull aside and let troops through (troops who actually would save them if they could reach the town before the Germans did). There was one of the biggest tragedies of St. Vith; that American soldiers fled, and by their fleeing crowded the roads over which reinforcements were coming; and thus prevented the arrival of these reinforcements in time to launch a counterattack to save the 422nd and 423rd Infantry Regiments, then cut off by the Germans east of St. Vith.” –MAJ Donald P. Boyer Jr., personal report on traffic conditions, Vielsalm-St. Vith Road, Dec. 17, 1944. Boyer was S-3 of 38th Armored Infantry Battalion, 7th Armored Division.

Heerlen, the Netherlands, newly promoted 43-year-old BG Bruce C. Clarke

was preparing for a well-deserved leave to Paris. After five months of continuous combat, Clarke had proven himself to be one of the most dynamic and reliable Armor officers in the European Theater of Operations. As a combat commander in the famed 4th Armored Division, he performed magnificently in the breakout in Normandy and subsequently was sent to bolster 7th Armored Division as commander of its CCB. (Unlike the peacetime Army of the 1930s, commanders could be quickly replaced if deemed ineffective.)

Similarly, Clarke’s division commander, BG Robert W. Hasbrouck, had unexpectedly assumed command of 7th Armored in November 1944 by the personal direction of LTG Omar N. Bradley. The “Lucky 7th” had been in combat since August 1944. After fighting through France, Belgium and the Netherlands, the division had refitted and was poised to continue combat operations with U.S. Ninth Army. At 5:30



Figure 3. German troops fight in the Luxemburg Ardennes. The soldier in the foreground is equipped with the Heer's new StG-44, the world's first assault rifle. (Bundesarchive photo)

p.m. Dec. 16, 7th Armored Division was diverted to its own "rendezvous with destiny."

Having determined that the attacks across the Ardennes front were more than a spoiling attack, Eisenhower directed Bradley to "send Middleton some help" in the form two armored divisions. The 7th Armored would move directly south from the Netherlands, and the 10th "Tiger" Division would move north out of the Saar River area toward a key town that would forever take its place in the annals of American military history: Bastogne.

With little prospect for rest, the 7th Division staff proceeded to draft a march order to place more than 11,000 men, 14 battalions comprised of 269 tanks, and hundreds of assorted trucks and wheeled vehicles on two primary routes through unknown territory in dreadful weather. The final objective was not clear. Real war was proving to be nothing like the classrooms of Fort Leavenworth, KS.

Clarke got on the road at once with a radio jeep and "an old Mercedes lent him by the division commander" and headed off into the night toward VIII Corps headquarters. It must have been a long, tense drive in the bitter cold as Clarke reflected on the myriad of details it would take to get CCB on the road and into battle. Most importantly, he had no picture of the enemy situation.

Clarke reached Bastogne at 4 a.m. The corps commander, the scholarly, bespectacled 55-year-old Middleton, was a highly experienced combat leader and was not easily rattled. He emerged from his sleeping van and explained to Clarke that 106th Division was "in trouble." Two regiments (the 422nd and 423rd) were likely surrounded and out of communication. There were panicked reports of Tiger tanks everywhere. Clarke reflected later that there was an "air of impending disaster." As Clarke listened, he must have been formulating a warning order in

his head to relay to the division, which he hoped was already on the move.

Looking at Clarke and the still-black morning sky, Middleton had the experience to tell Clarke to get a bit of sleep and then head off to St. Vith at daylight. He knew this was likely the last respite Clarke would get for a long time. It was.

Failure of communication

Jones had received little good news since the attack of Dec. 16, but to his great relief, Middleton had informed him by telephone in an informal code that he was getting help in the form of a "big friend" with the name "workshop." This was the code name for 7th Armored Division. An unknown staff officer at First Army had estimated 7th Armored's arrival to be 7 a.m. Dec. 17. Middleton echoed this report to Jones. Although eased by this reinforcement, Jones still worried about his two

eastern regiments. Without any word on their status and assuming they were under heavy attack, he wanted to collapse his lines and pull out 422nd and 423rd as soon as possible. The window for escape was closing. There were few viable roads that would allow the thousands of soldiers to cross the Our River and move closer to St. Vith.

With the telephone line crackling in and out, one of the most unfortunate miscommunications in the U.S. Army's history occurred when, during a momentary break in the line, Jones believed that Middleton had directed that 422nd and 423rd remain in place and fight. The phone call ended, and Middleton informed his staff that he had "told Jones to pull his regiments off the Schnee Eifel." Jones, still unsure of his instinct, accepted the predicament and laid hopes on 7th Armored's imminent arrival.

VIII Corps' assistant intelligence officer happened to be in St. Vith and overheard the conversation. He thought to himself that there was no possible way an armored division could move more than 50 miles on appalling country roads and arrive by morning. This was basic Fort Leavenworth Staff College work. How could he tell a division commander that the corps commander was dead wrong? He couldn't and he didn't.

After enduring heavy traffic and poor road conditions, Clarke reached 106th headquarters set in St. Joseph's School at 10:30 a.m. It was abuzz with the activity of a staff fighting to gain a grip on the situation. Jones was immediately relieved to see Clarke, assuming that he had now arrived with an entire combat command. The erroneous assumptions about 7th Armored's arrival time had built up false hope. Clarke now shattered any optimism. His combat power consisted of himself and his operations officer.

At that very moment, the two columns of the division were moving bumper to bumper, like two ponderous serpents, through appalling mud and slush. Curious at the new country they were entering, little did some soldiers realize that they were literally at the crossroads of history near the non-descript town of Malmedy, Belgium.

Fatal crossroads

At about noon Dec. 17, a powerful German column was moving westward, led by 29-year-old SS LTC Jochen Pieper. Pieper had been given the mission to break through American lines with a *kampfgruppe* (task force) of 1st SS Division, partially armed with Royal Tigers. Gaining the moniker "Blowtorch" from his brutal tactics on the Eastern Front, Pieper was a cultured yet fervent Nazi who was determined to maintain the attack's momentum.

Company B, 285th Field Artillery Observation Battalion, was a small unit attached to 7th Armored Division moving along the eastern route. The 285th made a short pause at a crossroads named Baugez, a few miles south of Malmedy. The unit leaders got out to speak with a few local Belgians to confirm directions. Suddenly Pieper's column appeared from an intersecting road. Tank cannon fired and machinegun bullets ripped through the icy air. The stunned Americans, outnumbered and lightly armed, immediately realized there was only one option: surrender.

Pieper himself moved in pursuit. Soon a collection of about 120 American soldiers was gathered into formation on a field adjacent to the side of the road. Individual vapor clouds of breath swirled upward in the bitterly cold air as the nervous soldiers contemplated their fate. What came next was substantiated in statements and interviews painstakingly collected after the incident. A German machinegun suddenly began firing directly into the human mass, killing and severely wounding dozens of men. Some ran and were shot. Most crumpled to the ground. Witnesses later remembered the sounds of moans and screams. German soldiers then walked among the bodies and shot those who appeared to be alive. Some feigned death and attempted to suppress evidence of breathing. At some point later, the SS men remounted their vehicles and drove off. As follow-on German columns passed by, a few took potshots into the human mass with as much regard as drunken teenagers shooting out street lamps.

Miraculously, a few Americans were alive, either wounded or unscathed. After lying for an eternity, the survivors slowly rose and ran off into the woods to tell their ghastly tale. Almost a month later, American forces would discover more than 80 bodies, still frozen in the agony of death. The incident would become known as the Malmedy Massacre.



Figure 3b. Bodies of American soldiers slain by the Nazis after capture near Malmedy, Belgium. (Public domain. Photo in National Archives and Records Administration holdings, cataloged under the National Archives Identifier 196544)



Figure 4. 7th Armored Division M4 Sherman tanks in defensive positions near St. Vith.

Out of chips

Jones was certainly anguished at his difficult situation. He had unreliable communication with the 422nd and 423rd Regiments. Thousands of soldiers were fighting for their lives, isolated and cut off. To their north, 14th Cavalry Group was shattered and essentially ineffective. To the south, the 424th Regiment and CCB 9th Armored Division were fighting a sizable German force. This was no mere local counterattack.

The man of the hour was a 28-year-old former college football all-star, LTC Thomas Riggs. The epitome of charisma, Riggs was holding together a pickup team of elements of his own 81st and the attached 168th Combat Engineer Battalions, complemented by a collection of 106th Division headquarters personnel. Tasked with the mission to delay the enemy thrust along the narrow Schonberg-St. Vith road, Riggs and his men were demonstrating just how tough U.S. soldiers could be. As German tanks nosed forward along the narrow lane, they received a hail of small-arms fire, anti-tank rockets (“bazookas”) and a sprinkling of mortar and artillery fire. With the serendipitous arrival of a single P47 fighter-bomber, the lead panzer was knocked out and set ablaze, lighting the drab setting. The battle was no longer that of corps and divisions, but was now a “pickup” team of soldiers and a brave

lieutenant colonel who understood that his mission was to defend a narrow Belgian road.

It was obvious to Jones that the battle was closing in on his headquarters. The unmistakable sound of small-arms fire and crack of tank cannons grew louder. Riggs and his men were barely holding on less than a mile away.

The atmosphere in the 106th headquarters remained chaotic. Staff officers shuttled about and desperately attempted to raise communication with silent units. Repeatedly they called with no answer.

Suddenly Devine of 14th Cavalry burst into the schoolhouse in a state of shock. He pleaded for the headquarters to evacuate. Tiger tanks were apparently on the edge of town! Reading the situation, Clarke calmly recommended to Jones that it might be “best for Colonel Devine to personally report to Bastogne to render a report,” essentially giving Devine an excuse to leave the battle area. Clarke then returned to the situation at hand. Hours later, Devine narrowly escaped capture and death. Returning to his headquarters, he relinquished command to his executive officer and went to sleep. He was subsequently medically evacuated to the rear.

That afternoon, Jones turned to Clarke

and blurted, “I’ve thrown in my last chips” – essentially delegating the fight to him. Clarke had little to fight with, since the 7th’s lead units were still working their way toward St. Vith, but he didn’t need Jones to tell him he was on his own.

‘Every dog for himself’

Unflustered, Clarke sent his operations officer, 27-year-old MAJ Owen E. “Woody” Woodruff, to look for CCB 7th Armored’s first vehicles and guide them in. Unknown to Clarke, the roads around St. Vith were jammed by a mixture of retreating and advancing American units. As elements of 14th Cavalry and 106th fled eastward, fed by ever-increasing panic and rumor, 7th Armored Division was arriving from the north, and the competing convoys collided.

MAJ Donald P. Boyer Jr., the operations officer of 38th Armored Infantry Battalion, led CCB’s advance party. Wire-rimmed glasses and scholarly looks betrayed the fact that Boyer possessed the heart of a lion. As his jeep approached the crossroads of a few scattered buildings known as Poteau, he surveyed a scene that shocked him deeply. What he saw was a mixture of American vehicles in every state of panic, some driven by lone drivers, all moving west, with the only goal of getting away from the Germans. As Boyer later remarked, “It wasn’t military; it wasn’t a pretty sight ... It was every dog for himself.” Boyer immediately took charge, and for the next few hours, he tried to restore order to clear a path for 7th Armored Division reinforcements.

A few miles to the south, having grown restless, Clarke ventured from his new headquarters and found Woodruff in the same predicament as Boyer – attempting, albeit unsuccessfully, to reinstate order. An unknown battalion commander had threatened to “shoot” Woodruff. Clarke found the offending officer, placed him at attention and reversed the threat of execution. At that point, Clarke became the highest-ranking “traffic cop” in the U.S. Army.

Ironically, Manteuffel was doing the exact same thing only a few kilometers to the east. The attacking forces had become frustratingly tangled on the

“The panic of the afternoon of Dec. 17 was so great at the road crossing just west of St. Vith that an officer I stationed there to stop rearward movement was pushed aside by senior officers and I had to take charge personally to control the traffic.” –GEN Bruce C. Clarke

narrow logging trails.

Into the fray

By dusk Dec. 17, CCB was finally entering the fight. Clarke directed his small headquarters to co-locate with 106th Division. The 7th Armored exuded confidence, while 106th was mentally beat. Staff officers in the 7th noted that their counterparts were “packing up their gear” as if the whole affair was over.

While some men had lost the desire to fight, others displayed remarkable tenacity. One such officer was LTC Roy Clay, 33, the diminutive yet pugnacious commander of 275th Field Artillery, a VIII Corps unit that was assembled near Ober Emmels. Clay had been assigned to Devine’s 14th Cavalry and had grown frustrated in Devine’s inability to employ Clay’s unit. Once the 14th essentially collapsed, Clay refused to pull out and went looking for a mission. Finding Clarke, Clay gave a simple request: “I want to shoot.” Here was a

fighter in Clarke’s mold. Clarke had no hesitation and exclaimed “God bless you, Clay, you’re the only artillery support we have. Head out and shoot in support of those engineers on the ridge east of town.”

For the rest of the battle, the 275th Artillery provided non-stop fire support. The 7th Division’s battle log records unabashed praise of these valiant gunners, who provided a dose of valor.

The first unit to exit the road and enter the fight east of St. Vith was 87th Reconnaissance Squadron, commanded by 31-year-old Vincent “Moe” Boylan. A graduate of West Point, Boylan was a native of Brooklyn who had two interests as a boy: soldiering and horses. Like a trooper from a Western movie, he arrived just in time to get his lightly armed mechanized troopers into the firing line. Although not designed to fight in close quarters, 87th Cavalry adapted to the defensive mission and, at one point, was credited with destroying a mighty Royal Tiger at a range of a few yards with a 37mm gun by a near-suicidal crew of a tiny M8 armored car.

The 38th Armored Infantry Battalion, commanded by 36-year-old LTC H.G. Fuller, followed next and began to form a horseshoe-like defensive cap to the exit of the Schoenberg road. Fuller was a proven commander, having

earned the Silver Star for heroism in Holland a few weeks before.

Next, a company from 23rd Armored Infantry and a Sherman tank company of 31st Tank Battalion joined the battle line. The tankers of the 31st were ready to fight. At 30 years old, with a wife and daughter back in Mansfield, Ohio, LT John J. Dunn of Company A, 31st Tank Battalion, was older than his peers were and, one might have suspected, more cautious. However, about a kilometer from St. Vith, Dunn spotted three German tanks and at least 100 enemy infantrymen. Temporarily shielded by a turn in the road, he quickly issued an order by radio and then led his platoon of five Sherman tanks forward, engaging the enemy at point-blank range. All three panzers were destroyed, as was most of the enemy infantry. Securing the high ground along the Schoenberg road, this tiny force remained throughout the night and defended against repeated counterattacks as 7th Division’s remaining units took their place in the St. Vith sector.

Clarke’s CCB, alongside Hoge’s CCB 9th Armored Division, formed a larger arc around the town of St. Vith. Combat Command R (Reserve) under the command of COL John L. Ryan deployed into a defensive position north of St. Vith and oriented on a crossroads village named Poteau. In classic Armor fashion, a counterattack force made up of Combat Command A under COL Dwight D. Rosebaum remained a few miles to the rear, ready to blunt an enemy breakthrough or to exploit an exposed weakness. The infusion of tanks, fresh infantry units and raw determination was changing the balance of the battlefield, yet a major tragedy was still underway just a few miles to the east. The fate of the 422nd and 423rd Regiments had yet to be revealed.

In his new headquarters in Vielsalm, Jones now confirmed that due to poor weather and poor coordination, the anticipated aerial resupply of his trapped regiments would never occur. The fate of his son in the 423rd must have weighed heavily on his mind.

By the evening of Dec. 19, 7th Armored Division was fighting three German divisions. The 1st SS Panzer was hacking



Figure 5. A 7th Armored 3-inch M5 anti-tank gun covers a road near Vielsalm, Belgium, Dec. 23, 1944.

'Like fish in a pond'

It is difficult to easily summarize the agonizing demise of 106th Infantry Division's remaining regiments isolated on the *Schnee Eifel* (Snow Plateau). Provided little guidance when communication was possible, the regiments had suffered a continuous drain of casualties and were desperately short of essential supplies. The last orders given by 106th headquarters were for 422nd and 423rd to attempt a "breakout to the west toward the town of Schoenberg." It was a futile mission. By the afternoon of Dec. 18, it was clear that options were few. The promise of an airdrop of supplies and a link-up with armor proved to be merely a fantasy. This realization was a bitter blow for regimental commanders COL George Desheneaux Jr. of 422nd and COL Charles Cavender of 423rd. Without any additional support, they independently concluded that surrender was a better option than annihilation.

At the moment Desheneaux gathered his weary command group together, a litter party passed by with a company commander. It was a ghastly scene; an artillery fragment had sheared off one of the commander's legs. Blood poured from the wound, and there was no chance of evacuating him to the rear. The scene shocked Desheneaux, and he blurted out that they were being killed "like fish in a pond!" In the last 72 hours, one the youngest and most promising regimental commanders had displayed extraordinary courage, but now he made an important decision: "As far as I'm concerned, I'm going to save the lives of as many as I can, and I don't give a damn if I'm court-martialed." In a bitter blow, he directed the surrender of his beloved regiment.

Two kilometers away, without any collaboration with Desheneaux, Cavender announced to his dejected officers that they would also surrender. It was near 4 p.m., and an earlier counterattack had failed, punctuated by the death of LTC William Craig only feet from Cavender. As dusk approached, nearly 7,000 American Soldiers, under the exultant watch of German guards, began a humiliating march to captivity.

away at Poteau, now defended by CCA, which had been committed the day before to reinforce CCR. Clarke and CCB held on to the St. Vith area against the 18th and 62nd VGD divisions. Having met stiff resistance in the north, the Germans now probed south of St. Vith, but Hoge's CCB 9th Armored held solid.

A pattern was developing. The Germans were desperately looking for a point of weakness along American lines. For hours on end, hundreds of German infantry, supported by tanks and artillery, would assault the American lines. The Americans would parry, taking losses but pushing the Germans back. After a pause, the attack would resume at a different point. As every hour passed by, the Americans were gaining time, for the German strategy depended on rapid advance and capture of fuel and supplies.

As an indicator of the confusion of such a battle, the 112th Regiment of the 28th Division – whom the Germans called the "Bloody Bucket" Division for their patch – commanded by COL Gustin M. Nelson, was "discovered" just south of Hoge's CCB. Cut off from its parent division, 112th had continued to fight on and was now attached to 106th to support the struggle centered on St. Vith.

It is worth noting that throughout this period there was little effort to formalize command and control. The senior commander in the area was clearly Jones, yet 7th Armored Division under Hasbrouck was VIII Corps' main effort. Hoge cooperated with Clarke without being formally "attached" or "in support." Such command arrangements would have received an academic failure at Fort Leavenworth, but the leaders' personalities made it work and focused on the mission at hand.

Flexibility was the watchword for 7th Armored Division. Without modern command-and-control technology or use of the term "modularity," 7th Armored was comfortable with the creation and dissolution of task forces and employment of a mobile defense. For example, on Dec. 20, a significant German threat developed to the south, near the railhead village of Gouvy. To counter this, 7th Armored directed a mixed collection of tank

"All manner of reports were received indicating that the enemy was bypassing 7th Armored Division's positions on the north and rolling up the flank on the southeast, making the St. Vith sector comparable to a thumb protruding into the enemy's mouth; and it seemed that this thumb could be easily bitten off."

destroyers, tanks, infantry, engineers and artillery to be placed under the control of former Georgia attorney LTC Robert B. Jones, commander of 814th Tank Destroyer Battalion. Throughout the rest of the battle, Task Force Jones would provide yeomen's work, closing gaps and defending the flank of St. Vith. In the same way, independent units of cavalry and light tanks screened gaps in the defense far away from their parent units, with little guidance or oversight.

Enter Monty

A soldier in battle is only concerned with his immediate surroundings – yards that mean life or death – and has little knowledge or interest in the doings of the generals, also known as the "brass." As the battle raged on in the slush and mud of Belgium, Eisenhower grappled with significant challenges in command.

The Battle of the Bulge, as it would later be named, was two distinct fights: the now legendary struggle around the town of Bastogne and the fight for the crossroads of St. Vith. Bradley was in charge of both, yet communication between north and south was impossible. The solution was controversial, logical and arguably uncharacteristically "bold" for Eisenhower. Looking at the map and seeing the amount of forces now committed to the battle, he split the area in half and announced that Field Marshal Bernard Law Montgomery would be placed in command in the north. Within hours, a spirited Monty – whose tremendous professionalism and strategic skills were clouded to Americans by his irascible personality and unabashed British manner – was on his way to First Army headquarters in Chaudfontaine, Belgium, to "tidy things up" and get a "grip" on the situation. Little did the

men of 7th Armored Division know that this change would have a significant impact on their fate.

MG Matthew Bunker Ridgway, 49, was already a legend in the U.S. Army. One of the original paratroop generals, Ridgway was a “lead from the front” officer now in command of XVIII Airborne Corps. Ridgway had just been named the senior tactical commander of the St. Vith sector. As 106th Infantry and 7th Armored Divisions fought near St. Vith to the east, a defensive position consisting of the newly arrived 82nd Airborne and 3rd Armored Divisions under XVIII Corps command was forming along the Salm River to the west. Although very different in style, Montgomery and Ridgway were both arriving to restore order to this desperate fight.

Breaking point

Every man and every unit has a breaking point, and 7th Armored was rapidly reaching its own. The defense east of St. Vith had been anchored on the infantry defense under the command of Fuller’s 38th Infantry. U.S. forces had suffered nearly 80 percent casualties. Everyone felt the agony of frostbite and suffered lack of sleep, hunger and dehydration. The cold, which was an enemy all its own, sapped the strength and courage of all but the strongest. The dead and wounded could not be evacuated.

Fuller returned to Clarke’s headquarters to relay the situation and then suffered a mental breakdown. He could not go on. His executive officer, Boyer, doggedly continued to fight with what he had until he was ordered to withdraw. Boyer was subsequently captured, painfully reminiscing in an interview 20 years later that for him “the world had come to an end.”

Once given the order to withdraw, some men were unwilling to disengage. In one instance, a trooper from 87th Cavalry Squadron, SGT Leonard Ladd, travelled to Clarke’s headquarters to personally get the order to retire westward. Ladd patiently waited and then announced to the general: “Me and my men didn’t like the idea of leaving the front, so now I just wanted to get it straight that we were ordered out by you.”

Weary, cold and dirty, these were quintessential soldiers. It was these types of men who were holding back the bulk of the German army. Tenacity and effective small-unit leadership were the glue holding the American line.

‘Back with all honor’

Ridgway was never one to stand still and soon was at the combined 106th/7th Division headquarters at Vielsalm, interrogating Jones and Hasbrouck. As a paratrooper, Ridgway discounted a mobile defense as an option. For him, the obvious course of action was for 7th Armored to remain in a “fortified goose egg” and hold out. Resupply would come from “airdrops.”

Hasbrouck must have shown obvious frustration. He later reflected: “To an infantryman, a tank was a place of refuge. But to a tanker, a dug-in tank was only a metal death trap containing a ton of high explosives and many gallons of gasoline. It was nonsense, making a useless stand on that terrain. The fight should be on ground of their own choosing under the most favorable conditions of armor.”

Giving up ground was abhorrent to Ridgway. He knew that 101st Airborne Division was valiantly holding on in Bastogne. To men like Clarke, the ground around St. Vith “wasn’t worth a nickel.” All that mattered was delaying the Germans, hour by hour, day by day, until the corps and Army could form a larger counterattack. If that meant dropping back and fighting from successive lines, so be it.

To Ridgway’s credit, he decided to assess the situation for himself and talk to his commanders. Along with Hasbrouck, he moved forward to Clarke’s headquarters. Clarke was a straight shooter and gave an accurate picture. The command was worn down and holding by a thread. Ridgway, unconvinced, arranged a meeting with his old friend Hoge a few kilometers away. They had been on the same 1917 West Point football squad. Hoge would be the gauge.

When told that Ridgway was contemplating a total withdrawal, Hoge didn’t blink and only asked “how”? With that, Ridgway had his answer and put all his

energy into a plan to pull the division back behind the Salm River.

Montgomery had also made up his mind. With the input of his many liaison officers spread throughout the battlefield, Monty concluded that the 7th had accomplished its mission and directed the division to “come back with all honor.” Years later, Montgomery would still be a point of controversy for senior American officers, but not to the officers and men of the Lucky 7th. They credited Montgomery with making a correct read of the battle and saving the division from encirclement.

Ridgway then returned to Vielsalm for one more piece of business. Having made an estimate of the men he was working with, the time had come to make a change. He informed Jones that he was now one of his deputy commanders, essentially relieving him of command. Late that evening, overcome with the situation, Jones collapsed, suffering a massive heart attack, and was evacuated to a hospital, never to command again. For him, the loss of his division, the unknown whereabouts of his son and the profound stress of the battle had brought his world to a tragic end.

A lucky ‘Russian High’

On Saturday, Dec. 23, 7th Armored Division awoke to a unique weather phenomenon known as a “Russian High.” This freeze dropped temperatures and allowed for increased mobility of wheeled and tracked vehicles. Up into that time, the ground had been such a quagmire that possibility of entrapment was real. Now it was as hard as a rock.

Under pressure from attacking German forces, the jumble of units began the complex movement of withdrawing westward. The plan didn’t go according to any Leavenworth design. Although chaotic, there was no panic. Clarke found himself again directing traffic. He was on the point of collapse; only the adrenaline of one more push was keeping him upright. Units intermingled; 112th Regiment was almost left behind in the confusion of orders. Rear guards fought off scattered panzers, which nipped like wolves on the hunt. Unknown to the

Americans, the enemy was suffering horrific logistical and traffic problems and could not fully transition to a pursuit.

Soon the sun had set, and the situation grew ever more complicated as enemy and friendly units intertwined in the eerie moonlight of a full moon. The last unit out was appropriately the first unit in: 87th Cavalry under Boylan's command. Hasbrouck sent a message for Boylan to meet him near the passage lane. Expecting a classic butt-chewing, Boylan received an embrace. Hasbrouck, normally stoic, blurted out, "Thank God, Boylan, you're here, you got everyone out!"

Not far away, his unit now out of the line, Clarke collapsed in a jeep and slept for the first time in days.

Many miles away, LT Alan Jones Jr. and thousands of other brave men were just beginning their own journey through hell. (See sidebar, Page 83.) Perhaps they felt like failures, yet the delay at St. Vith had thrown the Ger-

man timeline in such disarray that victory was now impossible.

Aftermath

Within days, the powerful forces of the Allies converged on the epic "bulge" to slowly push the enemy eastward back to the border of Germany – and eventually beyond. The battlefield was strewn with the human and material debris of war. Hitler's immense gamble was a failure. Initially shocked and stunned, American forces regained their composure and fought with determination. Delaying the advance in the north through St. Vith and denying the crossroads of Bastogne had doomed any thought that the Germans could split the Allies and achieve anything more than a local victory. The Allied partnership held firm, and losses in men and material were quickly replaced. Nothing could shake the determination to demand Germany's unconditional surrender.

In the St. Vith sector alone, at least 4,000 Germans were killed or

wounded. Perhaps the lucky were those who were captured. Taken by the Allies, they knew the war was over for them, unlike their comrades who fought the Soviets. Their fate was only death.

Although Bastogne is remembered as "the" battle of the winter of 1944, the actions of 106th Infantry, 7th Armored and all attached units deserve an honored place. The reasons St. Vith was overshadowed reveal the complexity of human nature and memory. Bastogne was never taken. The story of the acting commander of 101st Airborne Division's "Screaming Eagles" reply to the German demand to surrender with the single word "Nuts" appealed to a sense of drama. Bastogne made good press.

On the other hand, the enemy eventually captured St. Vith, yet the Allied mission was accomplished. It is hard to explain a battle of delay as a victory. Furthermore, the U.S. Army was uncomfortable with 106th Division's destruction. As the years passed, the



Figure 6. U.S. POWs Dec. 22, 1944. (Bundesarchiv photo)

bitterness of its veterans grew. Told they were in the “honeymoon sector” and their concerns and reports were those of a green unit, they suffered the humiliation of mass surrender. They exposed the U.S. Army training system’s deficiencies. Continually bled to create cadres for other units, 106th Division was never able to reach a peak of cohesion and proficiency. Coupled with the dismal failure of 14th Cavalry’s senior leadership, the defeat of 106th Division was not one the Army wanted to dwell on.

In contrast, 7th Armored Division displayed the qualities of decisive action and flexibility at all levels. Leaders like Clarke and Hoge would prove to be the best of a generation and would rise to the rank of general. Small-unit leaders showed themselves to be competent and effective. Reconstituted within a few days of St. Vith, 7th Armored fought on victoriously into Germany and added to their box score of victories.

Legacy

On a warm summer day in July 1948, veterans of CCB 7th Armored Division formed up at Fort Knox, KY, for the presentation of the Presidential Unit Citation. The assembled group stood at attention and a narrator read off the citation, concluding: “By their epic stand, without prepared defenses and despite heavy casualties, [CCB 7th Armored Division] inflicted crippling losses and imposed great delay upon the enemy by a masterful and grimly determined defense in keeping with the highest traditions of the Army of the United States.”

It was a day these Soldiers would never forget. Now 70 years on, we may honor them by remembering what happened in an obscure Belgian town named St. Vith where small-unit leadership proved, as it always will, to be the vital component to success in conflict.

*(Author’s note on sources: There are multitudes of excellent books on the Ardennes Campaign. Hugh M. Coles’ 1965 **Battle of the Bulge** of the Army’s Green Book Historical Series is invaluable. Charles B. MacDonald’s **Time for Trumpets** (published 1984) is superbly detailed. John Toland’s **Battle:***



Figure 7. Memorial to 7th Armored near Vielsalm, Belgium. The memory of St. Vith is still strong in the region. (Photo by Bart Howard, 2013)

***The Story of the Bulge** and John S.D. Eisenhower’s **The Bitter Woods** contain many first-hand accounts. Ernest Dupuy’s **St Vith: A Lion in the Way** remains the best description of the 106th Division’s fate. Copies of 7th Armored Division’s original battle logs are available with a bit of search on the Internet. Finally, a unique resource is the 1965 “Big Picture” documentaries **St Vith Parts I and II** found on YouTube. Many of the characters in this article*

give their personal reflections of the battle there.)

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U.S. Army Training and Doctrine Command; executive officer to the International Security Assistance Force commander; chief of staff, Civil-Military Fusion Center-Afghanistan; and commander, 1st Brigade Combat Team, 1st Infantry Division. His military schooling includes Army War College and Australian Command and Staff College. COL Howard holds a bachelor's of art degree from Santa Cruz University in history, a master's of arts degree from the Army War College in

strategic studies and a master's of arts degree from American Military University in military studies. He is the recipient of the Defense Superior Service Medal and Legion of Merit. As part of 1st "Tiger" Brigade, 2nd Armored Division, he led Company B, 3rd Battalion 67th Armor, in Operation Desert Storm, earning a Bronze Star with V device and Naval Unit Citation.

Also available: The Armor School's publication, *The Battle at St. Vith, Belgium Dec. 17-23, 1944*.

Acronym Quick-Scan

CCA – Combat Command A
CCB – Combat Command B
CCR – Combat Command Reserve
VGD – *volks*grenadier or people's division

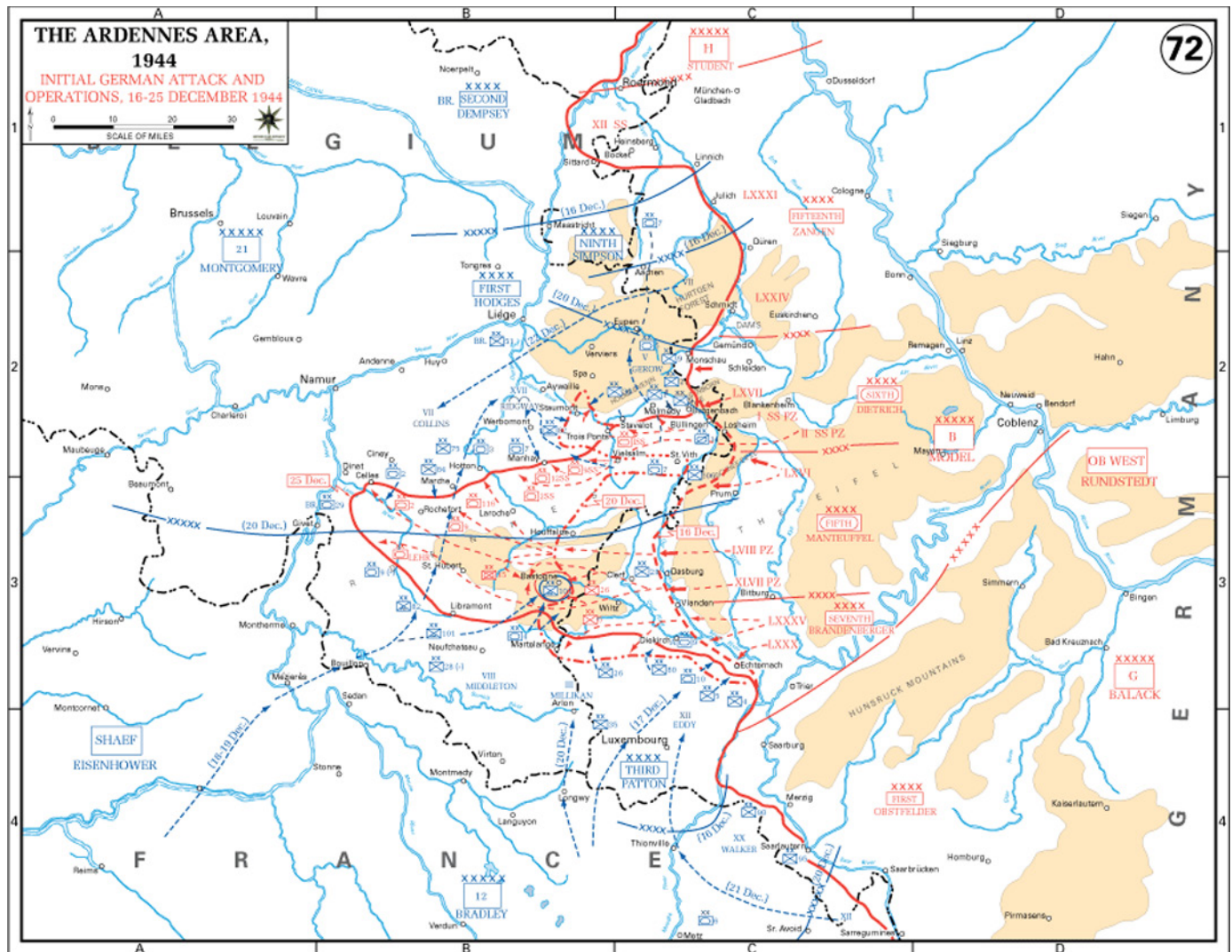


Figure 8. Initial German attack and operations in the Ardennes area, Dec. 16-25, 1944. The 'thumb' of the St. Vith sector can easily be seen outlined in red. (Map by U.S. Military Academy History Department)

SADDLES AND SABERS



Decisive Leadership: BG Bruce C. Clarke and the Battle of St. Vith

by MAJ John F. Antal

Reprinted from *ARMOR*, November-December 1993 edition

"Hold the reins loose, and let the armies race."¹ All along the 80-mile front during the early-morning hours of Dec. 16, 1944, the screams of the

German *Nebelwerfer* rockets and the crash of heavy German artillery exploded the quiet. Twenty German divisions, with almost 800 tanks, attacked



west. The Wehrmacht was on the march again, and this time, they claimed, they would go all the way to Antwerp and capture the city as a Christmas present for their Fuhrer, Adolph Hitler. (See maps, Pages 78, 87 and this page.) The fate of the Fatherland was at stake, and the Wehrmacht, as in 1940, again seemed unstoppable. GEN Walter Model's words on the eve of the assault were: "The first objective is to achieve liberty of movement for the mobile forces."² For the Germans, it was now or never.

Dec. 16 was a black day for the U.S. Army. Rumor dominated the battlefield. The enemy's unsuspected attack had unsettled the defending Americans. No one seemed to understand what was happening. Overwhelmed by the surprise and fury of the assault,

Americans began to surrender and run. The 106th Division, nicknamed the "Golden Lions" – a green division fresh from the United States – was shattered by the fury and skill of the attacking Wehrmacht. More than 7,000 soldiers from the 106th Division surrendered. Some small, isolated units held and fought bravely, but it was not enough. The front was disintegrating. Disaster was in the air. The scene was one of wild confusion and disorganization. The Allied high command, unable to develop an accurate picture of the situation, reacted slowly to the Wehrmacht's massive blow.

LTG Troy H. Middleton, VIII Corps commander, was responsible for a large portion of the Ardennes area. His information was sketchy. Rumors of German panzers overrunning everything

in their path were rampant. Recognizing the value of St. Vith, a vital road and rail center in the northern portion of the Ardennes, Middleton asked for reinforcements. He obtained the release of 7th Armored Division from Army reserve and immediately deployed it to St. Vith.

The 7th Armored Division received its orders to move to St. Vith late the evening of Dec. 16. The 7th was located to the north, near Heerlen, the Netherlands, and was undergoing a "major shakeup in the command structure."³ The 7th was a "hard luck" division. Its record of accomplishment on the battlefield was poor. The previous division commander had been relieved for incompetence. Its new commander, MG Robert W. Hasbrouck, had only been in command since Nov. 1, 1944. But

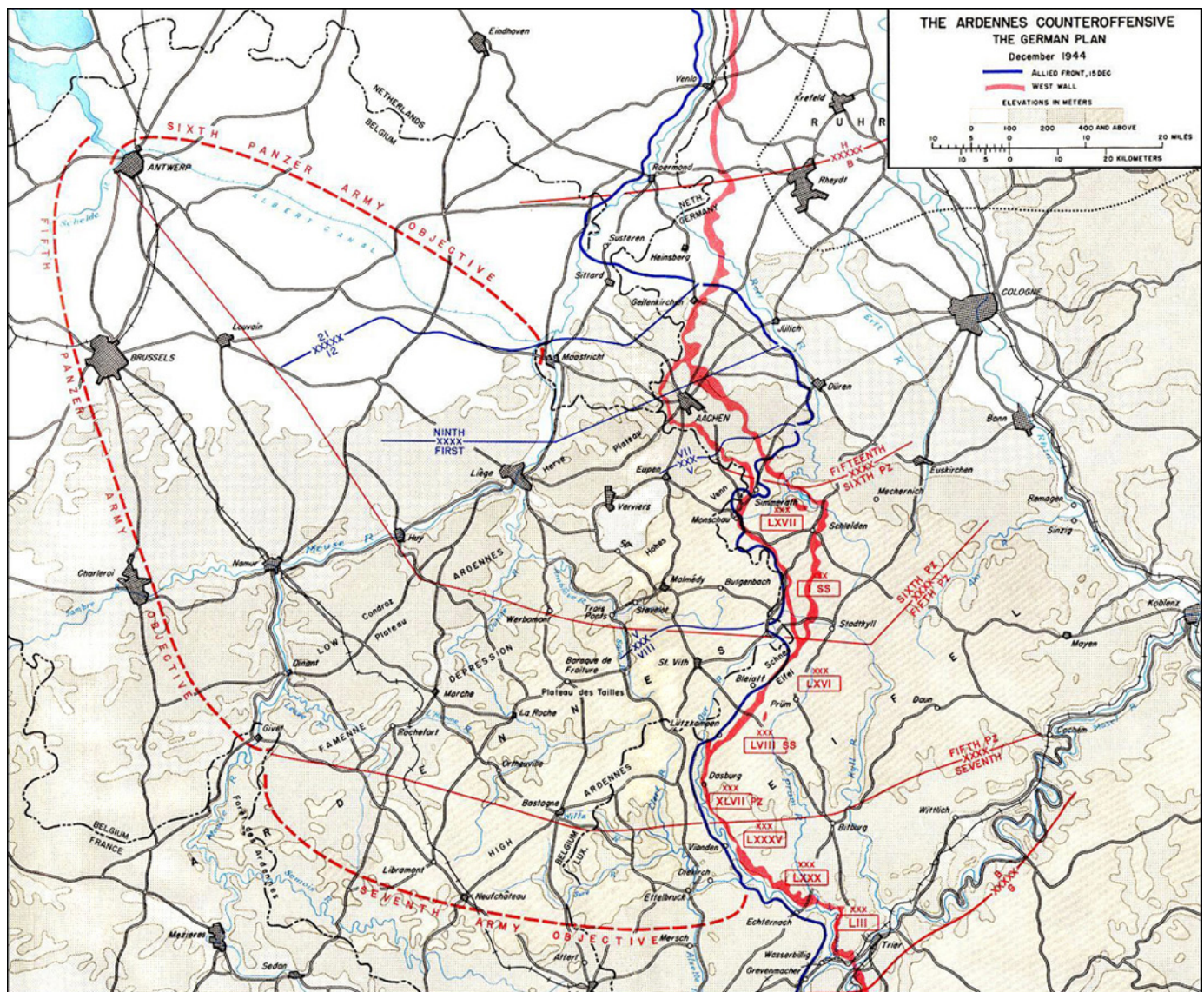


Figure 1. The German plan. LXVI Corps, 5th Panzer Army, was assigned the capture of St. Vith.

the 7th would have to do. There was no one else.

The commander of 7th Armored Division's Combat Command B (CCB) was BG Bruce C. Clarke. He had enlisted as a youth in the New York National Guard and then received an appointment to West Point. Initially assigned as an engineer, he had volunteered for service with tank-mechanized units as soon as the Army began forming them. After 20 years in the Army, he had earned a reputation as an excellent leader and a determined fighter. He took command of CCB and was promoted to brigadier general only 45 days before the German attack in the Ardennes.

Clarke arrived in St. Vith Dec. 17, 1944, ahead of his command and with only his operations officer (MAJ Owen E. "Woody" Woodruff) and two drivers.⁴ The scene in St. Vith was pandemonium. Clarke immediately reported to MG Alan W. Jones, commander of what was left of 106th Division. Jones had a defeated attitude. He talked only of retreat and disaster. He doubted that anyone could stop the Germans. His last words to Clarke before relinquishing command of the area of operations were, "You take command. I've got nothing left. I've thrown in my last chips."⁵ The sole responsibility for victory or defeat was now Clarke's.

With little more than a month in command, and with his command strung out along 96 kilometers of congested, ice-caked roads, Clarke was about to fight one of the most difficult battles in the history of American arms. He was outnumbered by the Germans more than eight to one. How was Clarke going to succeed against such odds? Why should his unit fight effectively while the rest of the American forces in the battle area were in head-long retreat?

Before the battle

Clarke took over CCB of the "unlucky" 7th Armored Division Nov. 1, 1944. But Clarke was not new to combat. He was a veteran commander of Combat Command A (CCA), 4th Armored Division. His old unit had distinguished itself in combat since the early days of the Normandy landings, five months before the Battle of the Bulge. He had



Figure 2. The 7th Armored on the road march to St. Vith.

done a terrific job commanding CCA during LTG George S. Patton's breakout from the Normandy beachheads. He had seen almost continuous combat since D-Day (June 6, 1944) and was awarded the Distinguished Service Cross, Silver Star with two oak-leaf clusters, Bronze Star with oak-leaf cluster and Air Medal.⁶

Immediately after taking command of CCB, 7th Armored Division, Clarke worked and trained his command hard. His style of command was positive, proficient and no-nonsense. The men of CCB were impressed with their big, barrel-chested, 6-foot-tall commander. Clarke later related, "It took a lot of training and coaching to turn this division around to play the key, successful role in stopping [*General der Panzertruppe* Hasso von] Manteuffel six weeks later at St. Vith."⁷

In 4th Armored Division, Clarke had employed the techniques of command that were to be so successful in the St. Vith area. As a veteran of 4th Armored Division, Clarke had learned the hard lessons of armored combat. His command style incorporated three essential pre-battle decisions: organizing his forces into self-contained forces capable of independent action to the maximum degree possible; streamlining the information flow to the maximum

extent possible; and his strong belief in forward command.

Clarke recognized the value of self-contained forces. He reorganized his command for built-in flexibility. He recognized the fact that mobile, armored formations required a quick decision cycle to take advantage of enemy mistakes and the fleeting opportunities of the battlefield. His intent was to make his armored combat command "seem like an armored corps."⁸ He made sure that the subunits of this combat command, the battalions, had the necessary combat-support and combat-service-support elements to fight independently if necessary. This organizational decision gave Clarke's subordinate commanders the ability to act without active control from above. They had the organizational capability, and were given the operational flexibility, to achieve objectives within their scope of operations without constant supervision.

Secondly, Clarke streamlined the flow of information up and down the chain of command. He employed mission-type orders. He believed that "mission-type orders were a requirement if the most was to be obtained from a command."⁹ His combat-orders technique involved eyeball-to-eyeball verbal orders issued from a vantage point

overlooking the battlefield. His subordinate commanders were expected, and trusted, to make decisions within the guidelines established by his intent.

Clarke's intent was for his subordinate commanders to command their units and not wait around for instructions. When decisions are made at the point of execution, it is possible to take advantage of battle opportunities as they occur without losing time. "Time is always critical and mission-type orders save time. The command style and staff functioning that contribute most to maneuver warfare is characterized by the application of 'mission orders.'"¹⁰

Clarke's orders were usually oral, quick and to the point. He told his commanders what to do, not how to do it. Clarke's technique of employing mission-type orders was not new to the U.S. Army but was particularly important in creating the short decision cycles demanded of fast-paced maneuver warfare.

Clarke explained how to give mission-type orders in his book, *Guidelines for the Leader and the Commander*. He said that to get maximum combat power, we must have plans flexible enough to meet rapidly changing situations. But careful planning is not enough; this must be coupled with the

readiness to change and adapt to situations as they are, not as they were expected to be.

Basically, a mission-type order needs to cover only three important things:

- It should clearly state what the commander issuing the order wants to have accomplished;
- It should point out the limiting or control factors that must be observed for coordinating purposes; and
- It should delineate the resources made available to the subordinate commander and the support which he can expect or count on from sources outside his command.¹¹

Lastly, Clarke was a true believer in the concept of *forward command*. Forward command is an essential element for achieving tactical victory in maneuver warfare. Forward command calls for senior commanders to issue orders based on personal observation and to actually assume command of a subordinate unit during a critical point in the fighting. This concept relies heavily on thinking, independent leaders; unflinching trust in subordinate officers to carry out the mission within the intent of the senior commander; and the clear understanding of the missions of the units two echelons down and two echelons up.

Clarke did not believe in a "systems" approach to war, a prescribed logical process leading to a quantified decision. He believed that "[t]he commander should be forward as much as possible to detect early the critical situations in all fields and to render help quickly to his units when it is needed."¹²

At St. Vith, he seemed to appear everywhere there was a crisis. He frequently visited the front lines to get the true "feel" of the situation. Several times, he personally directed traffic. At the village of Commanster, for example, when nine artillery battalions tried to displace at the same time, Clarke was there, unsnarling the mess, and getting vital combat power moving in the right direction.¹³

During the battle

Jones turned over the defense of St. Vith to Clarke at about 2:30 p.m. Dec. 17. Clarke was hardly in an enviable position. He could hear the crash of artillery and the sound of machinegun and small-arms fire. The roads leading to St. Vith were clogged with Belgian refugees and retreating American soldiers. Every kind of vehicle seemed to be heading west, away from the Germans. As MAJ Donald P. Boyer Jr. said, "It was a case of every dog for himself; it was a retreat, a rout."¹⁴ Movement toward the front was reduced to one



Figure 3. American forces, although outnumbered and outgunned (compare the U.S. M4 Sherman tank, right, to the German 'Royal Tiger,' left), delayed the Germans long enough to disrupt the Wehrmacht's timetable for reaching Antwerp, Belgium, in the German Ardennes counteroffensive of December 1944.

mile an hour in many locations. Only a few units were standing to hold back the Wehrmacht, and his own forces were strung out along a 96-kilometer route of march. Clarke's first combat experience as a brigadier general seemed less than promising!

But Clarke did not give up. He took charge and organized everyone he could scrape up to defend the positions around St. Vith. "By midnight of Dec. 17, a fairly cohesive defense had been established in front of St. Vith with three companies of armored infantry, a company of medium tanks and a troop of cavalry," commented historian Charles B. MacDonald.¹⁵ Clarke adapted and improvised the defense of St. Vith as fast as his CCB units arrived. At 2 a.m. Dec. 18, 1944, the Germans launched the first of many attacks against the St. Vith positions. "Throughout all this mayhem, only one thing was certain, [Clarke] was the sole defending commander of St. Vith," wrote CPT Stephen D. Borows.¹⁶

Clarke did more than just defend. He aggressively employed small-unit counterattacks and blunted one German attack after another. According to Charles Whiting, "Clarke's 7th Armored men showed that men in combat, confronted with a sudden and confused situation, could act aggressively, immediately and independently."¹⁷ Clarke

continued his mobile defense of St. Vith with determination and skill, giving ground but killing and delaying the Germans in the process.

Clarke displayed decisive leadership during the Battle of St. Vith. His mission-type orders streamlined his command-and-control system and aided his efforts to employ his mobile reserves with decisive speed. His forward command during the battle ensured the timing of these vital counterattacks. His style of command allowed his subordinate commanders to act without active control. When communications were lost, they fought on, implicitly understanding what their commander expected, and continued the fight. In this fashion, Clarke's presence was felt everywhere throughout the battle.

Between Dec. 17-23, 1944, Clarke's command fought off continuous German attacks. His aggressive tactics confused the Germans and made them believe they were up against a much stronger force than merely one reinforced combat command. Clarke orchestrated massed artillery attacks on the advancing Germans, followed by extremely agile, mobile counterattacks. His counterattacks were often composed of as little as company-sized units of tanks, which swept through the advancing enemy and returned to

be used for further action. When MG Matthew B. Ridgway questioned Clarke about giving up ground, Clarke replied: "General, I don't think you know what they are trying to do. This terrain is not worth a nickel an acre to me. In my tactics, I am giving up about a kilometer a day under enormous pressure, but my force is intact, and I am in control of it. A few kilometers' advance cannot be of any substantial value to my German opponent. ... He must, I believe, advance many kilometers to accomplish his mission. The 7th Armored Division is preventing him from doing that. We are winning, he is losing."¹⁸

On Dec. 23, Clarke was ordered to disengage and withdraw from St. Vith. His men were fatigued from five days of continuous fighting. His ammunition, especially his artillery ammunition, was dangerously low. Issuing verbal orders to his command, Clarke disengaged his forces one at a time. H-Hour was set for 6 a.m. No men or operational vehicles were left behind. By 11 p.m., he had successfully disengaged his entire command and was regrouping well behind American lines in an assembly area in the vicinity of Xhoris, Belgium.

His disengagement was successfully executed. "Covering forces to the east, west and south fought bitter rear-guard actions as the enemy pressed hard on the retreating division's heels," Borows wrote.¹⁹ Defiant, his CCB had disrupted the German timetable and marched away, bloodied but intact. He had led his command in the most critical test of American arms in World War II.

CCB, under Clarke's command, was the mainstay of the defense of St. Vith. Because of his gallant stand in and around St. Vith, the Allies were able to regroup and hold at Bastogne. LTG Troy H. Middleton recognized this and later said, "In my opinion, it was CCB that influenced the subsequent action and caused the enemy so much delay and so many casualties in and near this important area."²⁰

Conclusion

"It was no small achievement in military history that a reinforced combat command of 10,000 American soldiers



Figure 4. Reporting from Stars and Stripes, Jan. 23, 1945, when 7th Armored Division recaptured St. Vith.

had warded off [more than] 87,000 enemy troops and had prevented them from controlling St. Vith for six days,” said Borows.²¹ The defense of St. Vith was the turning point in the Battle of the Bulge. Before St. Vith, the Germans had everything their way. After St. Vith, the failure of the Wehrmacht’s attempt to win a quick, decisive victory in the West was apparent to both sides. The 7th Armored Division held the German onslaught for six critical days. Those six days made the difference between victory and defeat.

Decisive leadership is often the key to victory. In this example, the leadership of one man had a decisive impact on the outcome of a battle and, perhaps, the outcome of World War II. Clarke’s successful leadership depended on his actions before the battle. His organizational and information decisions before the battle, combined with an effective orders-process technique, prepared his command for its decisive role at St. Vith. He molded CCB into a flexible, self-contained fighting unit, capable of executing mission-type orders, in little more than a month.

Clarke trained his unit to conduct mobile operations before the battle. He had coached and developed his junior leaders to effectively employ the elements of combat power. Due to these organizational and informational decisions before the battle, his unit was prepared to conduct mobile, armored operations against the massed might of the Wehrmacht.

Clarke’s actions at the Battle of St. Vith are now a part of the proud heritage of the U.S. Army. His deeds are a perfect example of the impact a commander can have on a combat unit. Guided by Clarke’s leadership, CCB and the other elements of the “unlucky” 7th Armored Division held up the most

formidable force the American Army has ever had to face. That’s decisive leadership in action!

Notes

¹ Merriam, Robert E., *The Battle of the Bulge: Hitler’s Last Desperate Gamble to Win the War!*, New York: Ballantine Books, 1957.

² Ibid.

³ Borows, Stephen D. CPT, *Clarke of St. Vith: Brigadier General Bruce C. Clarke’s Combat Command “B” of the Seventh Armored Division at the Battle of St. Vith, Belgium*, Louisville, KY: University of Louisville, 1984.

⁴ Clarke recounts the circumstances of CCB’s being alerted and his arrival at Jones’ headquarters in the U.S. Army Armor School’s publication, *The Battle at St. Vith, Belgium, 17-23 December 1944, A Historical Example of Armor in the Defense*, Fort Knox, KY: U.S. Army Armor School, 1966.

⁵ Borows.

⁶ Ibid.

⁷ Ibid.

⁸ Ibid.

⁹ Clarke, Bruce C. GEN, *Guidelines for the Leader and the Commander*, Harrisburg, PA: Stackpole Books, 1963.

¹⁰ Ibid. Clarke goes on to say: “In World War II, those who served in armored divisions – and probably in other units as well – learned that mission-type orders were a requirement if the most was to be obtained from a command. ... As the battle becomes more complex and unpredictable, responsibilities must be more and more decentralized. Thus, mission-type orders often will be used at all echelons of command and probably will be the rule at the division and higher levels. This will require all commanders to exercise initiative, resourcefulness, and imagination – operating with relative freedom of action. In our tactical forces, we have built-in organizational flexibility. We must recognize this and capitalize on it in our orders.”

¹¹ Ibid.

¹² Ibid.

¹³ Cole, Hugh M., *The Ardennes: Battle of the Bulge*, Washington, DC: Office of the Chief of Military History, U.S. Army, 1965.

¹⁴ U.S. Army Armor School.

¹⁵ MacDonald, Charles B., *A Time for Trumpets: The Untold Story of the Battle of the Bulge*, New York: William Morrow and Company, 1985.

¹⁶ Borows.

¹⁷ Whiting, Charles, *Death of a Division*, New York: Stein and Day, 1980.

¹⁸ Borows.

¹⁹ Ibid.

²⁰ U.S. Army Armor School.

²¹ Borows.

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Acronym Quick-Scan

CCA – Combat Command A
CCB – Combat Command B

SADDLES AND SABERS



The Battle for St. Vith: Armor in the Defense and Delay

by **GEN Bruce C. Clarke**

Reprinted from *ARMOR*, November-December 1974 edition

For nearly 30 years, students of military history have studied and debated the battle at St. Vith, Belgium, in December 1944. Details have slowly been unfolding, and now the Battle of the Bulge is understood much better.

The importance of this battle is that, today, about five U.S. divisions and other North Atlantic Treaty Organization troops are deploying along the Iron Curtain, facing Warsaw Pact forces that could launch the same type of concentrated, surprise assault that could quite reasonably follow the pattern of the 1944 battle: surprise, bad weather, disorganized supply system, grounded air support, broken communications, loss of contact with adjacent units – in short, all the confusions of a modern, fluid battle under adverse weather conditions.

At that time, Americans were still thinking of defense in terms of controlling large sections of ground and had not yet given a keynote thought to mobile defense. Prior to the invasion, a senior American general told his commanders in an address that, once they had taken a piece of ground, they were not to give it up without his personal approval.

To me that attitude seemed the same as the original rules of boxing – that each contestant stand with his toe on the line drawn across the center of the ring. To step away was to lose the

bout. Mobile defense is like the Marquis of Queensbury rules in boxing: mobility and tactics are more important than sheer power.

In press conferences after the war, *General der Panzertruppe* Hasso von Manteuffel, the German commander at the battle for St. Vith, explained that there were three requirements for a successful German operation on the Western Front in December 1944:

- The German attack had to be a surprise.
- Allied aircraft had to be grounded by inclement weather while the German columns came through the Ardennes.
- The German progress had to be rapid and undelayed through and beyond St. Vith.

The first two requirements were met when the attack jumped off during a period of bad-weather forecast.

There are two remarkable things about the success the Germans had in gaining surprise in the attack: one, that they had effectively hidden some 17 divisions – nearly 200,000 men – from Allied

intelligence; and two, that they had predicted zero ceiling conditions for the period nearly three months in advance.

On the tactical level, Manteuffel himself went to the front and, disguised as an intelligence colonel, personally directed the intensive patrolling prior to the attack.

From the patrolling, he learned how to have his units slip past the sleeping American sentries and infiltrate between units deep into the front-line units' rear to disrupt the telephone communications so thoroughly that, on the morning of the attack, the 106th Division's commanding general could talk to few of his units.

The timetable for the German attack



Figure 1. Soldiers slog through a trail in the Ardennes.

called for St. Vith to be captured by 6 p.m. Dec. 17. Due to the mobile defense by Combat Command B (CCB) of 7th Armored Division and associated units, St. Vith was not captured until the night of Dec. 21, and the area surrounding St. Vith was not under German control until Dec. 23, when CCB withdrew on order. We know now that Hitler, in talking to his generals Sept. 16, is reported to have said “cross the Meuse and go to Antwerp.” This became the decisive objective of the German plan of attack in December 1944.

This delay was so severe a setback to von Manteuffel’s schedule that he recommended on Christmas Eve to Hitler’s adjutant that the German army give up the attack and return to the West Wall.

The delay was inflicted upon a vastly superior German force by a weaker defensive force of engineers, tanks, armored infantry and reconnaissance units. These units are the true heroes of the battle, although their deeds were not generally recorded at the time. Despite losses of up to two-thirds of their original strength in four or five days, several times units had to be ordered to draw back to prevent being cut off.

The major factors in this successful defense-and-delay situation were a base of direct fire made up of 90mm tank destroyers and a counterattack force of a part of a tank battalion concealed

near St. Vith. These tanks would attack a German thrust and, after reducing it or re-establishing the American defense, they would return to their original position and await the next threat.

This tactic was so successful that my two companies had Manteuffel stating to me in 1964 that he faced a corps instead of a thin force of units.

One such unit was Company B, 87th Recon. They asked me where I wanted them, and I just told them to go east until they saw a big engineer lieutenant colonel and he’d tell them what to do. This lieutenant colonel was the division engineer of 106th Infantry Division, with whom I went with his Headquarters and Service Company toward the east to stop the German advance early on the afternoon of Dec. 17.

At that time, the recon unit had seven officers and about 150 men. At the end of the battle, there were 30 men left and no officers.

My corps commander’s orders at 4 a.m. Dec. 17 at Bastogne for the defense of St. Vith were to the effect: “Alan Jones is having some trouble at St. Vith – grab something to eat and a little sleep and go to him. If he needs help, give it to him.” About 2:30 p.m. that day, command of the area was turned over to me by the 106th Division commander, who told me, “I’ve got nothing left – you take it now.”

As the commander of CCB, I analyzed the situation and decided that the probable objective of the German attack was not just St. Vith or a

bridgehead over the Salm River, but rather a decisive objective far to my rear, probably toward the English Channel. Therefore, I could well afford to be forced back slowly, surrendering a few kilometers of terrain at a time to the German forces while preventing the destruction of my command and giving other units to my rear the time to prepare a defense and a counterattack. Therefore, by retiring a kilometer or so a day, I was winning, and the Germans, by being prevented from advancing many kilometers a day, were losing — thus proving my concept that an armored force can be as effectively employed in a defense-and-delay situation as in the offensive.

True, the losses in the Bulge were tremendous. American casualties totaled some 80,000 in the battle, and German casualties were also high. However high our losses were, the Germans were hurt far more by theirs. The campaign had been started to possibly give them a better bargaining position for an armistice, but it ended by draining the last of their reserve and ability to fight on in a six-week campaign in the Ardennes Forest. The end of the war came not too long after that in early 1945.

The confusion and rapidly changing situation throughout the area have been well-documented in many accounts, but most are centered on individual or unit struggles for survival. The tales of heroism of many American units and individuals are legion. Few were granted much-deserved awards.

Recently, a college ROTC cadet questioned me as to a general’s role in a mobile-defense situation such as St. Vith. The answer to that question must be simple: “To prevent the confusion from becoming disorganized.”

*Retired GEN Bruce C. Clarke is well known to **ARMOR** readers for his commonsense observations on command. A soldier’s soldier, Clarke had a notable career characterized by a preponderance of command duty, most of it with troops. Clarke commanded combat commands (brigades) in two armored divisions in World War II, two armored divisions, two corps during the Korean War, 7th Army in Germany and, finally, U.S. Army Europe.*



Figure 2. The M36 Jackson tank destroyer contributed to Clarke’s defense of St. Vith.

REVIEWS

***Kiev 1941: Hitler's Battle for Supremacy in the East* by David Stahel, Cambridge University Press, New York, 2012, 390 pages, \$25.95.**

Other than Gettysburg and the Little Big Horn, is any subject covered more *ad nauseum* than 1941 on the Eastern Front? Many books are cranked out that are simply rehashed material. The current dean of Eastern Front writing is David Glantz, to whom the Soviets and then the Russian government have opened previously withheld archival material for his research. However, a fresh young writer, David Stahel, has written three books on the Eastern Front in short order, all of which deserve serious attention on the Armor leader's bookshelf.

The Kiev Campaign of August-September 1941 is usually thought of simply in terms of the vast number of prisoners taken and the ineptitude of the Soviet forces marshaled against German GEN Heinz Guderian. Stahel's book exposes that for a bit of convenient myth-making that serves the purposes of both the Wehrmacht and the Soviet regime. Up until Stahel's book, it is arguable that there has been no proper study of this critical campaign – a campaign that set the stage for Operation Typhoon, the German effort to capture Moscow in 1941.

Why Kiev has not garnered more academic analysis from military historians is puzzling. Kiev was an epic battle in scope of men, equipment and terrain. Kiev at its most basic centers on questions that even in the current war we have yet to adequately answer: What should be the center of gravity? How do we deconflict the differences between the civilian leadership and military professionals? Here at Kiev, Hitler made what was a difficult choice, to turn away from Moscow to liquidate Soviet forces in the Ukraine. The logic made sense – in doing so, he ensured flank security and wanted to secure the industrial and economic heartland of the Ukraine for the Third Reich.

What Stahel brings to the intellectual table for the Armor leader is a new and robust examination of the efforts of the Soviets in this battle. History has portrayed the Soviets' efforts as either passive or feeble until Stalin realized the Germans had encircled the pocket. Only then does the conventional history tell us of desperate and suicidal attacks by the Soviets trying to break free.

Stahel ably lays out the challenges faced by both sides: leadership for the Soviets, and the grinding down of the Wehrmacht in terms of equipment readiness; a shrinking pool of personnel replacements; and a decline in combat power due to unexpectedly heavy combat losses. Stahel's use of statistics to show the ever-declining strength of the panzer units sets your teeth on edge since the numbers only trend downward. What is also important is Stahel's efforts to understand the criticality of the Russian effort to destroy their railway system and the Third Reich's inability to regauge and operationalize the existing Soviet railway system.

Stahel's conclusion was that by the end of this campaign, the Germans had lost the war in the East. I'm not certain if I agree with that, but Stahel's underlying premise is that the Third Reich's window of opportunity to win early and big had faded considerably. The beauty of this book is that it can be read in isolation from Stahel's other works. Two caveats, though: this is not a day-by-day account, and the maps are likely to produce some frustration. Moreover, Stahel has a tendency to wander far afield of Kiev, but I see this as his efforts to put it into the war's larger context. Still, for both the combat leader and the logistician, this book is highly recommended.

LTC (DR.) ROBERT G. SMITH

***Operation Typhoon: Hitler's March on Moscow, October 1941* by David Stahel, Cambridge University Press, New York, 2013, 429 pages, \$25.95.**

Operation Typhoon is the third in Stahel's trilogy on the war in the East. This book is a companion to his ***Kiev 1941*** and picks up from the conclusion of that operation.

The issue with many books on Operation Typhoon is their failure to carefully delineate that Operation Typhoon was really two separate and distinct operations. The first phase was the devastating German attack that ripped asunder the Soviet defensive lines and rocked the Soviet Union onto its heels. It was of such devastating consequence that Moscow panicked, and the Soviet Union perhaps tottered on the brink of psychological collapse and defeat. Both weather and logistical matters forced the Germans to pause for conditions in which they could maneuver.

The second phase was the German last-gasp effort to capture Moscow, with the attendant dire consequences for not just the Wehrmacht but for the attendant survival of the Third Reich itself.

Those who want solely a combat-oriented book may be somewhat disappointed. Stahel, as he did with ***Kiev 1941***, forces the reader to engage in a macro perspective of how Operation Typhoon fits into the overall war. Stahel gives us an overview of economics and ideology, and how these influences drove both sides' actions – as well as a tactical overview and how the forces the foes went to war with in terms of weapons affected the campaign. The book primarily focuses on Vyzama-Bryansk, but I would expect Stahel to focus his effort on that. The success of Vzyama-Bryansk in a larger sense set the stage for the subsequent unhinging of Germany's successes.

What Stahel sets forth in ugly detail is the infighting among German commanders. The picture painted of many figures, already tarnished by their acquiescence to the war of genocide in the east, is further eroded by their petty inability to work together for victory. For the modern American military leader, despite an era of some

rock-star generals, these attributes seem unimaginable. Stahel continues with some of the themes from *Kiev 1941*, showing how worsening conditions only exacerbated many of the Wehrmacht's flaws, primarily a poor logistical system and an air force stretched to the breaking point by sub-standard Russian airfields. His use of letters and commanders' notebooks make for livelier and easier reading than David Glantz' work.

Yet Stahel is not above making certain there are modern lessons for leaders that are immutable from Operation Typhoon. In fact, for those of us who have fought in the current

war-on-terrorism campaigns, there are uncomfortable parallels of how perhaps we have won many tactical victories while losing the strategic initiative. Stahel concludes that Germany in this campaign still had operational superiority. What is interesting is he deftly analyzes both sides' competing claims, skewering to some degree the official Soviet line of German superiority in numbers. Stahel takes the Soviets to task in his conclusion for not better preparing defensive works, as it was obvious that after the Battles of Smolensk in July-August 1941 that Kiev was but a diversion.

Unlike *Kiev 1941*, the maps in

Operation Typhoon are first-rate, easy to understand and add value to the overall book. In *Kiev* Stahel wandered a bit, but in *Operation Typhoon*, his writing shot group is much tighter and well-focused. The book is well-cited, and I sense Stahel pays greater attention to Soviet archival material. Glantz speaks fondly of *Operation Typhoon*, noting simply, "It is a must-read." My comments for *Kiev 1941* I echo here, that for both the combat leader and the logistician, this book is very highly recommended.

LTC (DR.) ROBERT G. SMITH



An M1A2 System Enhancement Package (SEP) Abrams with Tank Urban Survival Kit (TUSK) and Mounted Soldier System (MSS) in Iraq.

Coming up in *ARMOR*: A look at Armor Branch Soldiers' experience with regional force alignment around the world and reconnaissance and surveillance at echelons above brigade.



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Tactics, Techniques and Procedures for Employing Brigade and Task-Force Engineers

by COL Jason L. Smallfield

The creation of 32 engineer battalions in the Active Component over the next two years and 28 engineer battalions in the National Guard over the next four years will provide maneuver commanders with more organic engineer capability than they have recently possessed. The ability to leverage this additional capability, however, will require maximizing a resource that maneuver commanders have not had readily available recently: a task-force engineer. Even more than this, however, an engineer battalion commander, with lettered subordinate companies in the brigade combat team (BCT), is a muscle that neither maneuver commanders nor engineer leaders have exercised in several years.

The purpose of this article is to articulate what has changed and what engineer capabilities are available to a maneuver commander, and to delineate

some tactics, techniques and procedures (TTPs) that result from this analysis.

Available capabilities

Changes have occurred, and will occur, from three perspectives: organizational, training and personnel.

Organizational perspective. There have been three engineer organizational trends over the past 60 years of which maneuver commanders should be aware:

- First, the division-centric Army has been reshaped to a BCT-centric force and will remain the key building block for our Army moving forward;
- Second, maneuver-brigade commanders have clamored for more engineers during combat operations, and this need has often been forgotten when post-conflict

inactivations and reduced budgets have required reductions to Army endstrength and corresponding reductions in engineer force structure; and

- Finally, engineer planners have generally based their organizational structures on the nature and quantity of work to be done in a given area, while Army planners have been influenced by the dictates of deployability and unique operational requirements, forcing in-lieu-of solutions to meet global demands. This trend resulted in echelon-above-brigade (EAB) engineer organizations that were neither available nor optimized to augment BCT formations.

The Engineer Regiment developed the brigade engineer battalion (BEB) initiative in 2009 and 2010. This force-design update was designed to support the two-manuever-battalion BCT. By



the time the BEB was approved, however, the Army Chief of Staff (CSA) decided to increase the BCT to a third maneuver battalion. The BEB did not include a third engineer company for two critical reasons: first, there was not enough EAB force structure to pay the bill, and second, the CSA limited the BCT's size.

The engineer battalion assigned to each BCT will provide increased engineer capability with two companies but will have limited capacity to support the third maneuver battalion within the BCT. More engineer capacity and capability (i.e., defensive operations, engagement-area development, offensive operations, expanding lodgments, stability operations, building partner capacity, defense support of civil authorities, port construction and repair and mission-command headquarters for these EAB enablers) will need to be anticipated, requested and allocated for home-station training, training-center rotations and support to contingency operations. By strategic rules of allocation, the BEB will only provide about 25 percent of a BCT's engineering requirements.

The bulk of engineer force structure currently resides in the Reserve Component: 19 percent of engineer Soldiers are active-duty, 31 percent are Reserve and 50 percent are National Guard. Upon completion of active BEB conversion in Fiscal Year 2015, the active force of 19 percent will be 48 percent BEB and 52 percent EAB. While table of organization and equipment organizations are generally designed and built to meet Phase III (*dominate*) requirements, the strategic impact of this force mix demands recurrent, assured and predictable access to Army National Guard and Reserve units throughout all phases of the operation (*shape, deter, seize the initiative, dominate, stabilize and enable civil authority*).¹ Maneuver commanders should therefore be thinking early and often about their EAB requirements in all phases of their operation.

Training perspective. The Army Force Generation (ARFORGEN) model was approved by the Secretary of the Army and CSA in 2006.² ARFORGEN was the Army's process for meeting combatant commanders' requirements by

synchronizing the building of trained and ready units.³ The underlying idea was to tap into the total strength of the Army, leveraging all active and Reserve units while sustaining the process by employing a rotational, more predictable plan for deployments.⁴ This placed units on a tiered readiness "duty roster" and rotated units through high readiness as they prepared to deploy. This was necessary to meet wartime requirements but led to vast swings as units went from the trained/ready pool into reset.

This process was exacerbated in the enabler pool since ARFORGEN was really "BCT-FORGEN." Enablers like EAB engineers were forced to operate at a higher operational tempo than the supported BCT forces and were typically out of cycle with the units they would support in combat. In addition, the focus of engineer training in the 1990s was upon the broad spectrum of mobility / countermobility / survivability. This broad focus narrowed in the 2000s to be almost exclusively upon explosive-hazard defeat. This caused a degradation of 12B skill sets in other than explosive-hazard defeat.

Also, both the CSA and the U.S. Army Training and Doctrine Command commanding general have noted that historically the combat training centers (CTCs) have been our primary leader-development training sites. The global war on terrorism, overseas contingency operations and ARFORGEN requirements forced the Army to use the CTCs as "readiness factories" rather than for their intended purpose of leader development.

Personnel perspective. Two of the most substantial engineer personnel changes that impact maneuver commanders involved geospatial engineers and the component mix. Changes were made for geospatial engineers to leverage the quantum leaps in technology experienced in this area. Geospatial engineers have changed from 81Q terrain analyst, 81C cartographer and 81L lithographer to the current consolidated military occupational specialty (MOS) 12Y, geospatial engineer. In addition, the Engineer School has partnered with the Military Intelligence School to form geospatial-intelligence cells (imagery analysts and geospatial

engineers) at the BCT, division and corps headquarters levels.

The other substantial change has been the migration of the Engineer Regiment from the Active Component to the Reserve Component. Some MOSs such as 12G quarrying specialist are entirely in the Reserve Component, while the 12P prime-power-production specialist resides exclusively in the U.S. Army Corps of Engineers. This increases the time required to support a maneuver commander's request for forces and therefore increases the lead time required to make the request.

TTPs

From the preceding organizational, training and personnel information, I recommend TTPs in the following areas for how maneuver commanders should use the engineer battalion, assistant brigade engineer (ABE) and task-force engineers.

Mission command. The single most important aspect of the BEB is the mission-command component. The engineer battalion commander is the senior engineer within the BCT and is the final word on all engineer-related issues. The battalion commander has a permanent representative assigned to the BCT staff: the ABE, who is an engineer major. The ABE assists the brigade engineer in developing and providing recommendations to the brigade commander but should never provide engineer advice to the BCT commander without prior coordination with the brigade engineer. The key here is having the right mission command and task-force engineer structure that will allow the BCT to effectively plan for, receive, employ and then return EAB assets. To facilitate this relationship, maneuver brigade commanders should consider having the BEB commander rate the ABE with the BCT commander as senior rater.

Brigade engineer. Because the engineer battalion provides limited engineer capability, a BCT will likely be reinforced with varieties of unique engineer companies, an engineer battalion or engineer brigade. This engineer reinforcement is temporary, however, and the assigned engineer battalion commander should always retain brigade-engineer status for purposes of

continuity and familiarity with the brigade commander and staff. This will facilitate continuity and stability for engineer support for the maneuver commander.

Balancing command and staff responsibilities. The brigade engineer and task-force engineers will need to balance their command (engineer battalion, company and/or platoon) and their staff (maneuver brigade or battalion) responsibilities. Overemphasis on either responsibility may be necessary in the short term but must be avoided in the long term. Maneuver commanders should help their engineers to achieve this balance by providing upfront guidance and a specific timing and execution timeline from which the engineers can plan to help achieve this balance.

Nearly simultaneous BCT and engineer-battalion operations orders (OPORDs). The engineer battalion should publish its battalion OPORD simultaneously, or nearly simultaneously, with the BCT OPORD. This TTP enables the engineer-company commanders and platoon leaders to actively contribute to the development of maneuver-battalion OPORDs rather than passively or reactively contributing.

Co-location and planning cycle. The brigade engineer and task-force engineer tactical-operations centers (TOCs) should be co-located and integrated into the BCT's and task force's TOCs and planning cycles. Maneuver commanders and staff should plan for and help enable this co-location.

Engineer-battalion staff reinforcement of maneuver-brigade engineer staff. Maneuver commanders should think of the ABE as the engineer tactical-actions center and the engineer battalion staff as the engineer TOC. The engineer battalion can, and should, reinforce the ABE for planning and execution / battle-tracking purposes. This will also enable the simultaneous BCT and engineer-battalion OPORD publication recommended above and is enabled by the co-location recommended above.

Habitual relationships. Maneuver-battalion and engineer-unit habitual relationships are an effective means to

facilitate and synchronize training within a garrison environment, especially in a resource-constrained fiscal environment. Habitual relationships, however, are not a default combat task organization. Task-force commanders must expect their engineers to be task-organized to other task forces, depending on the main effort through the operation's various phases. Engineers are a scarce resource on the battlefield and need to be massed at the critical point on the battlefield for greatest effect – that means a maneuver battalion may not be allotted engineer support during an operation or during a phase of an operation.

Habitual relationships need to be established and maintained down to company-team level. This means engineer-squad leaders should integrate into maneuver company-team planning in garrison so engineer formations can be more effectively used both in the field and in combat. Use of this TTP will help gain mutual respect and understanding on capabilities and limitations. It will also assist planning operations at the battalion-task-force level by enabling more educated and informed bottom-up feedback to task-force plans, which in turn will enable a more synchronized / parallel planning effort. Key, however, will be that there will be different habitual-relationship solution sets for different BCTs due to having three maneuver battalions supported by only two engineer companies and three engineer platoons.

Reserve. Due to the limited capabilities the engineer battalion provides to the BCT, engineers are never kept in reserve. This means that both task forces and engineer formations need to be adept at seamless and efficient task-organization changes. These task-organization changes, however, do not just happen. They are the byproduct of detailed planning, disciplined execution and solid standard operating procedures.

Focused missions. Time is critical for engineers to shape the terrain, so engineers need to be employed early and focused on those missions only engineers can perform. General missions such as security need to be performed by other formations. Maneuver commanders should consider assigning

missions to engineers that only engineers can perform rather than missions that any formation should be able to perform.

Combined-arms integration. Engineers should be integrated as a combined-arms team for all operations, including offensive, defensive and stability operations. Surprisingly, this is a lesson we had to relearn during combat operations in Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF). Experience has shown that when conducting route clearance, engineer units that operated independently had less effect and received higher casualties than when route-clearance operations were conducted as a combined-arms formation and tied to a task-force scheme of maneuver.

Recon / counter recon fight. Engineers should be integrated into the BCT's recon and counter-recon fight to better inform the BCT's military decision-making process as well as to enhance maneuver and engineer effectiveness. The counter-improvised-explosive-device fight in OIF and OEF can be thought of as the recon/counter recon battle we did not recognize as such and therefore did not fully leverage as we should have. Success or failure in the recon/counter recon has a direct causal linkage to success or failure in the main battle area.

Expanded capabilities. Engineers now have survey and design as well as horizontal capability that will expand the BCT's capabilities during expeditionary deployments. These capabilities need to be known and leveraged. In addition, every BCT will have a 120A warrant officer and an operational energy adviser. These leaders will provide a level of expertise BCTs have not previously had.

In conclusion, recent history of the Army and the Army's Engineer Regiment means the engineer battalion assigned to the BCT is a muscle that has not recently been exercised and is a skill that has atrophied. This necessarily means there is an experiential and generational gap that cannot be bridged by merely executing what we did as an Army in the 1990s. Maneuver and engineer leaders must understand

what has changed, along with what has not changed, so we can critically and creatively develop new TTPs for the effective use of the engineer staff and formations, both organic and attached to the BCT.

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and Services Staff School, Engineer Officer Basic Course and Engineer Officer Advanced Course. He holds a master's of science degree in engineering management from the Missouri University of Science and Technology; and master's degrees from both CGSC and SAMS in military arts and science. He also earned a bachelor's of science degree in international political science from the U.S. Military Academy. He is a project-management professional and a certified facility manager. His notable awards include the 1999 General Douglas MacArthur Leadership Award, 2009 General Frederick M. Franks Award, Corps of Engineers' Bronze de Fleury medal and Armor Association's Noble Patron of Armor.

Notes

¹ Joint Publication 5-0, *Joint Operation Planning*, Aug. 11, 2011.

² Hemmerly-Brown, Alexandra SSG, "ARFORGEN: Army's deployment cycle aims for predictability," Army News Service, Nov. 19, 2009, <http://www.army.mil/article/30668/>, accessed Dec. 8, 2013. Also in Army Doctrinal Reference Publication 7-0, *Training in Units*.

³ Ibid.

⁴ Ibid.

Acronym Quick-Scan

ABE – assistant brigade engineer

ARFORGEN – Army Force Generation

BCT – brigade combat team
BEB – brigade engineer battalion

CGSC – (U.S. Army) Command and General Staff College

CSA – Chief of Staff of the Army

CTC – combat training center

EAB – echelons above brigade
MOS – military occupational specialty

OEF – Operation Enduring Freedom

OIF – Operation Iraqi Freedom

OPORD – operational order
SAMS – (U.S. Army) School of Advanced Military Studies

TOC – tactical operation center

TTP – tactics, techniques and procedures

Sustainment Portal Provides Relevant Tool to Improve Readiness

by Dr. Reginald L. Snell

Commanders now have a new resource to help improve readiness. The Sustainment Unit One-Stop (SUOS) portal is a “one stop shop,” designed to provide commanders and staffs current supply, maintenance, ammunition, explosive ordnance, transportation, human resources and finance collective training and lessons-learned products.

The SUOS portal supports the *sustainment* warfighting function, which in turn supports the Army’s ability to successfully achieve its core competencies of combined-arms maneuver and wide-area security. The sustainment warfighting function consists of logistics, personnel services and health-service support. The sustainment warfighting function provides capabilities that ensure land forces have the freedom of action, operational reach and prolonged endurance required to prevent conflict, shape the operational environment and win our nation’s wars.¹

The application of sustainment as a component of strategic landpower is guided by doctrine, lessons-learned and other relevant resources. SUOS provides current sustainment-related references for commanders and staffs to use when planning operations.²

SUOS is sponsored by the Combined

Arms Support Command (CASCOM), which is responsible for training, educating and growing adaptive sustainment professionals; and developing and integrating innovative Army and joint sustainment capabilities, concepts and doctrine to enable unified land operations.³ SUOS is an excellent resource for sustainment references and streamlines the collective training, doctrine and lessons-learned products into five categories (operational units, training, multifunctional units, functional units and other units).

The Common Access Card-protected portal is an official U.S. Army Website that provides contact information for collaboration with CASCOM proponents. The portal can be accessed at http://www.cascom.army.mil/g_staff/g3/SUOS/index.htm or by typing Sustainment Unit One Stop Portal into any unclassified search engine.

Reggie Snell is a senior doctrine developer, Joint and Allied Doctrine Branch, G-3, CASCOM, Fort Lee, VA. He previously served as a concept developer with Joint and Army Concepts Division, Army Capabilities Integration Center, Fort Eustis, VA; experimentation team chief and military analyst, Sustainment Battle Lab, Sustainment Center of Excellence, CASCOM, Fort Lee; and

resource manager, Chief of Staff of the Army Task Force Logistics, CASCOM, Fort Lee. Dr. Snell holds a master’s of science degree from Central Michigan University and a PhD from Capella University in education, with a specialization in training and performance improvement. A decorated veteran, Dr. Snell served 22 years on active duty in the U.S. Army with assignments in infantry (light, motorized, mechanized, airborne, air assault) and armor units.

Notes

¹ Army Doctrinal Reference Publication 4-0, *Sustainment*, July 31, 2012.

² SUOS, http://www.cascom.army.mil/g_staff/g3/SUOS/index.htm.

³ CASCOM “about us” Webpage, <http://www.cascom.army.mil/about/index.htm>.

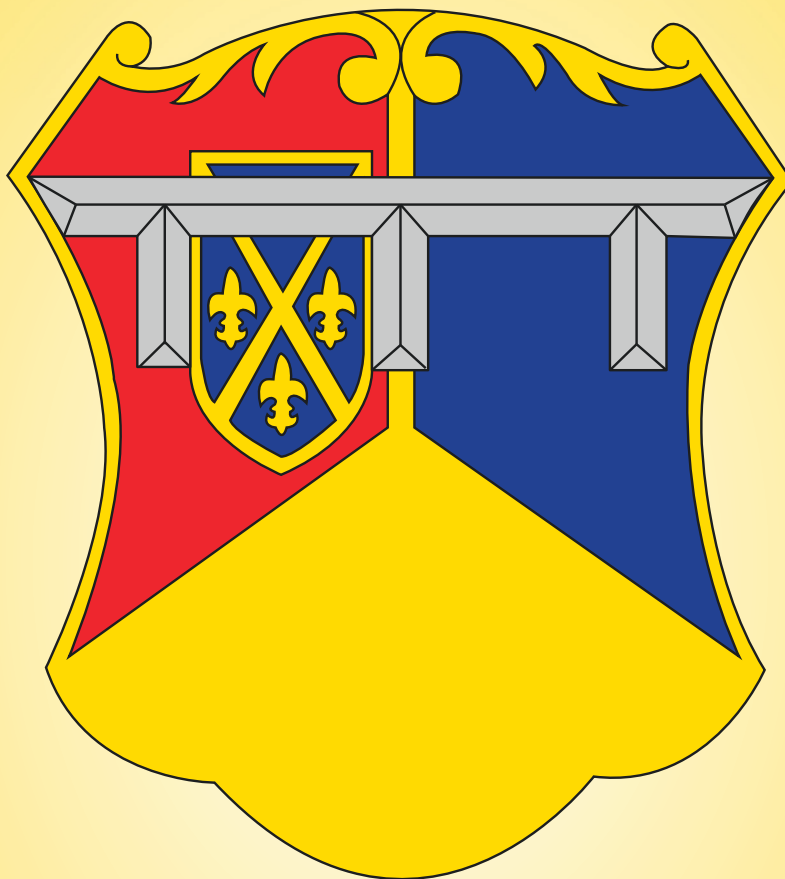
Acronym Quick-Scan

CASCOM – Combined Armed Support Command

SUOS – Sustainment Unit One-Stop

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

66TH ARMOR REGIMENT



The insignia was originally approved for 15th Tank Battalion, part of which was in the old 304th Tank Brigade. Therefore, the shield and crest of 304th Tank Brigade were used with the label added for difference. The shield is of the colors of the Tank Corps shoulder sleeve insignia. The brigade was organized at Langres, France, in 1918, so the arms of that place are shown on an escutcheon differenced by a gold border and by changing the cross from red to gold. The distinctive unit insignia was originally approved for 15th Tank Battalion Oct. 11, 1923. It was reassigned to 1st Tank Regiment July 11, 1930 and further reassigned to 66th Infantry (Light Tanks) Nov. 16, 1932. The insignia was redesignated for 66th Armored Regiment April 25, 1942. It was redesignated for 66th Medium Tank Battalion Dec. 27, 1950. The insignia was redesignated for 66th Armor Regiment Sept. 26, 1958.

