

ARMOR

Mounted Maneuver Journal
Summer 2021



Ten Years Ago:
Fort Knox to Fort Benning

ARMOR

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CHIEF OF ARMOR'S HATCH

BG Thomas M. Feltey
Chief of Armor/Commandant
U.S. Army Armor School



Enabling the Evolution of the Combined-Arms Fight

*"[The] breadth of training predicts breadth of transfer. That is, the more contexts in which something is learned, the more the learner creates abstract models, and the less they [sic] rely on any particular example. Learners become better at applying their knowledge to a situation they've never seen before, which is the essence of creativity." -David Epstein, **Range: Why Generalists Triumph in a Specialized World***

The conduct of warfare is changing rapidly around us. The implementation of combined-arms warfare continues to evolve around the globe as both ally and adversary employ new technology and techniques to gain positions of advantage on the battlefield. Loitering munitions, drone swarms, electronic attacks and robotics are just a few of the new challenges facing modern warfighters. When synchronized with other existing elements on the battlefield, the effect is even more lethal.

However, the nature of war remains the same. Positions of relative advantage throughout the battlefield remain as pertinent today as they were in previous conflicts. The integration of armor, infantry, artillery and other assets at crucial moments and places decides the outcome of battles. How that occurred changed over time with the

integration of new ideas and technology. Throughout modern history, creative learners applied their training and experience with new models and technology to achieve remarkable effects. Looking to the future, we must continually study recent conflicts to ascertain what adversaries may do and learn and apply knowledge in new and innovative ways.

Despite the derision from critics who claim the tank is dead, the recent conflict in the Nagorno-Karabakh region between Azerbaijan and Armenia tells a different story. Armenia indeed suffered heavy tank losses. But a deeper look shows that Armenia failed to update their tactics in the face of new technology. They mainly relied on methods of tank employment that gave them success against Azerbaijan in the 1990s. On the other hand, Azerbaijan updated their tactics to include new technologies, such as loitering munitions and deception unmanned aerial systems. They synchronized these technologies with the employment of their tanks, infantry and artillery to achieve stunning success.

In the end, Azerbaijan still needed their combined-arms teams on the ground to seize positions of advantage. How they got them there is an example of how to adapt combined-arms integration creatively. As we

learn from this conflict, it is essential to note that synchronization remains fundamental to combined-arms success. New technologies will enable us to change the speed, tempo and rhythm of various combined-arms elements so that we are always causing multiple dilemmas for our enemies. Our mobile protected firepower systems' speed, range and shock effect remain central to our strength as an armored force. Integrating that strength with innovation is paramount to future success. We should also consider the inverse as we adapt to defend against such attacks.

Recognizing this need and adjusting our methods requires a continuous pursuit of knowledge and experience from a wide range of sources. I encourage you to broaden your reading and deepen your understanding on the employment of robotics, artificial intelligence and automated systems. By studying their implementation, we can develop a greater range as practitioners of our craft to employ our mobile protected firepower systems at decisive points on the battlefield.

We must continue to pursue the knowledge and creativity that will lead us to the next evolution of warfare. That begins here with your contributions to **ARMOR**, our mounted-maneuver journal. We possess the U.S

Army's oldest professional journal, and since 1888, our journal is replete with examples where creative thought

led to innovative change within the branch. I am excited to be in the seat as the 53rd commandant and Chief of

Armor. And I look forward to reading your thoughts.

Treat 'Em Rough!

Honoring our Armor and Cavalry Medal of Honor Heroes

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

GRIBBEN, JAMES H. LT

Unit: Company C, 2nd New York Cavalry. Place and date of action: Sailors Creek, VA, April 6, 1865. Born: Ireland. Date of issue: May 3, 1865. Citation: Capture of flag of 12th Virginia Infantry (CSA).

GWYNNE, NATHANIEL PVT

Unit: Company H, 13th Ohio Cavalry. Place and date of action: Petersburg, VA, July 30, 1864. Entered service: Fairmount, MO. Born: Champaign County, OH. Date of issue: Jan. 27, 1865. Citation: When entering upon the charge, this soldier, then but 15 years old, was cautioned not to go in, as he had not been mustered. He indignantly protected and participated in the charge, his left arm being crushed by a shell and amputated soon afterward.

HADLEY, CORNELIUS M. SGT

Unit: Company F, 9th Michigan Cavalry. Place and date of action: Siege of Knoxville, TN, Nov. 20, 1863. Entered service: Adrian, MI. Born: April 27, 1838, Sandy Creek, Oswego County, NY. Date of issue: April 5, 1898. Citation: With one companion, voluntarily carried through the enemy's lines important dispatches from GEN Grant to GEN Burnside (then besieged within Knoxville) and brought back replies, his comrade's horse being killed and the man taken prisoner.

HANFORD, EDWARD R. PVT

Unit: Company H, 2nd U.S. Cavalry. Place and date of action: Woodstock, VA, Oct. 9, 1864. Born: Allegany County, NY. Date of issue: Oct. 14, 1864. Citation: Capture of flag of 32nd Battalion Virginia Cavalry (CSA).

GUNNER'S SEAT

CSM Tony T. Towns
Command Sergeant Major
U.S. Army Armor School



Assignments, Leadership

Armor Ready!

First, I would like to welcome BG Thomas Feltey, the 53rd Chief of Armor and commandant of the U.S Army Armor School. His vast knowledge and experience in both Armor and Cavalry formations and unvarnished love for the Armor Branch will ensure "Armor" remains the combat arm of decision! I look forward to our time together, including collaboration with our infantry teammates to enable brigade combat teams (BCTs) to dominate in large-scale combat operations today and into the future.

The year/month available (YMAV) to move and the Assignment Satisfaction Key-Enlisted Module allows enlisted Soldiers more control over their assignment. Although there are guidelines regarding knowledge, skills, attributes/behaviors, the module does not account for Department of the Army Pamphlet (DA PAM) 600-25 proponent guidance. I highly encourage leaders to track their Soldier's YMAV and

provide counsel on the Armor career map and the branch guidance outlined in DA PAM 600-25. By doing so, Soldiers will fully understand the implications of their assignment decisions, especially when the decision does not align with promotion guidance. For more information, contact SGM Eric Hayes, Armor Branch sergeant major, Enlisted Personnel Management Directorate, Human Resources Command.

The centralized evaluation boards for staff sergeant, sergeant first class, master sergeant and command/sergeant major have concluded. The Office of the Chief of Armor is compiling the information and analyzing the data to inform the field. Evaluation reports are the most important documents within a Soldier's file. I encourage leaders at all levels to properly enumerate and delineate talent, "MQ" deserving leaders when profiles support and super-strong verbiage when profiles do not. Please remember, several

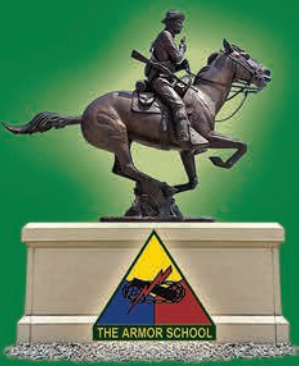
command sergeant major billets (including BCTs) are competed against several career-management fields, prioritized from the Order of Merit List. It is important for our Army to choose the right leaders to fill these important roles. We've got to get this right!

Lastly, we have released the second Armor School podcast, available on our social-media platforms. Please tune in and let us know of any topics you would like for us to cover. To borrow a phrase from a dear friend, "Never underestimate the power of your leadership!"

Forge the Thunderbolt!

ACRONYM QUICK-SCAN

BCT – brigade combat team
DA PAM – Department of the Army Pamphlet
YMAV – year/month available (to move)



Armor School's 10-year anniversary at Fort Benning

Chiarelli: Armor School Moving Home to Benning

by Maureen Rose

Posted May 25, 2010, https://www.army.mil/article/39763/chiarelli_armor_school_moving_home_to_benning

FORT KNOX, KY (Army News Service) – “The Armor Center will cease to exist in one week,” said Army Vice Chief of Staff GEN Peter Chiarelli in his opening remarks to the audience gathered at Waybur Theater for the Armor Warfighting Conference last week.

“It’s a bittersweet occasion for many of us. But I would remind you that the tank school was at Fort Benning (GA) from 1932 to 1938, so we are really just reclaiming what was ours,” he added to the obvious amusement of many.

More than a few have expressed concern that Armor will be swallowed up by the much larger Infantry with the integration of the two branches into the Maneuver Center of Excellence (MCoE) at Fort Benning. Chiarelli addressed that apprehension.

“Some of you are concerned that the Armor Branch is dead, but I assure you that Armor Branch is alive and well,” he said. “It’s a key element of MCoE. At the MCoE, we will train as we fight – together – just as we win together.”

In his discussion of force protection and modernization issues, Chiarelli included some of the directives from Secretary of Defense Robert Gates, including



Figure 1. Army Vice Chief of Staff GEN Peter Chiarelli speaks at 2010's Armor Warfighting Conference at Fort Knox, KY. (U.S. Army photo)

clarification of the role of mine-resistant ambush-protected (MRAP) vehicles. That direction makes MRAPs available for home-station training.

Chiarelli also talked about the need for a new ground combat vehicle (GCV) which must provide versatility as well as protection. The Army wants the new GCV to provide the underbelly protection of an MRAP, the offroad mobility of a Bradley, and the urban and operational mobility of a Stryker vehicle, while still carrying 12 Soldiers and weighing 70 tons or less.

The more features that are added to the GCV, the more weight it takes on, which limits its mobility. However, Chiarelli said that in the time it will take for the vehicle to move through the acquisition pipeline – seven years – perhaps lighter materials would become available and allow the vehicle to weigh less without sacrificing any elements. The GCV should be a universal vehicle, Chiarelli stressed, but not a sofa bed, which is neither a good sofa nor a good bed.

In addition, Chiarelli stressed the importance of flexibility for a GCV, which needs to include design growth potential to add technologies as they

become available and affordable; precision lethality; superior over like systems; and network integration.

“The network is a hub of the Army’s modernization program,” he said. “The network ties everything together, handles constant transmission of voice and data information to provide the situational awareness that every Soldier needs.”

In a recent exercise, however, Chiarelli said the networks did not interface well.

“Any Soldier anywhere should be able to post to the network,” Chiarelli asserted, although he admitted many others feel such broad access would compromise security.

Chiarelli spent time discussing his goal to change the culture of the Army with regard to the macho attitude that often prevents Soldiers from asking for help with brain injuries.

The Army’s Wounded Warrior Program is caring for 6,500 Soldiers as of May 1. Of those, 59 percent carry a diagnosis of traumatic brain injury (TBI) or post-traumatic stress disorder. Chiarelli showed a video made by Medal of

Honor recipients who discussed the resources available to modern Soldiers that were not available to them.

One of the narrators urged Soldiers to get help if they needed it – otherwise, they would allow the enemy to defeat them at home.

Chiarelli discussed the causes of TBI as well as new protocols that are being adopted to make screening more thorough. Progress is being made in TBI cognitive testing before and after deployments, with a pilot program started at Tripler Medical Center, according to Chiarelli.

He closed his remarks by coming full circle to speak to those worried about Armor’s role on the battlefields to come.

“The Armor and Cavalry force has a huge future in our Army,” he said.

ACRONYM QUICK-SCAN

GCV – ground combat vehicle

MCoE – Maneuver Center of Excellence

MRAP – mine-resistant ambush-protected

TBI – traumatic brain injury

Armor School to Finish Move to Fort Benning by Sept. 15

by Ben Wright

Reprinted by permission of *The Ledger-Enquirer*, Columbus, GA

Posted Feb. 5, 2011, at <https://www.ledger-enquirer.com/latest-news/article29173771.html>

Moving soldiers from the U.S. Armor School at Fort Knox, KY, to the Maneuver Center of Excellence at Fort Benning will hit its peak during the next six months, post officials said.

BG Ted Martin, commander of the Armor School, told a group of concerned residents in a briefing this week at the National Infantry Museum and Soldier Center that the move to Fort Benning will be complete by Sept. 15. By that time, the total assigned personnel to the Armor School will be 7,500.

“We have launched the first school training every scout, tanker, every mechanic, repairing tanks or the Bradley, all the leaders,” Martin said.

Base Realignment and Closure (BRAC) added the Armor School to a post that already trains soldiers at the Infantry School. The changes will make Fort Benning the sixth largest installation in the nation.

The BRAC expansion is projected to bring about 28,000 people to the Chattahoochee Valley, including soldiers, civilian workers, contractors and family members.

To prepare for the expansion that was announced in 2005, Martin said more than \$2 billion has been spent on barracks, facilities and training areas necessary for the soldiers.

Martin said he honestly didn’t know how many new buildings were part of the expansion but noted they are extensive.

“I can tell you all of Harmony Church complex has been transformed,” he said.

The Bradley maintenance course started in January. Other armor courses include cavalry leader, armor basic officer, scout basic, tanker basic, master gunner, tank maintenance and the Army reconnaissance course. Most courses range from three to 16 weeks before soldiers move to their next assignment.

In addition to the buildings, there will be 140 miles of new roads, 19 ranges, six training areas and 13 bridges.

Last Armor BOLC Graduates from Knox before Move

by **Maureen Rose**, Army News Service

Posted June 23, 2011 at https://www.army.mil/article/60372/last_armor_bolc_graduates_from_knox_before_move

The final basic officer leadership course – Class 11-004 – for Armor officers to be trained at Fort Knox, KY, graduated June 16 in a ceremony at Hazzard Auditorium. Future courses will be conducted at Fort Benning, GA, as part of the Maneuver Center of Excellence.

LTC Sean Barnes, commander of the instructing unit – 2nd Squadron, 16th Cavalry Regiment – noted that the class was closing a chapter.

“Now you are a part of the rich military history that is so strong,” he said.

While the Armor and Infantry Branches are training together at the Maneuver Center, Barnes contended that Armor is the better branch.

“Armor remains the most agile and adaptive force on any battlefield,” he said in his congratulations to the 81 graduates.

LTG Benjamin Freakley, commander of Fort Knox and Accessions Command, addressed the graduates as well. He agreed that the Armor/Cav Branch is impressive.

“I have seen their amazing contributions on the battlefield; you have chosen well,” the general said. “You have a sacred trust to the Soldiers you lead. You will be responsible for the lives of your Soldiers and the well-being of their families. You have begun a journey of service; make it one of constant improvement because our Soldiers deserve the best possible leadership.”

LTG Freakley added that the Army’s equipment, training and noncommissioned officers were the best in the world, so the officers could be confident that those elements would lead them to victory. He urged the lieutenants to be leaders of character.

“If you don’t know anything else, haven’t learned anything else, be a leader of character. If you can’t shoot, you can’t load a tank, you can’t march, be a leader of character. Your NCOs

will teach you the rest.”

LTG Freakley went on to identify the four traits the officers should exhibit to become leaders with confidence in themselves and to cultivate the confidence of their men:

- Have great optimism;
- Have unparalleled energy;
- Have loyalty for your men; and
- Display an offensive spirit that never gives up and never retreats.

He encouraged the lieutenants to lead by example, never asking their followers to do something they wouldn’t do.

“If your men are at the wash rack, you should be at the wash rack. If your men are cleaning weapons, you should be cleaning weapons,” he said.

After the remarks, awards were presented to the class. The distinguished honor graduate was 2LT Christopher Powell, and the honor graduate was 2LT Bryan Weaver. The Draper Leadership Award went to 2LT Zachery Foster, who also won the Iron Man physical fitness award.

Georgia Governor Speaks at Armor BOLC Graduation

by **Vince Little**, *The Bayonet*

The Armor Basic Officer Leader Course’s inaugural class at Fort Benning had a special guest at its graduation Thursday.

Georgia Gov. Nathan Deal delivered the commencement speech and handed certificates to 76 lieutenants during the hour-long ceremony at Derby Auditorium inside McGinnis-Wickam Hall. The group of Armor and Cavalry officers included three international students from Uruguay, Uganda and Jordan. The rest were U.S. Army lieutenants.

Deal landed in a helicopter on York Field and was greeted by MG Robert Brown and CSM Chris Hardy, the Maneuver Center of Excellence (MCoE) and Fort Benning command team. They led him into the \$155 million, newly dedicated MCoE headquarters.

“It’s certainly nice to see this building. This is a gorgeous facility and appropriately named for two Medal of Honor winners,” the governor said.

“Fort Benning has changed a lot since the Armor School has made its presence known here. It is good for this community (and) for the state of

Georgia. We certainly welcome this expansion.

“Certainly, Fort Benning is one of the most important military facilities in our entire country. With the augmentation of the Armor School here, it makes it even more significant in the overall picture. We think the transition has gone very well from the military and civilian side.”

Deal served as a captain in the Army before launching his career in public service. He was a nine-term congressman and spent 23 years in a private law practice before winning the state’s governorship last fall.

In Summer 1963, he attended an Army ROTC summer camp at Fort Benning as a member of the cadet corps at Mercer University in Macon.

"It was interesting. I have dug my share of foxholes on Sand Hill," he joked.

Class 11-005 began the 19-week Armor BOLC on June 9. Assigned to Troop L, 2nd Squadron, 16th Cavalry Regiment, 316th Cavalry Brigade, it's the first to graduate at Fort Benning since the Armor School's move from Fort Knox, KY.

"Now it feels like we're at home," said LTC Sean Barnes, the 2-16 Cav commander. "It's a very special occasion and milestone in these officers' careers, the Armor School, Fort Benning and the Columbus community. We maximized every opportunity to train here. As a result, the Armor force and its leaders will remain the most agile and creative leaders on any battlefield."

Unit officials said the course is designed to groom platoon leaders by teaching the lieutenants how to shoot, move and communicate from mounted and dismounted platforms. Armor BOLC provides the Army with confident, agile Armor and Cavalry officers capable of conducting full-spectrum operations as part of a combined-arms

team. The training combines classroom, small group and practical exercise instruction to hone leadership skills and the warrior ethos.

"This is a great day and big accomplishment," said MAJ Roman Izzo, executive officer for 2-16 Cav. "It took a lot to get this together, moving all the pieces to Fort Benning. It took a lot of effort from a lot of people to get this up and running."

Deal praised the "sophisticated modern equipment" used here in training and the tactics imparted to the lieutenants by instructors.

"You have absorbed some of the most powerful ideals that make the United States military great," he told the graduates. "You've continued to build on something that was already inside you – a spirit of selfless service and a commitment to your fellow citizens in this country."

"In the military, people will follow you because of your rank. But when they know and see that you are the first in line for the most difficult tasks, that's when you get a unit concept, and that is when you get the most out of those that you ask to follow."

The lieutenants are prepared to win on the battlefield of today and tomorrow, the governor added.

"Ultimately, the freedom of our security lies in your hands, and the hands of men and women like you all throughout our nation," he said. "You are trained not to be weak and not to be timid. We will remain free as long as the next generation of Americans rises to meet the duty and high calling of military service, one that you have already answered. Your sense of service epitomizes the best of our nation."

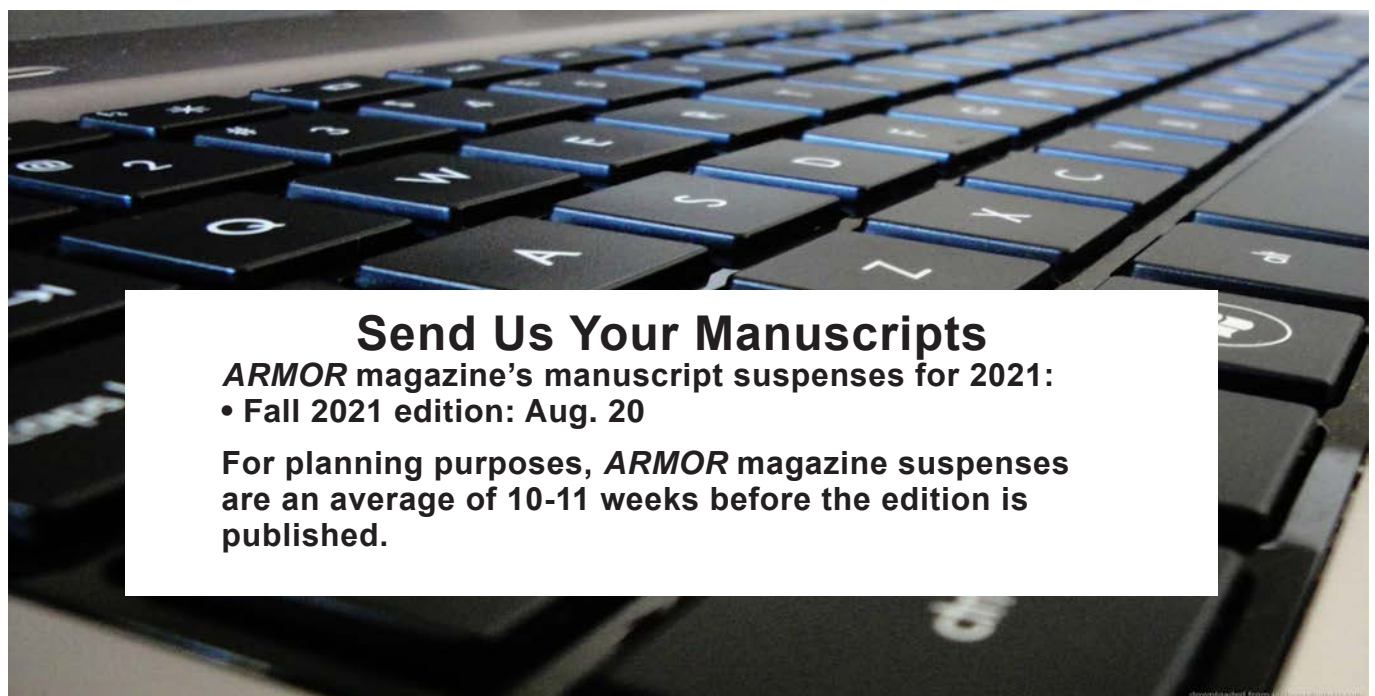
2LT Joseph Ombrello, 30, the Draper Leadership Award winner, said the first graduating class sets a "new precedent on the grounds at Fort Benning," and the group appreciates Deal supporting the Soldiers.

Ombrello is now headed to Fort Polk, LA, to become platoon leader of an opposition force at the Joint Readiness Training Center.

"I definitely feel the course helped me become an Armor leader, especially with the tactics taught here," Ombrello said.

Armor BOLC leaders said 10 cycles a year are scheduled on Harmony Church. Four classes are underway, while another starts in November.

*First published in Fort Benning's newspaper, **The Bayonet**, Oct. 11, 2011.*



Send Us Your Manuscripts

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Armor School Moves Operations to Fort Benning

Compiled by Lisa Alley

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The Armor School left its "old Kentucky home" in 2011 and relocated to Fort Benning, GA, from Fort Knox, KY, joining the U.S. Army Infantry School to form the Maneuver Center of Excellence.

The move transferred more than 7,500 Soldiers and 500,000 pieces of equipment to new facilities at Harmony Church. The move was part of the base realignment and closure initiative and supported the overarching concept that since infantry and armor fight together, they should live and train together.

Fort Knox had been Armor's home since 1940, but the move to Fort Benning was actually a return of sorts.

"The Armor Center will cease to exist in one week," said Army Vice Chief of Staff GEN Peter Chiarelli at the Armor Warfighting Conference in May 2010 at Fort Knox. "It's a bittersweet occasion for many of us. But I would remind you that the tank school was at Fort Benning from 1932 to 1938, so we are really just reclaiming what was ours.

"Some of you are concerned that the Armor Branch is dead, but I assure you that Armor Branch is alive and well," Chiarelli said. "It's a key element of the MCoE. At the MCoE, we will train as we fight – together – just as we win together."

"We've been waiting a long time to merge armor and infantry and get the folks down here from Knox," said MG Robert Brown, the MCoE and Fort Benning commanding general. "We fight together, so it's pretty awesome we're here together. We can do so much more together."

Storied history

Fort Knox hosted a departure ceremony in June 2011 marking the departure of the Armor School and its units 194th Armored Brigade and 316th Cavalry Brigade, which were leaving to join other armor elements already at Fort Benning. MG Terry Tucker, 40th Chief of Armor, said there that the Tank Corps was established in 1918 and changed the American way of war forever, but the roots and heritage of armor go back much farther.

"We were born from the great mounted infantry dragoons of 1832, forged as light cavalry during the Civil War and honed during the late 1800s on the Western Plains," said Tucker.

The notion of combined-arms maneuver and wide-area security are not new concepts, he added, but a return to the principles learned by the American cavalry in the 19th Century. With World War II, the United States realized that fast-moving forces protected by armor were required to respond to the German blitzkrieg, therefore the U.S. Armor force was established at Fort Knox in 1940.

New construction

Fort Benning prepared for the arrival of Armor School Soldiers by constructing state-of-the-art barracks, dining facilities, headquarters and instructional and maintenance facilities. With the many improvements made at Fort Benning, including 140 miles of roads and tank trails, it is now the largest Army training installation in the world.

"More than 5 million square feet of new building space, eight bridges, 200 miles of roads and trails, and 19 ranges were constructed to meet the specialized needs of armor Soldiers and their critical requirements," said George Condoyiannis, area engineer for the U.S. Army Corps of Engineers' Savannah District construction program. The Corps of Engineers completed the \$1.5 billion construction



Figure 1. COL Marshall Dougherty, left, and CSM Edward Mitchell uncase the 316th Cavalry Brigade colors June 24, 2011, in a ceremony on Brave Rifles Field at Harmony Church, Fort Benning, GA, as the unit begins to make its home at a new post. (U.S. Army photo)



Figure 2. Soldiers work in new sustainment facilities at Fort Benning. Named in honor of fallen Soldier PFC Jesse D. Mizener, the eight buildings on Fort Benning's 42-acre Wheel and Track Sustainment Complex include vehicle maintenance, an engine test bay, paint stripping and paint application buildings.

program, mostly in the Harmony Church training area, in preparation for the Soldiers' arrival.

For example, the new Bradley Vehicle-Maintenance Instruction Facility boasts 138,534 square feet of instructional space; a 10,000 square-foot technical library; 58 vehicle instruction bays; 20 hands-on turret training bays; 14 live engine bays; and six multipurpose classrooms equipped with the latest teaching technology.

Multi-staged move

The move occurred in stages over several years. The first Armor School tanks reached Fort Benning soil in August 2010 when five M1A2 Abrams System Enhancement Package tanks arrived to use in validating the new digital tank range.

Joe Massouda, MCoE support-operations officer, said the tanks were the first of 188 operational tanks transferred from Fort Knox as part of the Armor School's relocation under BRAC.

SFC Vernon Prohaska, liaison officer for the Armor School's strategic-plans

cell, said the range tests were to validate what the tanks see and where their weapons systems are aimed. The



Figure 3. The first class of lieutenants going through the Armor School's Basic Officer Leader Course at Fort Benning, GA, wrap up their tactics phase. The students are from Troop L, 2nd Squadron, 16th Cavalry Regiment, 316th Cavalry Brigade. (U.S. Army photo)

digital range, located east of the Malone complexes, was under construction for seven years.

Another milestone occurred in January 2011 with the launch of the Armor School's first class at Harmony Church. At a ceremony in the Bradley VMIF's main bay, the MCoE formally kicked off the M2/M3 Bradley Fighting Vehicle System Maintainer Course and activated Company F, 3rd Battalion, 81st Armor Regiment, which is directing advanced individual training for Bradley maintainers. The event featured a "christening" of the VMIF to symbolize the training function's transfer from Fort Knox.

"Many thought it would never actually occur and would never work, but it has happened and it is working," said MAJ Henry Delacruz, executive officer of the battalion's forward element. "This is so because of persistence, vision and a lot of hard work by leaders at all levels within both the armor and infantry schools over the last five years."

Delacruz noted that George S. Patton, then a colonel, commanded 2nd Armored Division at Fort Benning after its activation in July 1940 and trained

the unit there prior to World War II. "If it's good enough for GEN Patton, then it's sure as hell good enough for us," he said.

Company F includes both instructors and students under the same command, a first in Armor School history. They were assigned to different companies at Fort Knox. The unit numbers about 65 permanent personnel and 120 trainees.

The VMIF is "the best facility for instruction I've seen anywhere in the world, bar none," Brown said.

Most students in the inaugural Bradley maintainer class were in elementary school when the effort to move the Armor School to Fort Benning began. BRAC was announced in 2005, but officials said the planning went back about a decade.

The Armor School trained more than 300,000 Soldiers and Marines during its time at Fort Knox. In addition, the Armor School was known around the globe as an educational opportunity not to be missed, as 50 countries sent their armor officers to Fort Knox for courses.

Armor and Cav museum

Part of the Armor School's training and education efforts include the Armor Branch's heritage. "We train our Armor Soldiers about the customs and traditions of the branch through the history and vehicles," said retired LTC Phil Linn, treasurer for the National Armor and Cavalry Heritage Foundation. "The decision was made that we would not only bring the Armor School here, but the vehicles as well."

To that end, military and civilian

developers began the first phase of construction in August 2013 for the site of the future Armor and Cavalry Museum on Fort Benning. Called the Pattons' Park project, it will provide a continuation of artifacts displayed at the Armor and Cavalry Gallery in the National Infantry Museum, Linn said.

The foundation's mission is to create a 100,000-square-foot museum on land adjacent to the NIM, which is located on Benning Boulevard. Linn said the site will be the Army's largest museum complex when completed.

Pattons' Park, named for GEN George S. Patton and his son, MG George S. Patton IV, will exhibit nine tanks and other armored vehicles from World War II up to Operations Desert Storm and Iraqi Freedom, as well as three Vietnam-era rotary wing aircraft. Linn said the vehicles should be available for public viewing by Spring 2014.

The park will include a 1,000-foot trail that extends through a wooded area, a parking lot and the visitor's center located in the median of Benning Boulevard that will provide a layout of the park and direct visitors back to the NIM gallery. The foundation relies solely on funds from private donors for any construction of the site and museum, Linn said.

Pattons' Park will be temporary and dismantled upon construction of the museum in Phase 2, which Linn said is expected to be complete by 2018.

(Editor's note: This article is adapted from the articles "Pattons' Park to display 9 vehicles" by Aniesa Holmes, http://www.army.mil/article/109642/Pattons__Park_to_display_9_vehicles/; "Armor School kicks off first class

at Harmony Church" by Vince Little, <http://www.army.mil/article/50548/armor-school-kicks-off-first-class-at-harmony-church/>; "Chiarelli: Armor School moving home to Benning" by Maureen Rose, <http://www.army.mil/article/39763/chiarelli-armor-school-moving-home-to-benning/>; "Armor School sends first wave of tanks" by Vince Little, http://www.army.mil/article/43803/Armor_School_sends_first_wave_of_tanks/; "Final units depart Fort Knox Armor School" by Maureen Rose, <http://www.army.mil/article/59527/>; and "New home for the Armor School at Fort Benning" by Rashida Banks, http://www.army.mil/article/71402/New_home_for_the_Armor_School_at_Fort_Benning/.)

For more information on the Armor and Cavalry Museum, visit www.armorcavalrymuseum.org.

*Lisa Alley is ARMOR's supervisory editor. The Keith L. Ware award-winning editor has spent most of her uniformed and civil-service career as an editor and staff member of military newspapers and magazines. She also has more than 20 years' experience in Army Web publishing and policy. Before joining the Army, she served as editor of the **Rose Hill Reporter**, Rose Hill, KS; and correspondent for both **Elgin Courier-News**, Elgin, IL, and **St. Charles Chronicle**, St. Charles, IL. Ms. Alley holds a bachelor's of arts degree in journalism and mass communication from Judson College in Elgin, IL. She has been a Keith L. Ware (Army journalism awards) judge at Army level and for the Installation Management Agency Northeast Region in the print and Web-publishing categories.*

Building the Maneuver Center of Excellence: A Tanker's Perspective

by LTG (R) Thomas S. James Jr.

I had long heard of the “Spirit of Benning” when I received word I would become the first Armor commandant to spend my entire tour of duty at the newly relocated Armor School there in June 2011.

A career tanker, I knew I was headed to hallowed ground synonymous with infantry imagery:

- The flashing night lights of the jump towers.
- The historic streets where the resolute spouses of 1st Battalion, 7th Cavalry Regiment, delivered death notices after the hell that was Ia Drang.
- COL Ralph Puckett, that legend of a Ranger who, even at age 94, still embodies the charge to “Follow Me.” (COL Puckett recently was notified he would receive the Medal of Honor for his actions in the Korean War; what he and his 50 Rangers did on Hill 205 more than 70 years ago was nothing short of incredible, repelling an entire night of armed assaults after China’s unexpected full-scale entry into the war.)

My first stop upon arrival at Fort Benning was the National Infantry Museum, where I walked the “Last 100 Yards,” a gut punch of a journey through some of the most significant battles in American military history ranging from Antietam Creek to Afghanistan.

It occurred to me then – as it would often in the coming year – that the American foot Soldier is a unique and special breed of warrior. But so, too, is the American tanker, those mighty mounted warriors who comprise just 4 percent of the force but a full 40 percent of our combat power.

I believed then, as I do now, that – together – these American Soldiers are unbeatable.

A synergistic maneuver force – strategically responsive and dominant across the entire spectrum of

operations – ultimately results in a fighting team greater than the sum of its parts. This truth would hit me every time I walked into the Maneuver Center of Excellence (MCoE) at McGinnis-Wickam Hall, named for one young beloved Medal of Honor recipient from each branch. One of the highlights of my career would be escorting CPL Jerry Wickam’s spouse and son during the ceremony to dedicate this great maneuver hall in his honor. His name will forever be etched in the masonry of this facility alongside SPC Ross McGinnis, a great infantry hero.

As we moved toward that day when the Trooper of the Plains and Iron Mike would stand side by side on one of the nation’s most historic Army posts, another truth became abundantly clear: our Army will never again fight as anything but a combined-arms team.

Building the team

That summer of 2011 was all about building the team.

MG Robert Brown, then commander of MCoE, and CSM James Hardy provided outstanding leadership to the Infantry School commandant Walt Piatt, the Capabilities Development and Integration Directorate director Don Sando, and me. The plan was simple yet lofty: kill all the stereotypes that separate our branches; identify and create interoperability; and build consensus among stakeholders. “One Team, One Fight” had to become more than a flashy saying. Our charge was to create an unbreakable synergy between two branches long accustomed to seeing themselves as competitive.

Then, as now, the operating environment was in flux. The nature and location of conflicts remain unpredictable and include a broad spectrum of new threats. Rogue actors and near-peer competitors demand that America field a force that is strategically responsive and dominant across the entire spectrum of operations. In the solution space of modern warfare, it is inconceivable not to meld the

doctrine, organization, training, material, leadership and education, personnel and facilities of the two branches that own fire and movement in close contact.

As we focused on building modular, combined-arms maneuver teams with a high degree of integration between infantry and armor forces, it was essential to determine which branches would own what roles within the maneuver construct.

Our strengths were clear. The infantry excelled at physical fitness, dismounted action, airborne and air assault. Armor and Cavalry strengths were platform gunnery and fire control, maintenance, reconnaissance and security. At platoon and below, we would be branch-specific in our training. At company and above, the modern battlefield demanded we be maneuver-centric.

Yet even as we built the world’s premier maneuver center, deepening the ties between armor and infantry, we realized how essential it was to preserve our individual histories and to appreciate the unique capabilities and differences that make each branch so successful and lethal.

We tried a combined ball for example – unsuccessfully. Our traditions were too different; our pride in lineage too particular. We may bleed a common crimson but we still loved our light infantry blue and Armor yellow.

So the infantry kept their annual Doughboy Dinner; Armor held firm to their Saint George. Our Armor artifacts came to Benning looking for a home. I often joked with my infantry brothers that the post wouldn’t have room for our Armor Museum anyway – it’d take a massive space to depict “the last 3,000 meters!” Today we occupy a bay in the National Infantry Museum and built an Armor Training Support Facility to house our museum’s rolling stock.

Win at point of contact

The great Armor leader LTG George

Patton once said, "Americans play to win." Our current Army Chief of Staff has distilled that same sentiment into two words: "Winning matters."

The character of war is on the cusp of fundamental change with future conflicts that are likely to be large-scale and highly lethal, unlike anything our Army has experienced since World War II. It is critically important, therefore, to develop technically competent and confident maneuver leaders (regardless of branch) who are grounded in leadership, display basic technical and tactical skill proficiency, are physically and mentally fit, and embody the Warrior Ethos.

The heart of this is small-unit leadership. It is at company and platoon level where our troops truly learn to lead and influence, where they hone the skills to take care of people, our Army's top priority. It is here they learn to transition from the classroom environment to the real-life mission of leading America's sons and daughters, sometimes into the crucible of ground combat. Both the Armor and Infantry Schools are masters at teaching this common tenet.

But our Armor School must continue to recognize the relevant and necessary differences between our branches, teaching and honing skills unique to an armored trooper: the initial development of technical and tactical armor and reconnaissance skills, followed by a broad focus on mounted maneuver and combined-arms warfare as troopers progress through their careers.

From our earliest days, the purpose of the Armor Branch has been to move to a position of advantage and engage and destroy our enemy in close combat by fire and movement in concert with the actions of our infantry teammates. This means we must continue to teach and emphasize lethality and actions on contact as a combined-arms team. A great example is the Master Gunner School that develops talented noncommissioned officers to become masters of fire-control systems and, more importantly, to train our Armor crews to be lethal on the battlefield.

Fit for rigors of sustained ground combat

I believe unequivocally that co-locating our Armor School with the Infantry School at Fort Benning and forming the Maneuver Center was an incredibly important decision. Uniting the forces that close with and destroy the enemy in close combat was invaluable in creating an institution that develops leaders, systems and doctrine to win at the point of contact.

All that has come to pass, empowered by cohesive teamwork.

By training in a dynamic combined-arms environment, ground troops come to appreciate the capability of tanks and infantry in the close fight. Armor Soldiers quickly realize the importance of dismounted infantry in executing maneuver.

The benefits of training as we will fight trumps everything. Our armor and infantry troops now cross-train as a matter of course. Culminating training events are almost never one-branch events; armor and infantry lieutenants and captains plan and execute as a team. All this creates better leaders with a complex understanding of their maneuver assets and abilities in close combat. They speak a common maneuver language born of a common maneuver experience and doctrine.

Future fight

Co-locating our Armor School with the Infantry School at Fort Benning and forming MCoE is preparing our Army for the modern battlefield. As we modernize and prepare for multi-domain operations, there will always be a requirement to close with and destroy the enemy in close combat.

It is often said that the closer you get to direct fire contact, the less warfare changes. The MCoE will continue to play a critical role in developing Soldiers and leaders across the doctrine, organization, training, materiel, leadership and education, personnel and facilities areas to master the fundamentals and win at the point of contact.

Patton would be the first to agree: In our business, winning matters!

ACRONYM QUICK-SCAN

MCoE – Maneuver Center of Excellence
SAMS – School of Advanced Military Studies

LTG Thomas James, 46th Chief of Armor, has retired from the U.S. Army after last commanding First U.S. Army, Rock Island, IL. Previously he was deputy chief of staff, United Nations Command/Combined Forces Command, U.S. Forces Korea; plans officer, 3rd Brigade, 3rd Infantry Division, Aschaffenburg, Germany; company commander, 66th and 68th Armor Regiments, Fort Carson, CO; aide de camp to the commanding general, 1st Armored Division, Bad Kreuznach, Germany; plans and training officer, 3rd Infantry Division, Fort Stewart, GA; operations officer, 1st Battalion, 64th Armor, Fort Stewart; operations and training officer, V Corps, Germany; commander, 1st Battalion, 37th Armor, Fort Riley, KS; plans officer, 1st Armored Division; chief of planning group, U.S. Army Training and Doctrine Command, Fort Monroe, VA; commander, 4th Brigade, 3rd Infantry Division, Fort Stewart; division chief of staff and deputy commander for maneuver, 3rd Infantry Division, Fort Stewart; deputy commanding general (maneuver), 1st Cavalry Division, Fort Hood, TX; director, Mission Command Center, Fort Leavenworth, KS; deputy chief of staff for operations, plans and training, U.S. Army Forces Command, Fort Bragg, NC; and commanding general, 7th Infantry Division, Fort Lewis, WA. LTG James' deployments includes Operations Desert Shield, Desert Storm, Iraqi Freedom and New Dawn. His military schooling includes Infantry Officer Advanced Course, Command and General Staff College, School of Advanced Military Studies (SAMS) and National War College. LTG James holds masters' of science degrees from SAMS and the National Defense University. His awards and honors include the Army's Distinguished Service Medal, Bronze Star Medal (five awards), Legion of Merit (five awards), Meritorious Service Medal (three awards), Combat Action Badge, Parachutist Badge and Ranger Tab.

Armor School's Move Improves Training, Opportunities and Armor Branch Traditions

by COL Sean W. Barnes

It is hard to imagine that 10 years have passed since the U.S. Army Armor School (USAARMS) occupied its new

battle position at Fort Benning, GA, and in the Maneuver Center of Excellence (MCoE). Upon reflection of personally moving 2nd Battalion, 16th

Cavalry (Armor Basic Officer Leader Course) and from discussions with USAARMS' first deputy commandant at Fort Benning, retired COL Michael Wadsworth, it is important to see how much we have improved and what is beyond the long-range mover.

The execution of the base realignment and closure move of USAARMS from Fort Knox, KY, to Fort Benning more than 10 years ago allowed the school to increase training, realize opportunities and improve our Armor Branch traditions. Today the school is fully integrated into MCoE and continues to improve our position.

Training

As Wadsworth mentioned, "The biggest early challenge was getting the Infantry School – the new center – to understand the unique challenges of training Armor officers, [noncommissioned officers (NCOs)] and Soldiers; as well as Abrams and Bradley mechanics." Armor Soldiers face challenges that are unique to the branch. Although the school moved into new buildings on Harmony Church, it faced several challenges with maneuver-training land.

Early on, the Armor School relegated much of the early training to simulations, tank trails and the Digital Multipurpose Range Complex. As the installation completed the Good Hope Maneuver Training Area (GHMTA), and we collectively worked utilization between U.S. Army Training and Doctrine Command and U.S. Army Forces Command units, tank training improved.

Currently we continue to maximize a blend of both live and simulated training. The school continues its close coordination with the Corps of Engineers and Fort Benning garrison to improve mounted training areas by right-sizing and adjusting options to improve the Heavy Off-Road Mounted Maneuver Training Area (HOMMTA). On the simulation front, our master gunners continue to provide user input to the next Close-Combat Tactical Trainer – the Reconfigurable Combat Vehicle Trainer currently scheduled for Limited

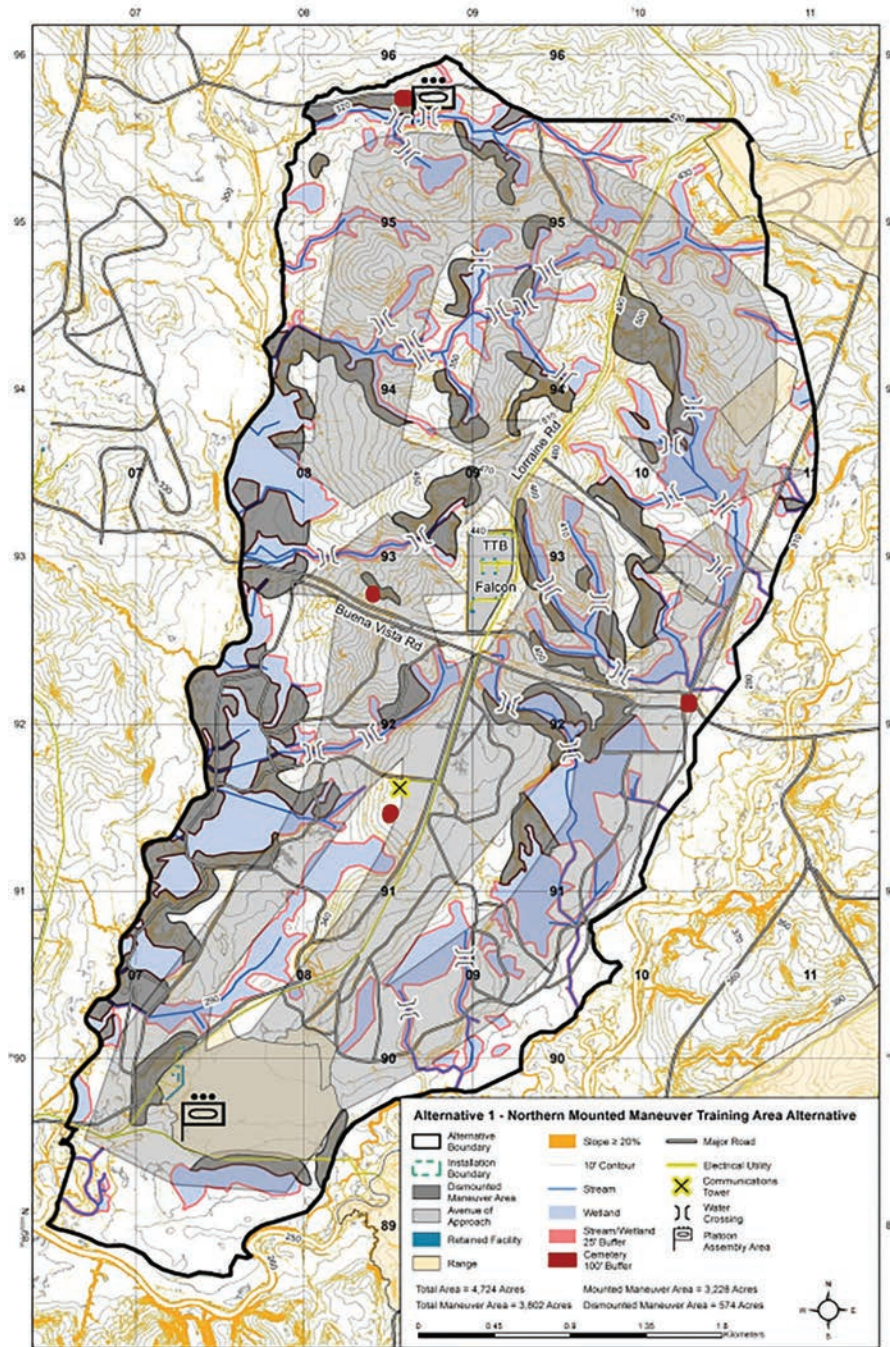


Figure 1. Map of the proposed Northern Mounted Maneuver Training Area (NMMTA). NMMTA includes some 4,724 acres and would provide about 6.5 kilometers between platoon-assembly areas. This distance would ensure that a platoon cannot target the full HOMMTA from its assembly area, as is currently the case in the GHMTA. (Source: engineers' final environmental-impact study)

User Testing July 2022 at Fort Hood, TX.

MCoE collectively works to improve installation resources and large-caliber ranges. The Armor School will continue to deliver Soldiers and leaders who are proficient in gunnery fundamentals. Simultaneously, we will plan to meet the demands of Abrams V3, V4, Abrams Next, Optionally Manned Fighting Vehicle and robots.

In addition to our modernization efforts, we will exploit the training opportunities created through co-location of both the Infantry and Armor Schools.

Opportunities

As Wadsworth highlighted, “The single biggest example of created opportunity was the creation of the Maneuver Captain’s Career Course (MCCC), followed closely by the availability to attend functional training.”

MCCC continues to produce the best and brightest officers, capable of assuming command of infantry, armor and cavalry companies and troops upon graduation. Just as the school improved its position, the career course continues to improve, with the greatest example of meeting the

challenges of large-scale combat operations by collaborating and setting the conditions to execute a command-post collaborative exercise – an exercise that virtually brings together multiple career courses to share planning experience and branch expertise across the enterprise.

The school continues to maximize the opportunities gained from co-mingling by incorporating Ranger, Airborne and Air-Assault Schools into the Armor commandant’s leader-training strategy. As the school enters its 10th anniversary, we see this only expanding as we look to realign MCoE units to bring greater efficiencies to leader education and training.

Armor traditions

One of the greatest concerns of early planning and execution was losing our branch identity and traditions. As we moved from Fort Knox, a large concern revolved around preserving the museum artifacts from the Patton Museum and integrating them into the National Infantry Museum – while also adapting to the Center for Military History’s new policies and procedures. Although we dispersed the storage and repair of large artifacts early, we now have the ability to co-locate all

macro- and micro-artifacts. With the October 2020 completion of the larger Training Support Facility (TSF), we can now store all of our larger artifacts. We will build on this success by completing the renovation of its sister building that will house micro-artifacts, as well as the vehicle restoration shop.

In addition to housing our armor collection and providing a one-stop educational opportunity for both leaders and Soldiers, we continue to realize the opportunities and need to execute our Best Tank Competition (Sullivan Cup) and Best Scout Competition (Gainey Cup). Although the coronavirus disease pandemic prevented the execution of 2021’s Best Scout Competition, the school continues to build on LTG Ted Martin’s (the 45th and first MCoE Armor commandant) vision of hosting Armor Branch competitions that highlighted not only the best tank and scout crews but provided azimuth checks on trends impacting the lethality and training of all armor and cavalry formations. LTG Martin’s vision lives on and we look forward to hosting a resource-informed 2022 Best Tank Competition at Fort Benning.

Conclusion

The Armor School is better off now



Figure 2. The TSF stores the Armor Branch’s larger artifacts, such as these tanks.

ACRONYM QUICK-SCAN

GHMTA – Good Hope Maneuver Training Area
HOMMTA – Heavy Off-Road Mounted Maneuver Training Area
MCCC – Maneuver Captain's Career Course
MCoE – Maneuver Center of Excellence
NCO – noncommissioned officer
NMMA – Northern Mounted Maneuver Training Area
TSF – Training Support Facility
USAARMS – U.S. Army Armor School

because of the co-location and the ability to maximize opportunities offered by both schools. As Wadsworth aptly noted, the Army is better off with the two schools joining to form the MCoE. The Armor School has, and will continue to, expand and improve on the training opportunities provided by consolidated resources without fear of losing our identity. We will remain resolved to train and educate competent and confident combined-arms officers, NCOs and Soldiers.

The collaboration between the Armor and Infantry Branches has made the Army a more lethal combat force, a clear result of the synergies achieved



Figure 3. Members of a tank crew with the Tennessee Army National Guard's H Troop, 2nd Squadron, 278th Armored-Cavalry Regiment, race against the clock to their next land-navigation point on an M1A1 Abrams tank while competing in the GEN Gordon Sullivan Cup best-tank-crew competition at Fort Benning, GA, May 3, 2016. The Sullivan Cup tests tank crews from throughout the Army on everything from gunnery to mounted land navigation, maintenance and combat-casualty care in a variety of physically and mentally challenges setting to determine the Army's best tank crew. (U.S. Army photo by SFC Jon Soucy, National Guard Bureau)

in combat, doctrine and leader development under MCoE.

COL Sean Barnes is USAARMS' deputy

commandant. He commanded 2nd Battalion, 16th Cavalry, while it was based at Fort Knox, then at Fort Benning.

Armored Fighting Vehicles of the World

Merkava Mk IVM







The Mk IVM version of the Merkava main battle tank has been in production since 2009. It has a four-man crew and can carry six passengers. Weight is 65 tons. Primary armament: 120mm smoothbore main gun with 46 rounds on board. Secondary weapons: 12.7mm MG, three 7.62mm MGs, Mk 19 grenade launcher and 60mm internal mortar. It is equipped with the Trophy Active Protection System. Removeable/replaceable modular armor, a centralized integrated battle management system and advanced fire-control system with laser warning receiver. In service with Israeli Defense Forces.

Growth of the Armor School: Fort Benning Graduates First Women Armor Officers

by Keith R. Boydston, Fort Benning Public Affairs; posted Dec. 2, 2016

Capping off 19 weeks of intense training on tank-platoon weapon systems, combined-arms maneuver and security tactics, 65 officers, including the first 13 women, graduated yesterday from the Armor Basic Officer Leader Course.

"Today's gender-integrated graduation represents an important personal and organizational milestone," said BG John Kolasheski, Chief of Armor and Armor School commandant. "[But] it also demonstrates our unwavering commitment to train and educate the right Soldiers for the right job so they and their organization can fight and win anytime, anywhere and under any conditions of battle."

The 95-day course prepared young

Armor officers to lead a mounted platoon by ensuring they are physically fit, mentally agile, technically and tactically proficient, and capable of directing the decisive operations of a combined-arms team.

"I am proud to be an Armor officer and I am grateful to have had the opportunity to earn my place in an Armor community that values equality and fairness," said one of the first woman graduates of the course.

"This experience has made it plain to me that a more integrated Army is a more talented Army, and a more talented Army is a more ready Army," said a graduate and future scout.

During the training, the students received the foundation needed to plan offense, defense and

reconnaissance-and-security operations. The first phase of the course ended with a week of marksmanship focused on the M4 rifle and M9 pistol.

"We are professional, competent Armor officers who are prepared to lead platoons in a talented, integrated Army," said one male graduate and future tanker.

The officers conducted training on the Abrams M1A2 Tank and the Bradley Fighting Vehicle, learning the technical aspects and the weapon systems. Students also demonstrated their skills through a gunnery-skills test and through other simulations.

The Soldiers then conducted an Abrams and Bradley live-fire exercise and ended the training phase in the Close-Combat Tactical Trainer, where they ran simulated tank-platoon missions in preparation for mounted-maneuver training.

"I am an Armor officer who recognizes that equality makes us stronger, diversity makes us better and talent knows no gender," said another graduate and future scout.

After completing a competitive-maneuver exercise, the course closed with a four-day combined competitive-maneuver exercise that tested the officers on all aspects of leading a mounted platoon.

"Now more than ever you'll find an Army that values small-unit leaders like the ones you're about to become," said retired LTG Guy C. Swan III, former commanding general, Army North/Fifth Army, and keynote speaker for the graduation. "You're well trained, well prepared and ready to do it."



Figure 1. One of 13 women Armor officers graduates Dec. 1, 2016, from the Armor Basic Officer Leader Course at Fort Benning, GA. (U.S. Army photograph by Patrick A. Albright)



Growth of the Armor Branch: Armor Soldier 2020 (Combat-Arms Integration)

by SFC Sara Frederichs

I joined the Army in June 2003 upon completion of high school in Chatfield, MN. I attended basic training and advanced individual training at Fort Jackson, SC, where I obtained the military-occupation specialty (MOS) of 36B financial-management technician.

My first duty assignment was with 2nd Brigade, 1st Armored Division, in Baumholder, Germany, where I was stationed from 2003-2008.

In 2008, I decided to reclassify to 31B military police (MP). My first duty assignment as an MP was with 93rd MP Battalion at Fort Bliss, TX, where I was stationed from 2008-2012, serving as a team leader and squad leader.

In 2012, the Department of the Army selected me for drill-sergeant duties. Upon graduation from the U.S. Army Drill Sergeant Academy, I was assigned to Company A, 795th Military Police Battalion, Fort Leonard Wood, MO, as a drill sergeant in MP one-station unit training (OSUT).

In 2014, I volunteered to be a drill-sergeant leader at the U.S. Army Drill

Sergeant Academy at Fort Jackson. Upon completion of my drill-sergeant tour, I was assigned as the operations sergeant of the Fort Jackson Provost Marshall Office.

In 2015, as combat arms opened up to women, female noncommissioned officers (NCOs) who had previously served as drill sergeants were requested to return to the trail to support the increased numbers of female drill sergeants required. I accepted the request and began my second drill-sergeant tour at Fort Benning, GA, in 2016.

While I was on the trail at Fort Benning, as a drill sergeant in 19K OSUT with Company B, 1st Battalion, 81st Armored Regiment, I was approached by my company commander and first sergeant in the winter of 2017, asking me if I would be interested in reclassifying to 19K armor crewman. I decided to accept the challenge, and in March 2017, I reclassified into a new profession as a staff sergeant at the time. By the end of the year, I would attend the Tank Commander Certification Course, Maneuver Leader's Maintenance Course, Armor Advanced Leader's Course and

Maneuver Senior Leader's Course. I completed my two years on the trail with Company B, 1st Battalion, 81st Armored Regiment, in July 2018 before moving to Fort Bliss, TX.

I am currently assigned to Company A, 1st Battalion, 37th Armor Regiment, where I serve as a platoon sergeant for a tank platoon and lead 14 19K tankers in ensuring we are the best trained and

ready for any mission. I have also had the pleasure of playing the dual role as a platoon sergeant and company first sergeant, when I coordinated the return of the company's Soldiers and equipment from an overseas rotation; established a Soldier-quarantine program for my unit; and, during Strike Focus, managed the brigade's field-training exercise.

Naturally, reclassifying into a new MOS can be challenging, especially as a NCO. However, I felt that I possessed the intellect and competency as a leader to be able to answer the call to assist women's integration into combat arms. I now have 12 years' experience as a NCO. The transfer of tactical knowledge and experience as a MP translated relatively easy to tanker and has made the transition smooth. I am aware that I have had an unusual Army career, but as I see it, the Army is full of opportunities that should be taken.

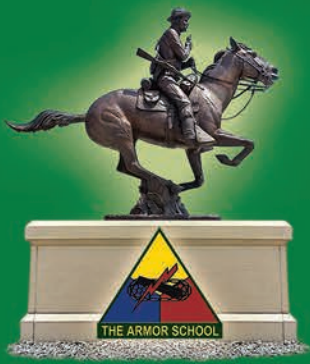
SFC Sara Frederichs is a 19K armor crewman assigned to Axemen Company, 1-37 Armor Battalion, Fort Bliss, TX. Her previous assignments include 19K OSUT drill sergeant, 1st Battalion, 81st Armor Regiment, Fort Benning, GA; MP squad leader, 93rd MP Battalion, Fort Bliss, TX; and finance clerk, 2nd Brigade, 1st Armored Division, Baumholder, Germany. Her military schooling includes the M1A2 Tank Commander's Certification Course, Senior Leader's Course, Advanced Leader's Course, Maneuver Leader's Maintenance Course, Master Fitness Trainer Course, Basic Instructor Course, Sexual Harassment/Assault Response and Prevention Course, and Drill Sergeant Course.



Figure 1. SFC Sara Frederichs.

ACRONYM QUICK-SCAN

MOS – military-occupation specialty
MP – military police
NCO – noncommissioned officer
OSUT – one-station unit training



Armored Brigade Combat Team Modernization

by Marco J. Barrera, SFC John A. Roberson and SGM (Retired) Carl Johnson

The Army's armored brigade combat team (ABCT) modernization efforts take a holistic approach that address and integrate all domains of doctrine, organization, training, materiel, leader development, personnel, facilities and policies (DOTMLPF-P). The Army Capability Manager-Armored Brigade Combat Team and Reconnaissance (ACM-ABCT & Recon) is the Army's lead to represent the user and conduct DOTMLPF-P integration of the formation.

We will discuss in this article the significant formation modernization efforts during the past year that include conducting ABCT unit visits, publishing operational and organizational (O&O) concepts, developing force-design updates (FDU) and designing and fielding materiel equipment, especially for the ABCT's fleet of vehicle platforms.

ABCT unit visits and organizational modernization

Formation modernization efforts begin with feedback from Soldiers and commanders in the field. ACM-ABCT & Recon routinely conducts unit visits with ABCTs and reconnaissance and security (R&S) organizations returning from deployments and major exercises to collect this user feedback. The ACM processes and organizes this feedback by DOTMLPF-P to identify trends and issues that can inform formation-modernization efforts.

This level of user feedback can influence Army-leadership-level resourcing decisions and shape O&O concepts for future formation designs.

Unit visits during the last year included 1st, 2nd and 3rd BCTs, 1st Cavalry Division; 1st and 2nd BCTs, 1st Infantry Division; 2nd BCT, 3rd Infantry Division; 3rd BCT, 4th Infantry Division; and 30th ABCT, North Carolina Army National Guard.

ACM-ABCT & Recon published O&O concepts last year for the ABCT and division R&S brigade. These O&Os describe how it is envisioned that these formations

will fight in a multi-domain environment in 2028-2040 and how these formations are designed to do so.

ACM-ABCT is currently developing the ABCT operational-mode-summary mission profile to define the next levels of detail for the ABCT O&O in terms of missions, conditions and a structured, quantitative picture of equipment usage for typical missions.

ACM-ABCT & Recon also continues formation-modernization efforts by developing FDUs to support Total Army Analysis (TAA) 25-29.

Proposed FDU changes within the ABCT redesign will apply to ABCTs impacted by the TAA 24-28 division-Cavalry pilot FDU as well as the preponderance of other ABCTs. The TAA 25-29 ABCT FDU's objective is to improve all ABCTs' ability to find, fix, close with and destroy peer and near-peer threats through the combination of mobility, precise lethal and overwhelming firepower, and devastating shock effect.

The ABCT redesign enables the division as the tactical unit of action, improves lethality in the BCT by building formations that incorporate new technology, and optimizes the formation for large-scale combat operations.

The current proposed ABCT redesign organizational structure includes the following:

- **ABCT organization.** In all cases, the ABCT will consist of three combined-arms battalions (CAB), an engineer battalion and a support battalion. ABCTs associated with the division-Cavalry pilot will have an organic, separate armored-Cavalry troop (ACT). All other ABCTs will retain their Cavalry squadron.
- **R&S.** The ABCTs operating in a division implementing the pilot armored-division Cavalry squadron will employ a robust ACT. ABCTs operating in a division without organic Cavalry maintain their ability to operate semi-independently in part by retaining their organic Cavalry squadron.
- **Robotic Combat Vehicles (RCVs).** The ABCT adds a RCV-Medium (RCV-M)

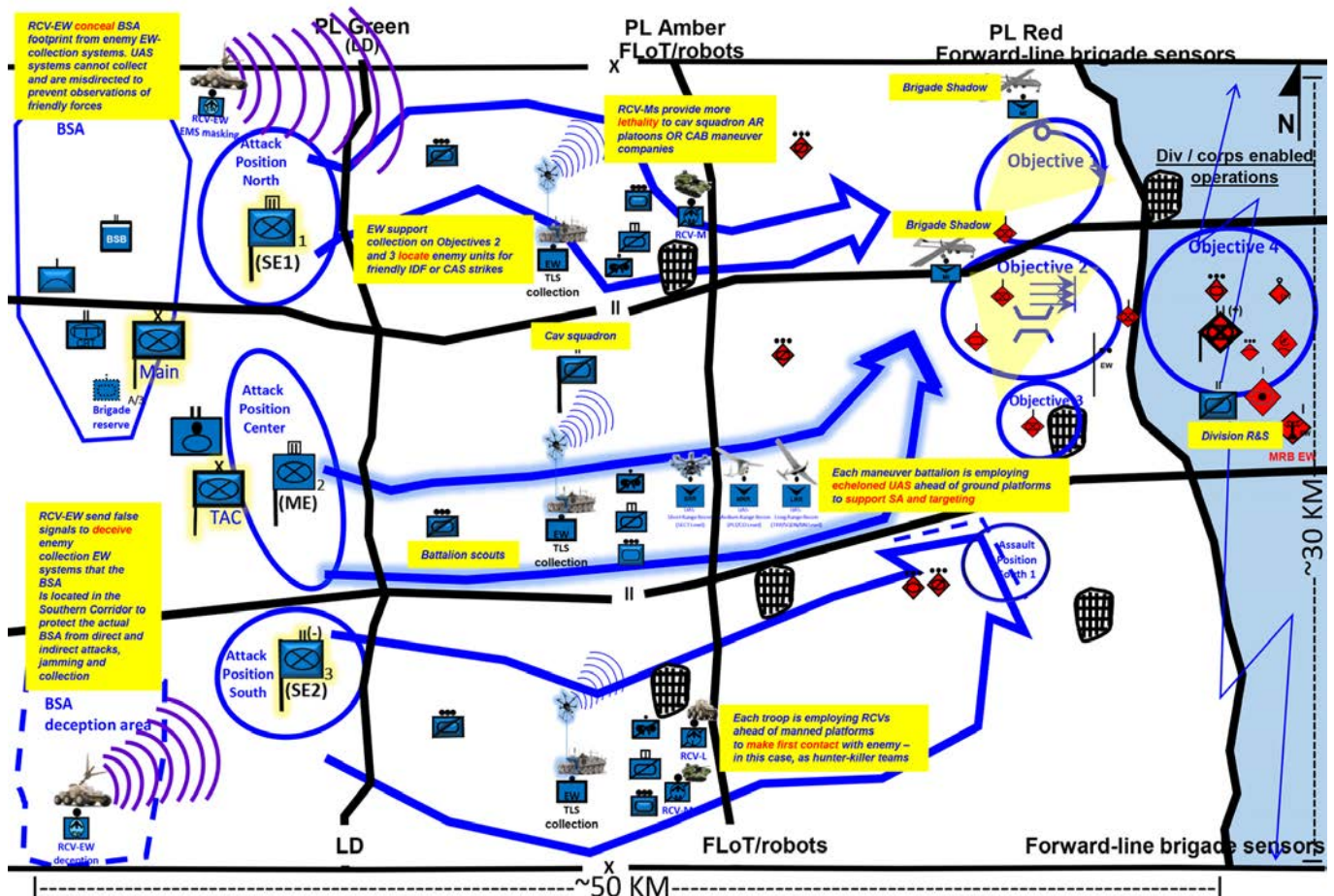


Figure 1. ABCT operational overview.

company in one of the Armor CABs. The RCV company is a brigade asset that provides the commander with additional lethality, mobility, reconnaissance and electronic-warfare (EW) capabilities. Separate ACTs will also include an organic RCV platoon.

- **Brigade engineer battalion (BEB).** The BEB changes to two identical engineer companies (route-clearance platoons transition to the division) to increase the ABCT's mobility. The Army's approved FDU to establish an EW platoon in the military-intelligence company remains in the redesigned ABCT. The signal company remains unchanged.
- **Brigade-support battalion (BSB).** The BSB will adjust to support the redesigned ABCT, including adjusting mechanics for the new vehicle density and new requirements generated from the RCV-M company.

Division dependencies. Redesigned ABCTs will depend on the division to shape the deep fight with fires and by

employing tables of organization and equipment or task-organized R&S security units. In the close fight, the ABCT will depend on the division to provide fires and a reconnaissance handover from the division's organic or task-organized unit to the ABCT's armored-Cavalry squadron or separate troop.

The ABCT will also require sustainment and protection support in the support area. Redesigned ABCTs will continue to depend on a division to provide capabilities to operate in the electromagnetic spectrum and information environment; with mobility and countermobility; in air defense and with aerial-maneuver capabilities.

Abrams modernization

Our current armored fleet, consisting mostly of M1A2 System Enhanced Package (SEP) v2 tanks, is starting to show its age. The remedy, fielding the brand-new SEPv3s, delivers a light technology refresh with huge focus on survivability and maintainability. Many of the SEPv3's improvements will be

invisible to the Soldier, enabling a smooth transition that requires very little training from the SEPv2. The survivability upgrades to the armor, and repositioning of equipment within the turret and hull, are nearly unidentifiable – unless one is paying close attention to details such as crew seats suspended rather than mounted to the turret floor.

One of the biggest downfalls of the SEPv2 was fuel usage. A platoon of tanks sitting in observation or defensive positions can easily consume hundreds of gallons of fuel in a short amount of time. The SEPv3 alleviates this issue by way of the auxiliary power unit (APU). Running the APU enables the crew to shut down the engine and sit in a silent-watch mode, using power created by the APU and only consuming about one gallon of fuel per hour. This improvement allows the tanks to remain on screening lines and in observation mode much longer than the SEPv2 could have ever hoped for, all without consistently draining battery power.

Along the lines of power generation, the SEpv3 also has a higher-amperage generator and improved slip ring. These components will create and pass considerably more amperage to the turret to power all current and future electronic upgrades.

The new SEpv3 vastly improves maintenance. The SEpv2 uses line-replaceable units (LRU), but the issue is that LRU failure means complete component failure. Entire failed units need to be removed, replaced or repaired at considerable cost and time. The SEpv3 replaces LRUs with line-replaceable modules. This improvement means that inside each main computer exists replaceable cards that drastically reduce complete component replacement time.

The improved vehicle diagnostics allow crews and maintainers the ability to identify which card inside the unit is causing the issue and simply swap out that card. No more removing the entire fire-control electronic unit, sending it off to be repaired and waiting for it to return. This has vastly improved mean-time-to-repair with lower operational costs.

A new loader's display unit improves ease of use by allowing crew access to interactive electronic technical manuals (IETMs). These IETMs ensure each crew never has to compete for limited numbers of paper technical manuals

or look for missing pages that have fallen out of a binder. The IETMs will give crewmembers a digital interactive copy that can be used at any time without fear of losing critical pages of information.

Platform modernization

Combat platform modernization in ABCTs gained momentum last summer with attention-grabbing headlines from Fort Hood, TX, as the centerpiece of the formation. The M1A2 Abrams SEpv3 was fielded to the 2nd (Blackjack) and 3rd (Greywolf) Brigades of 1st Cavalry Division. ABCTs will continue this modernization progress in Fiscal Year (FY) 2022; first-units-equipped will get M2A4 Bradley Fighting Vehicles (BFVs) and Armored Multipurpose Vehicles (AMPVs).

The AMPV is designed to replace the legacy M113 family of vehicles and is the first new combat-tracked vehicle produced since the 1980s.

Behind the scenes, a number of other critical enabling systems continue their integration into the formation to increase situational awareness, fires lethality and freedom of maneuver, and to provide streamlined processes in sustainment and logistics. These systems are described, following.

M109A7 Self-Propelled Howitzer Paladin Integrated Management (PIM).

The PIM modernization program is a

significant improvement over the M109A6. First-unit-equipped occurred in 2017, and to date six ABCTs have taken delivery. While the 155mm cannon remains the same, this howitzer has a new chassis, engine, transmission, suspension and steering system. A 600-volt on-board power system accommodates emerging technologies and future requirements, as well as current requirements, including the network.

PIM is also engineered to increase crew force protection, improve readiness and vehicle survivability, and avoid repair-parts obsolescence. Maintenance and lifecycle costs are more affordable because PIM shares power train, suspension components and other systems with BFVs and the soon-to-be-fielded AMPV. Establishing component commonality among vehicles means increased availability and lower costs over time.

AN/TPQ-53 Counterfire Target Acquisition Radar.

PIM's response times and effectiveness are assisted and enabled by the AN/TPQ-53 counter-fire radar system (also known as the Q-53), which can detect, classify, track and determine the location of enemy indirect fire in 360- or 90-degree modes. Q-53 replaces legacy Firefinder AN/TPQ-36 and AN/TPQ-37 medium-range radars in the service inventory. When compared against the Q-36/37, the Q-53 demonstrates increased capabilities, including better mobility, increased reliability and supportability, lower lifecycle cost and reduced crew size.

The Q-53 can also perform multi-mission capabilities, having demonstrated the ability to identify and track unmanned aerial systems (UAS), while showing the capacity to conduct air surveillance simultaneously with counter-target acquisition, all in a single sensor.

Fielding to ABCTs has been ongoing since 2018 and should be complete in 2023.

M1074 Joint Assault Bridge (JAB) system.

JAB provides ABCT engineer battalions with a survivable, deployable and sustainable heavy-assault-bridging asset capable of wet- or dry-gap crossing to enable better freedom of



Figure 2. An Abrams SEpv3 is tested on the rugged road courses at Yuma Proving Ground, AZ, in 2018. (U.S. Army photo)



Figure 3. PIM on a test track. (U.S. Army photo)

maneuver. First-unit-equipped is scheduled for 3rd Quarter FY21 at Fort Riley, KS.

JAB is a legacy (M1A1) Abrams tank chassis with a heavy (M1A2) suspension paired with a new hydraulic bridge-launcher system to deploy the existing Armored Vehicle Launched Bridge. It has improved launch and retrieval times (spans an 11-meter gap in about three minutes), which minimizes the crew's exposure to hostile fire and improves the maneuver

element's ability to rapidly overcome mobility obstacles.

The JAB is projected to reduce maintenance costs and increase availability due to the commonality of parts with the Abrams chassis.

Next-Generation Automatic Test System (NGATS). NGATS is a reconfigurable, general-purpose, automatic test system designed to provide sustainment support to Army weapon systems. Increment 1 replaces the Direct

Support Electrical System Test Set and supports weapons systems in the ABCT.

Test program sets (TPS) for Abrams, Bradley and other systems will be re-hosted to NGATS with significant improvements. This testing platform will standardize and reduce the number of the Army's automatic test equipment (ATE) systems to a single modern tester and will improve weapon-system availability. NGATS enables a decrease in logistical support requirements for



Figure 4. The AN/TPQ-53 is a C-130-transportable, truck-mounted counter-target-acquisition radar system configured to provide 360-degree threat-detection capability. It is able to locate the firing positions of both rocket and mortar launchers. the Q-53 requires a four- or five-man crew and includes a 60-kilowatt transportable generator and one support-shelter vehicle. Q-53 uses an encrypted wireless network able to reach up to 1,000 meters away. (U.S. Army photo by Kristen Kushiyama)



Figure 5. U.S. Soldiers assigned to 1st Battalion, 63rd Armored Regiment, 2nd Brigade Combat Team, 1st Infantry Division, move to assault an objective with a JAB during Decisive Action Rotation 17-06 at the National Training Center, Fort Irwin, CA, May 7, 2017. (U.S. Army photo by SPC Dana Clarke, Operations Group, National Training Center)

ATE systems and supported weapons systems, and increases affordability and supportability of ATE.

Army ATE cost savings with NGATS:

- Replaces older, obsolete field- and depot-level ATE;
- Uses common Defense Department architecture;
- Employs modern TPS development tools and reuses existing TPS; and
- Reduces test times.

Weapon-systems-platform cost savings:

- Transitions from original equipment manufacturer to organic maintenance; and
- Reduces Soldier training.

Soldier-Borne Sensor (SBS). SBS is a compact situational-awareness tool that can provide real-time visual-sector scanning for infantry and scout squads. The sensor provides the squad with an organic, “quick look” capability for near-real-time video feeds of larger, complex and restrictive environments during day, night and reduced-visibility conditions.

SBS is pocket-sized and extremely lightweight, nearly silent, has a flight time up to 25 minutes and a range of ~1.5 kilometers. It transmits live-video

and high-definition still images back to the operator. Its information feed provides Soldiers with immediate situational awareness to help them perform missions safely and more effectively.

SBS is designed to be operated by Soldiers of any military-occupation specialty and requires no formal training in clearing airspace and airspace management. There are no special storage requirements for SBS or its repair parts, but units will need to adhere to



Figure 6. NGATS is a standalone test system contained and stored on two international standard 20-foot containers along with a 60-kilowatt generator. NGATS is a diagnostic test set used to troubleshoot LRUs in the field and is a mounted system that allows Army maintainers to fix-forward on the battlefield. (U.S. Army Acquisition Support Center photo)

battery storage and hazardous-material marking for containers where batteries are stored.

Marco Barrera is the deputy director of Army Capability Manager-Security Forces Assistance Brigade at the U.S. Army Armor School (USAARMS), Fort Benning, GA. Previous positions include deputy director, ACM-ABCT & Recon, USAARMS, Fort Benning; deputy director, U.S. Army Training and Doctrine Command Capability Manager-Brigade Combat Team Mission Command, Maneuver Capabilities Development and Integration Directorate (MC-DID), Fort Benning; division chief, TCM-Infantry Brigade Combat Team, MCDID, Fort Benning; and deputy director, Technical Management Division, Project Manager-Command Posts, Program Executive Officer Command, Control, Communications-Tactical, Fort Monmouth, NJ. His military schooling includes Command and General Staff College. Mr. Barrera holds a bachelor's of science degree in engineering management from the U.S. Military Academy and a master's of science degree in management information systems from Auburn University.

SFC John Roberson is an Abrams master gunner assigned to ACM-ABCT & Recon, Fort Benning. Previous assignments include Abrams Master Gunner Course maintenance-team chief, Fort Benning; platoon sergeant, Company C, 1st Battalion, 8th Infantry Regiment,



















Fiscal years								
	1Q21	2Q21	3Q21	4Q21	1Q22	2Q22	3Q22	4Q22
NGATS	3/1 CD 	2/1 CD 	1/34 ABCT 	3/4 ID 	30 ABCT 		2/1 ID 	
	155 ABCT 	3/1 AD 		2/3 ID 	1/3 ID 			
	116 ABCT 	278 ABCT 		2/1 AD 	1/1 CD 			
	1/1 AD 	1/1 ID 		APS-2.1 	APS-2.2 			
				APS-4 				

Table 1. NGATS completed and remaining fielding schedule.



Figure 7. Soldiers train and certify on an SBS at Schofield Barracks, HI, Sept. 3, 2020. The sensor enables Soldiers to deploy a microdrone to gain situational awareness and observe where a Soldier cannot physically reconnoiter. (U.S. Army photo by SGT Thomas Calvert)

3rd ABCT, 4th Infantry Division, Fort Carson, CO; battalion master gunner, 1st Battalion, 8th Infantry Regiment, 3rd ABCT, Fort Carson; and drill sergeant, Company D, 1st Battalion, 81st Infantry Regiment, Fort Knox, KY. His military schooling includes the Abrams Master Gunner Course and the U.S. Army Drill Sergeant School. His awards and honors include the Meritorious Service Medal, one oak-leaf cluster.

SGM (Retired) Carl Johnson is the deputy director of ACM-ABCT & Recon, Fort Benning. He previously was a technical adviser in ACM-ABCT, Fort Benning. His military career spanned 25 years in Armor and Cavalry assignments, with his last assignment as a brigade operations sergeant major in 2nd Brigade, 3rd Infantry Division, Fort Stewart, GA. His military schooling includes the U.S. Army Sergeants Major Academy. SGM Johnson holds a bachelor's of science degree in liberal arts from Excelsior College. His awards and honors include the Legion of Merit, Bronze Star Medal, Meritorious Service Medal (two oak-leaf clusters), Superior Civilian Service Award and the Order of Saint George Gold Medallion.

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ACRONYM QUICK-SCAN

ABCT – armored brigade combat team	KM – kilometer
ACM-ABCT & Recon – Army Capability Manager-Armored Brigade Combat Team and Reconnaissance	LD – line of departure
ACT – armored cavalry troop	LRU – line-replaceable unit
AMPV – Armored Multipurpose Vehicle	MCDID – Maneuver Capabilities Development and Integration Directorate
APU – auxiliary power unit	NGATS – Next-Generation Automatic Test System
ATE – automatic test equipment	O&O – operational and organizational
BCT – brigade combat team	PIM – Paladin Integrated Management
BEB – brigade engineer battalion	PL – phase line
BFV – Bradley Fighting Vehicle	R&S – reconnaissance and security
BSA – brigade-support area	RCV – Robotic Combat Vehicle
BSB – brigade-support battalion	RCV-L – Robotic Combat Vehicle-Light
CAB – combined-arms battalion	RCV-M – Robotic Combat Vehicle-Medium
CAS – close air support	SA – situational awareness
DOTMLPF-P – doctrine, organization, training, materiel, leader development, personnel, facilities and policies	SBS – Soldier-Borne Sensor
EW – electronic warfare	SEP – System Enhanced Package
FDU – force-design update	TAA – Total Army Analysis
FLOT – forward-line-of-own-troops	TAC – tactical command post
FY – fiscal year	TCM – (U.S. Army) Training and Doctrine Command capability manager
IDF – indirect fire	TPS – test program set
IETM – interactive electronic technical manual	UAS – unmanned aerial system
JAB – Joint Assault Bridge	USAARMS – U.S. Army Armor School

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Back-issue archiving shared with eARMOR (1983 through current edition), <http://www.benning.army.mil/armor/earmor/>

Soldier-Centric Design and Combat Vehicle Modernization

by COL Warren Sponsler

The Army's modernization effort for ground combat vehicles is moving forward, providing opportunity unparalleled since the development of the "Big 5" nearly a half century ago.

Due to the Army's continued commitment to modernization through Army Futures Command (AFC) and the dedicated focus on the "31+4" signature modernization efforts, the next 10 years and beyond will undoubtedly bring many new tactical capabilities not only to maneuver formations but for our Army as a whole. Survivability, lethality, speed, range – all will be increased in the near-term, enabling a transformation in how our units and Soldiers fight and win decisively on the future battlefield.

These efforts are made possible only by bringing together Soldiers, leaders, engineers, scientists, specialists and technicians from key partner organizations from both within the Army – such as the Maneuver Center of Excellence and Program Executive Office Ground Combat Systems – as well as those from industry, academia and across the Department of Defense. The Next-Generation Combat Vehicles Cross-Functional Team (NGCV-CFT) provides unity of effort to the professionals from across the Army's modernization enterprise.

The NGCV-CFT introduced the Army's priority armored-vehicle development efforts in the Spring 2020 edition of **ARMOR**. In just the year since, the Army has made major steps forward in

bringing these much-needed capabilities to our Soldiers.

Following is brief overview.

Optionally Manned Fighting Vehicle

In mid-Summer 2021, the Army will select five industry partners to create a detailed digital design for the Optimally Manned Fighting Vehicle (OMFV), which will not only replace the Bradley Fighting Vehicle in our formations but also has the potential to transform how our mechanized-infantry fight, capitalizing on advanced, mature technologies and innovation. OMFV is being designed using a new approach to enable the mounted force to maneuver Soldiers on the battlefield to retain and maintain decisive



Figure 1. Soldiers participate in a virtual experiment to help determine the way forward for the next generation of combat vehicles. (U.S. Army photo)

overmatch long into the future.

Rather than providing our industry partners with top-driven, rigid requirements early in the process, the Army provided industry partners with a description of how the OMFV will fight and nine broad “characteristics of need” to be included in initial OMFV concept designs, leaving the door open for innovation. The characteristics are, in order: survivability, mobility, growth, lethality, weight, logistics, transportability, manning and training.

The Army will then analyze each design using modeling and simulation tools to refine future system requirements and capabilities as the Army moves to the next phase of the program.

Robotic Combat Vehicle

Robotic Combat Vehicles (RCVs) have been getting a tremendous amount of attention as the Army continues the campaign of learning for integrating unmanned combat systems into maneuver formations. RCVs may increase

commanders’ ability to develop actions before and on contact, improve situational awareness, reduce risk to manned platforms and enable faster decision-making on the future hyper-lethal battlefield.

Last year’s Soldier Operational Experiment (SOE) with Soldiers from 3rd Brigade, 4th Infantry Division, at Fort Carson, CO, clearly demonstrated the practical utility of robots in a combat role. As the program transitions to the next phase, over the past few months the Army took delivery of purpose-built prototypes of the light (under seven tons) and medium (under 12 tons) RCV variants in preparation for the Army’s second SOE with Soldiers from 1st Cavalry Division, Fort Hood, TX, in Summer 2022.

The team is also examining opportunities to integrate RCV prototypes and surrogate platforms with Soldiers in other operating force units and at the combat-training centers. These live experiments, coupled with multiple virtual experiments over the past year,

continue to develop new understanding of how best to employ robots in our combat formations, what the necessary capabilities of each platform are, how to train at the unit level and what the organizational structures are to support them.

Mobile protected firepower

Following prototype development and build over the past year, mobile protected firepower (MPF) prototypes are in the midst of a Soldier Vehicle Assessment (SVA) with Soldiers from 82nd Airborne Division and at the Army Test and Evaluation Command. The two unique MPF designs are being put through their paces in crew and collective training at the brigade-combat-team (BCT) level and below.

MPF provides infantry BCTs’ (IBCT) dismounted infantry with an organic lethal, deployable and survivable platform to fight through the enemy’s security zone, defeat strongpoints and light armored vehicles, and eliminate heavily defended positions.

Following the SVA, the Army is poised to conduct a limited user test (LUT), again with 82nd Airborne, to make a critical decision in Summer 2022 on which of the designs the Army takes to production. The current MPF rapid prototyping phase provides the Army with an opportunity for Soldier-centric design, leading to a much-needed capability for supporting the maneuver of the Army’s IBCTs on the future battlefield.

Armored Multi-Purpose Vehicle

Production of the Armored Multi-Purpose Vehicle (AMPV) is in full swing following the earlier LUT with 1st Cavalry Division at Fort Hood and after subsequent pre-production refinements based on Soldier feedback. Nothing fancy here – just one tough vehicle to provide the survivability, mobility and growth potential for the future battlefield.

AMPVs replace all five variants of M113-based vehicles currently in the Army’s armored BCTs with capabilities to ensure they will remain relevant long into the future.



Figure 2. A Soldier is trained to operate an RCV in a simulator during the RCV Phase I SOE at Fort Carson, CO, in August 2020. (U.S. Army photo)

The Soldiers of 3rd Infantry Division, Fort Stewart, GA, are scheduled to receive the first operational brigade set of AMPVs within the next year.

Next-generation main battle tank

While not currently one of the Army's priority "31+4" modernization efforts due to the exceptional capability of the M1A2 System Enhancement Package (SEP) v3 and M1A2SEPV4, NGCV-CFT is collaborating with partners on what comes next. Today the Army has the opportunity to capitalize on advanced and rapidly maturing technologies that enhance the lethality, survivability and mobility – as well as overall effectiveness – of the main battle tank beyond the current Abrams form. To this end, the team is continuing a series of Soldier innovation workshops, virtual experiments and Soldier touchpoints to inform future Army decisions.

Project Convergence

Many of the new and developing technologies that help enable these vehicles are being demonstrated through Project Convergence (PC), the Army's premier technology experimentation and demonstration venue. This event, which includes our partners from across AFC and the Joint force – and will integrate operating-force units this year – is at the center of a campaign of learning focusing on linking sensors across the battlefield to geolocate and classify threats and determine which weapon system(s) to employ against the right target at the right time.

From NGCV-CFT's perspective, PC is all about supporting the ground maneuver commander in the effective application of combat power to take advantage of windows of opportunity as they arise. Instrumental to this end is the use of artificial-intelligence-enabled decision-support tools, backed by robust data, which aid the commander to make better and faster decisions, leading to tactical-decision dominance. PC also provides a fantastic opportunity to continue to push the envelope on developing technologies supporting a rapid transition to acquisition and fielding to operating-force units.



Figure 3. RCV (Light) was delivered to the Army in late 2020. (U.S. Army photo)



Figure 4. The RCV (Medium) prototype was delivered to the Army in early 2021. (U.S. Army photo)

As noted in the preceding program descriptions, Soldier feedback is central to the Army's modernization efforts.

NGCV-CFT and AFC are constantly looking for opportunities to get Soldiers and leaders from the field

involved in modernization. Whether live exercises in the field, formal test events, virtual experimentation and simulations, or technology evaluations, trained, focused and well-led Soldiers provide unique perspectives through their experience that directly influence the trajectory of the Army's modernization programs.

If approached correctly, these touchpoints also provide units the opportunity to build readiness through reinforcement of basic tactical concepts and leader development in unique situations. Soldiers from the field are instrumental to the modernization process, and their input directly impacts how future generations of Soldiers will fight.

Similar to the developmental relationship between the "Big 5" and AirLand Battle doctrine, today's materiel and concept-modernization efforts present an opportunity to address the challenges of the future operating environment. Progress forward and innovative approaches on the OMFV, RCV, AMPV and MPF priority programs, as well as the Army's other "31+4" modernization signature efforts – taken in conjunction with the development of the multi-domain operations and cross-domain maneuver concepts – provide the Army with the conditions to determine how maneuver formations will fight and win decisively against tomorrow's adversaries.

The solutions to the future tactical, operational and strategic problems do not reside solely in the development of technology and materiel. Leaders who have the vision to see how to think through the hard problems, leverage developing capabilities and apply them to the doctrine, tactics and operating concepts will shape the future of our Army. Professional forums and publications such as **ARMOR**

provide venues to socialize ideas and continue the dialogue that will shape how our Army and maneuver forces will fight and win in the future.

NGCV-CFT continues to drive the Army's ground-combat-vehicle modernization priorities, providing unity of effort to the wider modernization enterprise. Innovative approaches to the development of combat system capabilities and requirements, Soldier-centric design and steadfast commitment to priority modernization objectives all are necessary to success. The Army's focus on modernization is unwavering – each of us has the opportunity to be a part of these solutions and impact the Army of tomorrow.

COL Warren Sponsler is a U.S. Army Armor officer serving as chief of staff of NGCV-CFT, Detroit Arsenal, MI, part of Army Futures Command. Previous assignments include tank-platoon leader, scout-platoon leader, support-platoon leader and company executive officer, 2nd Battalion, 12th Cavalry Regiment, 2nd Brigade, 1st Cavalry Division, Fort Hood, TX; tank-company commander, headquarters and headquarters company commander and battalion S-4, 1st Battalion, 64th Armor Regiment, 2nd Brigade, 3rd Infantry Division, Fort Stewart, GA; battalion operations officer (S-3) and battalion executive officer, 1st Battalion, 8th Cavalry Regiment, 2nd Armored Brigade Combat Team (ABCT), 1st Cavalry Division, Fort Hood; brigade operations officer (S-3), 2/1 Cav (ABCT), Fort Hood; commander, 1st Battalion, 66th Armor Regiment, 4th Infantry Division, Fort Carson, CO, and in the Middle East supporting Operation Spartan Shield; senior BCT observer/controller/trainer at the National Training Center, Fort Irwin, CA; Armor Branch assignment manager, U.S. Army Human Resources Command, Alexandria, VA; and operations

officer, U.S. Air Force Intelligence (A-2) Field Support Office, Kirtland Air Force Base, NM. During his time with 1st Cavalry Division, COL Sponsler deployed to Kuwait in support of Operation Intrinsic Action and to Bosnia in support of Operation Joint Forge. While in company command in 3rd Infantry Division, he deployed to Kuwait in support of Operations Desert Spring and Iraqi Freedom. Later with 1st Cavalry Division, he deployed to Kirkuk Province, Iraq, and again to northern Iraq in support of Operation New Dawn. COL Sponsler's military schooling includes the Armor Officer Basic Course, Armor Officer Advanced Course and U.S. Marine Corps' Command and General Staff College. COL Sponsler completed a U.S. Army War College Fellowship with the Massachusetts Institute of Technology Security Studies Program. His education includes a master's degree in military science from Marine Corps University, Marine Command and General Staff College.

ACRONYM QUICK-SCAN

ABCT – armored brigade combat team
AFC – Army Futures Command
AMPV – Armored Multi-Purpose Vehicle
BCT – brigade combat team
IBCT – infantry brigade combat team
LUT – limited user test
MPF – mobile protected firepower
NGCV-CFT – Next-Generation Combat Vehicles Cross-Functional Team
OMFV – Optionally Manned Fighting Vehicle
PC – Project Convergence
RCV – Robotic Combat Vehicle
SEP – System Enhancement Package
SVA – Soldier Vehicle Assessment

Infantry, Armor Work Together on Mobile Protected Firepower

by COL (Retired) Christopher Stone

The Army's decision to move the Armor School back to Fort Benning, GA, in 2011, while accompanied by mixed emotions, proved to be a watershed year for the Army and Columbus, GA. As residents of Columbus, Phenix City and the Chattahoochee Valley enjoyed the prosperity that came with the return of the Armor School, the greatest and most endearing impact can be seen in the collaborative efforts between the infantry and armor commandants and their staffs.

The seamless transition of the Armor and Infantry Schools into one consolidated effort was vital to the success of Fort Benning, according to the commanding general at the time, MG H.R. McMaster. Under his leadership, MG McMaster set the conditions that allowed the Armor and Infantry Schools to thrive and grow into what is now two branches unified as one.

Today, one such effort is the addition and integration of mobile protective firepower (MPF) into the infantry formation. A critical shortfall that had been identified in the infantry

formation for several years was finally addressed in a collaborative effort between the armor and infantry community. Fort Benning and the Maneuver Center of Excellence suddenly became the lead for the Army's doctrine, organization, training, materiel, leadership development, personnel, facilities and policies (DOTMLPF-P) assessment and materiel oversight of the MPF platform.

The first challenge was ensuring that a comprehensive capabilities-requirements document was written and endorsed by both the Armor and Infantry Schools. This required daily input from both staffs during every phase of the DOTMLPF-P assessment. It had been decided very early in the requirements process that MPF would be manned by armor Soldiers, working in close support of infantry Soldiers. It was therefore imperative that the armor community remain actively engaged throughout this process.

This cradle-to-grave approach has been the foundation from which we continue to build the MPF program. As this program is now progressing, we

have 19K armored crewmen working at Fort Bragg, NC, as part of 82nd Airborne Division, testing two vendor prototypes. The MPF program success requires the continued input and emphasis by both the armor and infantry communities.

Another example highlighting the collaborative efforts generated by the Armor and Infantry Schools are in the area of reconnaissance and security. The Army capability managers for both the Armor and Infantry Schools have been diligently working on what capabilities the reconnaissance and security formations must possess in the future to achieve success in a peer-contested environment. This endeavor has been challenging because recommendations to change or alter the current force structure has a rippling effect that applies to everyone.

Also, infantry reconnaissance formations do not look the same as the armor formations, which precludes a cookie-cutter approach to formation design. However, working closely with the Armor and Infantry Schools has proven to be effective because of the ability to bring everybody together to focus on a specific problem set without distraction.

In conclusion, the fortuitous decision to merge the two most lethal and dynamic formations in the Army almost a decade ago has proven to be very effective in materiel and force design. Collaboration that at one time pitted branches against one another in competition of program dollars has become less challenging because collectively the Armor and Infantry Schools are involved in the overall prioritization of maneuver. In short, the decision to move the Armor School to Fort Benning wasn't that difficult. The Army just told the Armor School to go home.

Retired COL Christopher Stone is the deputy director, Army Capabilities Manager-Infantry Brigade Combat Team (IBCT), Maneuver Center of Excellence, Fort Benning, GA. Previous



Figure 1. 82nd Airborne paratroopers, Fort Bragg, NC, integrate Armor vehicles to support combined-arms training. Infantry brigade combat teams are gaining organic light-armor MPF companies to provide them with more firepower to counter near-peer threats. (Photo by SSG Jason Hull)

assignments include director, U.S. Army Training and Doctrine Command-IBCT, Fort Benning; deputy commander, 173rd Airborne Brigade, Vicenza, Italy; commander, 5th Ranger Training Battalion, Fort Benning; and executive officer, 75th Ranger Regiment, Fort Benning. COL Stone's military schools include Command and General Staff College, U.S. Army Inspector

General's Course, Defense Department Inspector General's Course, Infantry Officer basic and advanced courses, and Ranger, Airborne, Jumpmaster and Air-Assault Courses. He holds a bachelor's of arts degree in international relations from the University of Delaware.

ACRONYM QUICK-SCAN

DOTMLPF-P – doctrine, organization, training, materiel, leadership development, personnel, facilities and policies

IBCT – infantry brigade combat team

MPF – mobile protected firepower

Army Announces Divestiture of Stryker Mobile Gun System

by U.S. Army Public Affairs

The U.S. Army will divest all Stryker Mobile Gun Systems by the end of Fiscal Year 2022, the Army announced May 12. This decision comes after a comprehensive analysis highlighted obsolescence and systemic issues with the system's cannon and automatic loader.

While updating and providing new capabilities is most commonly associated with modernization, the divestiture of obsolete systems is also an essential component because it frees up resources and manpower that can be applied to other critical capability needs.

"Decisions on when it is best to divest a system currently in the force are not taken lightly," said LTG James F. Pasquarrette, Army Deputy Chief of Staff, G-8 (Programs). "The

Army has done due diligence to ensure lethality upgrades will remain intact to provide our Stryker formations the capabilities they need in the future."

In the early 2000s when it was developed, the Stryker MGS was state-of-the-art technology and provided needed capabilities to our Soldiers. For more than 15 years, the Stryker MGS has enabled Stryker brigade combat teams to provide direct supporting fires to assault infantry by destroying or suppressing hardened enemy bunkers, machineguns and sniper positions in urban, restricted and open-rolling terrain.

It was the first Army system fielded with an autoloader, but over time it became costly to maintain. In addition, lethality capabilities the Stryker MGS provided were based on the flat-bottom chassis, and the system was never upgraded against more modern

threats such as improvised explosive devices or anti-tank mines.

After reviewing concerns and vulnerabilities of the Stryker MGS, Army officials decided to invest in other substantial modernization efforts to improve the lethality, survivability, maneuverability and maintainability of the Stryker fleet.

New and upgraded lethality efforts such as the Medium Caliber Weapons System, the Common Remotely Operated Weapons Station-Javelin, anti-tank guided missile updates and the 30mm cannon provide a better distributed capability than the limited number of Stryker MGSs. All these enhancements have been developed and funded, and are ready to be fielded.

The divestiture of the Stryker MGS poses no impact to the industrial base, as the system has been out of production for some time. Most of the sustainment supply chain for the MGS is included in other variants of the current Stryker fleet.

During the divestiture, the Army will continue to invest in more cost-effective solutions to meet the limited capability gaps that have not yet been met by other lethality improvements.

The Army will continue to support and field different variants of the Stryker platform, including the double V-hull and lethality vehicles, until the MGS is fully divested.



Figure 1. Armor Soldiers assigned to 3rd Stryker Brigade Combat Team, 2nd Infantry Division, fire their Stryker Mobile Gun Systems' 105mm main gun during a live-fire range March 28, 2011, at Yakima Training Center, WA. (U.S. Army photo)

316th Cavalry Brigade Perspective:

Toward Greater Lethality Through the Training Base

ARMOR magazine: What do you see as the most important part of your mission?

COL Peter C. Glass, 316th Cavalry Brigade's commander: The 316th Cavalry Brigade's mission is to generate leaders and lethality for the Army so we can fight as part of a combined-arms team that delivers precise direct fires to decisively win the first and last battle of the next war. To that end, the most important part of 316th Cavalry Brigade's mission is its people. From our dedicated and professional non-commissioned officers (NCOs) and officers who serve as our course instructors, to our cadre and direct-support personnel who make the schools, squadrons and brigade run, to the students themselves who come here from across our Army and the Marine Corps eager to learn and return to the force as well-rounded leaders and more lethal Soldiers, it is our people who make this unit successful.

We are creating a positive culture here at 316th Cavalry Brigade for future leaders to emulate, one which the Army demands and Soldiers deserve.



Figure 1. COL Peter Glass speaks at his change of command ceremony June 24, 2020. (Photo by Markeith Horace, Maneuver Center of Excellence Public Affairs photographer)

We are creating stronger and smarter leaders in 16 programs of instruction (Pol) that generate lethality across our formations. Those Pols include:

- Courses like our master-gunner programs produce not only subject-matter experts but training experts who can assist their squadron/battalion and troop/company commanders to design training plans and gunnery ranges for Bradley, tank, Stryker and light formations.
- The Armor Basic Officer Leader's Course (ABOLC) produces well-rounded Armor second lieutenants who are ready to lead platoons in combined-arms formations.
- The Scout Leader's Course further prepares them and junior NCOs to lead reconnaissance formations.
- Cavalry Leader's Course prepares staff officers from all branches to execute the military decision-making process in an advanced, rapid and high-intensity environment, and prepares cavalry and infantry senior company- and field-grade officers for large-scale reconnaissance and security operations.

• A myriad of other courses – from Bradley Commander's Course to Maneuver Leader's Maintenance Course to Combat Adviser's Training Course to six others – hones our leaders' craft and better prepares them to lead in or command in every brigade combat team in our Army. The 316th Cav Brigade strives to connect, protect and support our service members as they grow

within our brigade. We encourage our permanent-party members to attend as many courses as possible, as they serve as instructors and support staff within our brigade. The 316th Cav Brigade's engaged leaders are involved in many touch points between permanent party and students to ensure our Pols focus on training to standard.

The 316th Cavalry Brigade has an environment of discipline, accountability and trust up and down the chain of command. This discipline and accountability let our senior leaders give our instructors the flexibility needed to address students who learn by different methods while simultaneously providing clear tasks, conditions and standards to our instructors so they know the hard lines of Pols, from which we cannot deviate.

ARMOR: What initiatives are you implementing in 2021 or 2022? The near future beyond this?

COL Glass: The modernization of our force and programs of instruction at 316th Cavalry Brigade is one of the brigade's top priorities. Our brigade is constantly updating our instructional techniques according to the adult learning model, and we integrate technology to improve student retention and understanding.

The brigade is using a new system called the Augmented Reality Sandtable System (ARES). This table projects a satellite image of an operational area onto a sandtable, allowing students and instructors to rapidly create to-scale, realistic topography and then simulate real-time graphic symbols and animations. Instructors use ARES during their tactical-discussion exams to allow students to execute their operations orders in a changing environment, and then they quickly rest to work a different plan or course of action. The system allows the student to execute a plan while friendly and enemy see line-of-sight, effect of terrain and the environmental factors that affect their mission. ARES helps new

leaders understand intervisibility lines, contour lines and other symbology when using a map to plan missions.

The focus of our training operations and tactics is another modernization. The 316th Cav Brigade has been moving away from a counterinsurgency model to possible large-scale operations – specifically east of the Vistula River and north of the Han River – focusing our students on near-peer threats and high-intensity hybrid conflict. We want our students to be able to go back to their units and spread the knowledge gained at 316th Cavalry Brigade to help improve the lethality of our force.

ARMOR: Where do you see the unit in the next five years?

COL Glass: 316th Cav Brigade is realigning itself according to the commanding general's vision to become Maneuver Center of Excellence (MCoE) Leader Brigade. The 2-16 Cavalry Squadron, which teaches ABOLC, will become a part of 199th Infantry Brigade, who will also retain 2-11 Infantry (Infantry Officer Basic Course) and 3-11 Infantry (Officer Candidate School), thereby putting all officer initial-entry training into one brigade: the Leader Brigade. At the same time, our brigade will assume operational control of 1-29 Infantry and all associated Pols, so that nearly all the functional-training courses on Fort Benning will be in one brigade, 316th Cavalry Brigade ("lethality brigade").

We will focus on honing the skillsets of armor, cavalry and infantry leaders for our entire force. We will retain the bulk of the amazing courses we already have while adding courses such as the U.S. Army Sniper Course, Army Combatives Master Trainer Course, Small Unmanned Aerial System Master Trainer Course, Stryker Leader's Course and several others. This realignment serves to not only better hone skillsets by allowing each brigade to further specialize its output, but it also enables better cross-training of skillsets and ideas among the Army's

ground maneuver formations – armor, cavalry and infantry. This is integral to fully meeting the MCoE mission of producing Soldiers and leaders ready for a combined-arms fight and living out its motto of "one force, one fight!"

ARMOR: Besides COVID-19, what are the unit's greatest challenges? Can you solve them in the next five years?

COL Glass: The challenges are great. Between stamping out all sources of the corrosives in our Army of sexual harassment/sexual assault and extremism ... along with contributing factors of Soldier suicide ... to ensuring we train leaders ready to win the first battle of the next war in a rapidly evolving and increasingly lethal world environment, we have a lot in front of us. However, we defeat all these problem sets by taking care of our people and adhering to standards and focusing on the task at hand of preparing leaders for combat.

When we take care of our people, our people take care of us. When we focus on Soldier care and the care of their families, we end up with more productive Soldiers. Combine that with an environment in which we demonstrate the value of teamwork and the contributions to our great Army from all different cultures, while making it unequivocally clear that sexual harassment/assault and extremism will not be tolerated, and you begin to defeat the corrosives.

If we ensure our instructors have access to the most up-to-date technology and teaching methods, along with a full appreciation of our nation's military threats, while granting them the ability to self-develop and attend developmental courses, we will remain on the cutting edge of what and how to instruct our students. The challenges will always be there, but of course we can solve them because we have the greatest instructors, cadre, Department of the Army civilians and students in the world, comprised of and focused on our nation's greatest military strength and asset, the U.S.

ACRONYM QUICK-SCAN

ABOLC – Armor Basic Officer Leader's Course

ARES – Augmented Reality Sandtable System

COVID-19 – shorthand for "coronavirus disease 2019"; the abbreviation was created by the World Health Organization

MCoE – Maneuver Center of Excellence

NCO – noncommissioned officer

Pol – program of instruction

Soldier!

COL Peter Glass commands 316th Cavalry Brigade, part of the U.S. Army Armor School at Fort Benning, GA. Previous assignments include deputy division chief for China, Taiwan and Mongolia/Joint Staff, J-5 Strategy, Plans and Policy, the Pentagon, Washington, DC; commander, 2-7th Infantry Battalion, 1st Armored Brigade Combat Team, 3rd Infantry Division, Fort Stewart, GA; instructor and assistant professor, Command and General Staff College, Fort Leavenworth, KS; and operations officer and executive officer, 3rd Brigade Combat Team, 4th Infantry Division, Fort Carson, CO. COL Glass's military schooling includes The Citadel, Naval War College and senior service college. He holds a bachelor's of science degree in business administration from The Citadel; a master's of arts degree in management and leadership from Webster University; a master's of arts degree in national security and strategic studies from the Naval War College and a master's of science degree in national security and strategy from the National War College. He earned distinction in the cyber-security leadership concentration from the College of Information and Cyberspace (National War College). His awards and honors include the Bronze Star Medal (two V devices, three oak-leaf clusters), Purple Heart, Joint Meritorious Service Achievement Medal (one oak-leaf cluster) and Meritorious Service Medal (four oak-leaf clusters).

194th Armored Brigade Perspective: Year in Review

ARMOR magazine: What do you see as the most important part of your mission?

COL Dawson A. Plummer, 194th Armored Brigade's commander: The 194th Armored Brigade transitions civilians into Soldiers starting at reception, one-station unit training (OSUT) and advanced individual training (AIT) while maintaining a state of readiness and quality of life for our officers, non-commissioned officers (NCOs), Soldiers, civilians, families and the surrounding community. The most important part of our mission is training and preparing volunteers to become scouts, armored crewmembers and Abrams or Bradley vehicle maintainers for the operational force.

The brigade works to achieve this mission by ensuring that we train to standard the critical tasks the operational Army expects its newest team members to possess. Referring to feedback from the combat-training centers,

brigade-combat-team leadership and guidance from the Office of the Chief of Armor, we have established a detailed training path for all our trainees. This path instills our Army Values, Warrior Ethos, military-occupation-specialty (MOS) competencies and a winning spirit into every Soldier we produce. We continually refine this training to account for emerging trends in the strategic environment and requirements from the operational force.

ARMOR: What initiatives are you implementing in 2021 or 2022? The near future beyond this?

COL Plummer: The brigade takes leader development very seriously. It is our position that every officer, NCO or Soldier assigned to our formation leaves here armed with the institutional knowledge necessary to effectively contribute to the operational force. We want units to be excited about receiving a Soldier from 194th because

they know that individual has a wealth of knowledge, is highly trained and is proficient in all facets of their job. We inspire, develop and train!

Using Department of the Army Pamphlet 600-25 and the Soldier's Professional-Development Model, and through performance counseling, the individual's leader helps identify windows of opportunity to attend functional courses. Typically, in the first year Soldiers will attend courses that

certify them to do their primary job such as the Common Faculty Development Instructor Course. In the second year, we look at getting the Soldier into a school the proponent encourages them to attend such as master gunner. In the third year, the Soldier has an opportunity to attend a school of his or her choosing. Many choose to attend Airborne, Ranger or other highly competitive schools. We have a great relationship with the other brigades on the installation, which helps to enable these opportunities for school attendance.

ARMOR: What initiatives are you implementing in 2021 or 2022? The near future beyond this?

COL Plummer: The next five years will not dictate how the brigade functions. At its core, the mission of training will remain the same; however, emerging trends in the strategic environment could shape the content of what we train. For example, the rising use of unmanned aerial systems (UAS) may facilitate the need to train how to employ our own drones while conducting counter-UAS. These systems are only a few examples of how technology could influence our training path.

The greatest challenge for the organization is attracting and retaining quality cadre to execute our program of instruction (PoI). We are working to counter negative perceptions of serving in a Training and Doctrine Command (TRADOC) organization by recruiting high-quality personnel with a passion for teaching, coaching and mentoring to effectively produce the highest quality Soldiers we can. We also conduct deliberate messaging about the opportunities that exist here on Fort Benning, GA, through our multiple social-media platforms that highlight cadre success.

ARMOR: Besides the coronavirus-disease pandemic (COVID-19), what are the unit's greatest challenges? Can you solve them in the next five years?

COL Plummer: One of the challenges,



Figure 1. COL Dawson Plummer speaks at his change of command ceremony June 24, 2020. (Photo by Markeith Horace, Maneuver Center of Excellence Public Affairs photographer)

other than COVID-19, we've faced this year is the elimination of the former reception and integration process known colloquially as "the shark attack!" The need to establish trust in leaders from Day 1 led to the elimination of this legacy process for receiving trainees into their training units. Instead of intimidation and degradation, the cadre use motivation, inspiration and teamwork to accomplish a collective task.

Our first initial-entry training event now known as "the Thunder Run" emphasizes team-building rather than bullying or hazing as the cornerstone of the soldierization process. This new method was unpopular with many veterans and active duty, including some of our own cadre. After months of conducting "the Thunder Run," cadre and drill sergeants now have a greater appreciation for the teamwork and cohesion this new event fosters within our trainee population.

Significant consideration and effort is placed on right-sizing the length of our Pol for the 19D and 19K training populations. Over the last year we transformed both the legacy 15-week Pol for 19Ks and the legacy 17-week Pol for 19Ds to 22-week Pols. This enabled more time to hone MOS-specific skills

in the AIT portion of OSUT. Going forward into Fiscal Year 2022, there is a tremendous amount of work for the brigade to find just the right fit that preserves the value of the MOS-specific training at a cost-effective benefit to the Army. MOS proficiency will not be sacrificed in these efforts.

Since the armored force's move from Fort Knox, KY, 194th Armored Brigade has remained stalwart in our Army's mission of training and preparing volunteers to become scouts, armored crewmembers and Abrams or Bradley vehicle maintainers for the operational force. The 194th Armored Brigade continues to stay steadfast in that mission to produce the finest-quality Soldiers for our nation. Battle hard!

COL Dawson Plummer commands 194th Armored Brigade, U.S. Army Armor School, Fort Benning, GA. Previous assignments include TRADOC capabilities manager-Armored Brigade Combat Team and Reconnaissance, Fort Benning, GA; chief, Technology Strategy Division, Joint Improvised-Threat Defeat Agency J-8, Pentagon, Washington, DC; branch chief, Capabilities and Design Directorate, Fort Benning; commander, 1-81 Armored Battalion, Fort Benning; and commander, Brigade Special Troops Battalion; 1st

ACRONYM QUICK-SCAN

AIT – advanced individual training
COVID-19 – an abbreviation of "coronavirus disease 2019"; the abbreviation was created by the World Health Organization
MOS – military-occupation specialty
NCO – noncommissioned officer
OSUT – one-station unit training
Pol – program of instruction
UAS – unmanned aerial system

Armored Division; Camp Taji, Iraq. COL Plummer's military schooling includes National Defense University's National War College (master's degree in strategic policy), School of Advanced Military Studies (master's degree in military arts and science, resident Command and General Staff College, Combined Arms Staff Services School, Armor Officer Advanced Course and Armor Officer Basic Course. He holds a bachelor's of science degree in mechanical engineering from Tuskegee University and a master's of science degree in mechanical engineering from Georgia Institute of Technology. His awards and honors include the Bronze Star Medal (two oak-leaf clusters), Meritorious Service Medal (three oak-leaf clusters) and Ranger Tab.

Honoring our Armor and Cavalry Medal of Honor Heroes

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

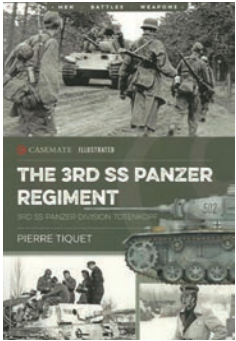
HARRIS, MOSES 1LT
 Unit: 1st U.S. Cavalry. Place and date of action: Smithfield, VA, Aug. 28, 1864. Entered service: New Hampshire. Born: Andover, NH. Date of issue: Jan. 23, 1896. Citation: In an attack upon a largely superior force, his personal gallantry was so conspicuous as to inspire the men to extraordinary efforts, resulting in complete rout of the enemy.

HART, WILLIAM E. PVT
 Unit: Company B, 8th New York Cavalry. Place and date of action: Shenandoah Valley, VA, 1864 and 1865. Entered service: Pittsford, NY. Born: Rushville, NY. Date of issue: July 3, 1872. Citation: Gallant conduct and services as scout in connection with capture of the guerrilla Harry Gilmore, and other daring acts.

HARVEY, HARRY CPL
 Unit: Company A, 22nd New York Cavalry. Place and date of action: Waynesboro, VA, March 2, 1865. Entered service: Rochester, NY. Born: England. Date of issue: March 26, 1865. Citation: Capture of flag and bearer, with two other prisoners.

HASTINGS, SMITH H. CPT
 Unit: Company M, 5th Michigan Cavalry. Place and date of action: Newbys Crossroads, VA, July 24, 1863. Born: Quincy, MI. Date of issue: Aug. 2, 1897. Citation: While in command of a squadron in rear guard of a cavalry division, then retiring before the advance of a corps of infantry, was attacked by the enemy and, orders having been given to abandon the guns of a section of field artillery with the rear guard that were in imminent danger of capture, he disregarded the orders received and aided in repelling the attack and saving the guns.

BOOK REVIEWS



The 3rd SS Panzer Regiment by Pierre Tiquet; Oxford, United Kingdom: Casemate Publishers; 2020; 128 pages; \$24.95 (soft cover).

The 3rd SS Panzer Division, better known as the Totenkopf or “Death’s Head,” was a Nazi armored formation that fought across Europe throughout World War II. Beginning with the invasion of France and the Low Countries in 1940 to the invasion of the Soviet Union in 1941, the division was in almost continual combat operations until the surrender of Nazi Germany. During its brief existence, the division earned a reputation for committing brutal war crimes against soldiers and civilians alike. **The 3rd SS Panzer Regiment** examines the role this subordinate unit played on the Eastern Front against the Soviet Union.

Regiment opens with a brief summary of 3rd SS Panzer Division’s formation and first combat in France before focusing upon 3rd SS Panzer Regiment’s initial formation and deployment to Russia. The book is not so much a coherent unit story as a series of individual accounts Tiquet recorded over a 30-year period of research, including attendance at multiple veteran reunions. Readers searching for a “big picture” understanding of the unit’s combat history would be better served elsewhere; the book works best at providing a soldier’s perspective or as a reference for World War II militaria.

Indeed, like most Casemate publications, **Regiment** is replete with period photographs of the men, equipment and awards useful to the researcher, reenactor or modeler.

For all the information contained within its pages, there is a dangerous omission inexplicably absent from this book. Apart from one brief mention in the front-cover overleaf, **Regiment**

fails to address 3rd SS Panzer Division’s documented history of wartime atrocities on both the Western and Eastern European fronts. This a glaring oversight given the growing threat posed by neo-Nazi organizations, paralleled by an equally disturbing rise in Holocaust denial. It is hardly surprising that veterans would be loath to discuss war crimes, but that does not alleviate the publishing team’s obligation to ensure this part of 3rd SS Panzer Regiment’s history is not forgotten by future generations.

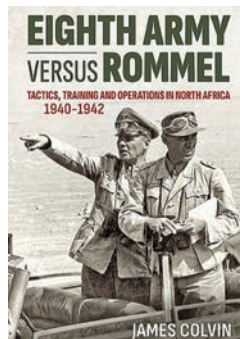
LTC CHRIS HEATHERLY

Eighth Army Versus Rommel: Tactics, Training and Operations in North Africa, 1940-1942 by James Colvin; Warwick, England: Helion & Company Limited; 2020;

262 pages including maps, photographs, appendix and bibliography; \$38.41.

Author James Colvin examines the British Army’s development of combined-arms doctrine during the early days of World War II as it searches for tactics and techniques to counter German and Italian forces in North Africa. Why did the British forces initially fare so poorly against their enemies? Colvin believes the answer lies in the “inherent deficiencies in organization, training and command derived less from individuals than from the army and the culture in which leaders worked.”

Before the start of World War II, the basic organization of the British army was based on a collection of regiments. Colvin notes that the British educational system influenced the formation of the officer corps in which family tradition reinforced the tendency to form regiments based on social standing and private means. Social



divisions permeated the regimental system, which allowed privileged individuals to be given influential assignments and positions. The regimental system perpetuated a club attitude based on traditions.

The battlefield development and employment of tanks during World War I created a threat to the cherished regimental tradition by taking on missions such as reconnaissance and flank protection that were habitually associated with cavalry forces. In the post-war era, the British army reverted to its traditional role of safeguarding the British Empire. Members of the British tank corps were thought to be social inferiors and viewed as nothing more than “garage mechanics.” Infantry, artillery and cavalry officers had no compelling reason to combine their efforts.

The German desire to regain their pre-World War I prominence caused them to study how best to combine their tactical resources. The result was to create a formula for the guidance of officers at every level of combat. It emphasized that the “correct place of commanders ... was to be sufficiently close to the front to enable them to assess the situation on the ground and make instant decisions.” Aided by the use of tactical radios, German commanders trained to make battlefield decisions more quickly than their enemies. The effects of their training were evident and led to successes in Poland and France. Colvin also points out that the German after-action processes provided a basis for restructuring and refining their tactics and techniques.

Returning to his theme on the ill effects of the regimental system, the author presents detailed reviews on the leadership and personalities of a host of British commanders. Their effect on battlefield tactics in the battles conducted in Egypt and Libya by the combatants is thoroughly explained and enhanced by a series of excellent maps. The author places particular emphasis on the location of the commanders during a given battle. The

German commanders, under the command of Field Marshall Erwin Rommel, were always forward, where they could see and adjust the employment of forces based on observations.

Seldom forward, the British commanders tended to rely on battlefield reports delivered to their headquarters as the basis for decision-making. The time lag between a given action and the commander's reaction often spelled doom for the British forces. Given the German radio-intercept methods, British plans were often available to Rommel before employment by the British. The search for a doctrine to employ the firepower of infantry, artillery, close-air-support and armor forces effectively initially escaped the grasp of the British.

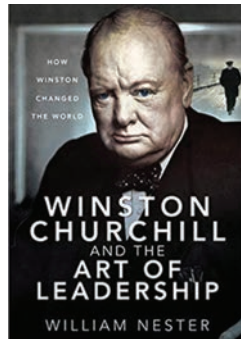
Political pressure mounted as the British public sought a victory over the Germans. Prime Minister Winston Churchill appointed GEN Bernard Montgomery to command 8th British Army in late 1942. Montgomery was a superb selection in the author's view. Soldiers "were gratified by the presence of a commander who took the trouble to meet them on, almost, a conversational level."

Montgomery imbued 8th Army with the will to win. He espoused a forward-leadership doctrine that embraced a presence available to assist a tactical commander without undue interference in battlefield management. He broke the hold that the previous regimental system held on tactical operations by emphasizing the importance of combining the strength of infantry, armor, artillery and close-air-support to achieve battlefield success. The author's descriptions of the Battles of Alam Halfa and El Alamein demonstrated Montgomery's flair for training, development and use of intelligence, control of forces and effective decision-making.

Colvin produced a well-researched, balanced account of the consequences of failing to adjust to battlefield conditions. His work contains detailed maps that enhance understanding. His explanations on the importance of doctrine to successfully train and employ forces are superb. The author's comments on maneuver, firepower

and massing of forces by both sides is worthy of review and study. As such, this is a book that will appeal to maneuver commanders.

COL (R) D.J. JUDGE



Winston Churchill and the Art of Leadership by William Nester; United Kingdom: Frontline Books; 2020; 258 pages; \$34.95 (hard cover).

The name Winston Churchill evokes as many images as it does viewpoints: Churchill the politician, Churchill the party leader, Churchill the adventurer, journalist, soldier, painter and even humorist. Today, Churchill remains both admired and controversial as evidenced by his sculpture regularly appearing and disappearing from the White House between successive U.S. presidential administrations. Dr. William Nester, a professor at St. John's University in New York and the author of nearly 40 books, examines the statesman in his latest book titled, *Winston Churchill and the Art of Leadership*. Although this biography covers Churchill's entire life, Dr. Nester focuses heavily on his tenure as prime minister during World War II.

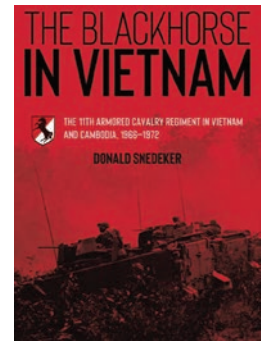
Despite the book's title, Nester does not conclude each chapter or lesson with an "now you know, G.I. Joe" leadership lesson, leaving readers to determine the impact of Churchill's actions for themselves. While the book portrays Churchill in a positive light, Nester does not shy away from a thorough review of his successes, failures and occasionally myopic approach to world events. Readers will find that Churchill was a brilliant politician but less gifted in understanding and devising viable military strategy to bring either World War I or World War II to an end, to say nothing of understanding Britain's attempts to retain its colonial empire as forlorn relics of the past. The author's views on many other historic figures – including Neville Chamberlain,

Clement Atlee, Field Marshall Bernard Montgomery and GENs Dwight Eisenhower and George S. Patton Jr. are made equally clear throughout the work.

Winston Churchill serves best as an introduction to readers less familiar with the subject matter and, perhaps, as a springboard to more detailed study of particular facets of Churchill's amazing life. While the book is an entertaining read, the story does not offer any significant insight into Churchill's views, leadership style or personal struggles. It also suffers from numerous spelling errors, leaving an overall impression of a rushed production.

LTC CHRIS HEATHERLEY

The Blackhorse in Vietnam: The 11th Armored Cavalry Regiment in Vietnam and Cambodia, 1966-1972 by Donald Snedeker; Haverstown, PA: Casemate Publishers; 2020; 336 pages, including glossary, appendices, footnotes and bibliography; \$34.95 (hardcover).



Donald Snedeker's *The Blackhorse in Vietnam* is an in-depth examination of 11th Armored Cavalry Regiment's 5½ years of combat in the Vietnam War. Throughout the book, Snedeker strives to demonstrate that 11th ACR's impressive combat record shows that Armor can play an essential role in counter-insurgency operations.

Over the course of the book, Snedeker chronicles the train-up, deployment, adaption and impact of 11th ACR in Vietnam. Snedeker opens the book by discussing the challenges of training a force without a clear mission or the doctrine to support unit training. As 11th ACR arrived in Vietnam, it was initially employed in a supporting role, mostly route and convoy-security operations, based on a limited understanding of its capabilities at senior levels.

According to the author, senior officers still saw Vietnam as an infantryman's war. However, over time, 11th ACR was able to play a greater role in the war, as the regiment demonstrated success through its mobility, firepower and combined-arms maneuver. The 11th ACR demonstrated that mechanized forces could fight and win in the severely restrictive terrain that dominated their operational environment.

A critical portion of the book is dedicated to detailing the pivotal role that 11th ACR played in stopping the North Vietnamese Army (NVA) during the Tet Offensive of 1968. Ultimately, this transition culminates with 11th ACR's rapid advance to the important crossroads town of Snoul during operations in Cambodia.

The Blackhorse in Vietnam is a well-researched work that draws on historical sources, unit after-action reports and first-person accounts. Snedeker conducted personal interviews with more than 500 veterans of the regiment. Throughout the book, he recounts 11th ACR's actions through the eyes of the lowest-level cavalryman, the regimental commander and multiple viewpoints in between.

Snedeker also includes reports from

the NVA perspective that demonstrates the impact that 11th ACR's operations had on the NVA at the tactical level. This technique provides the reader with a realism that is often missing from many other works of military history that struggle to capture the broader unit history without losing the on-the-ground point of view that is so critical for junior leaders who may read the book.

Snedeker serves as the historian for the 11th Armored Cavalry Veterans of Vietnam and Cambodia. Therefore, *The Blackhorse in Vietnam* reads more as a unit history that focuses on capturing the exploits of one unit's contributions to a much larger war. The drawback to this approach is that the book paints all the unit's actions in an overly positive light. The book lacks any real introspective criticism or reflection. Snedeker details the events of multiple engagements that surely resulted in critical growth for the 11th ACR's leaders, but he fails to really capture those hard lessons-learned. A greater emphasis on lessons-learned, and even perhaps critiques of actions or decisions made within the unit would have provided a much needed counterbalance to the exceedingly optimistic take on 11th ACR's actions in Vietnam.

Another consideration for potential readers is that since the book is written as a unit history, *The Blackhorse in Vietnam* is primarily focused on the tactical level. While undoubtedly 11th ACR had a significant impact on the NVA's ability to conduct operations within Vietnam, it is important for readers to keep in mind that tactical success of ground units does not necessarily correlate to progress in the operational or strategic outcomes of a conflict. Although Snedeker attempts to intertwine the strategic failures of the Vietnam War with 11th ACR's tactical success, the connections he makes are generally brief and provide little value to the book as a whole.

Overall, *The Blackhorse in Vietnam* is a worthwhile read for any Armor or Cavalry leader. It captures the essence of what it means to be in the Cavalry and the qualities expected of all Armor leaders. Snedeker demonstrates the need for adaptable leaders at all echelons to find creative ways to modify equipment to fit the mission at hand and train a force that doctrine does not necessarily address. Also, 11th ACR's operations show the effects that can be achieved when multiple combat platforms are under the operational control of a single commander.

CPT BRYCE W. EAST

Engagement Criteria: Thoughts on Armor, Cavalry in 2020s Interwar Period

by LTC Josh Suthoff

Large-scale combat operations (LSCO) are continuing to evolve at a rapid pace. To maintain relevance, Armor officers must continue to adapt. More important than the platforms from which we fight, Armor officers must be positioned and ready to lead in the future conflict. We cannot afford to train for past combat scenarios where air and logistical overmatch was guaranteed. The next conflict will not be an Operation Iraqi Freedom invasion or Operation Desert Storm repeat. It will be a conflict where winning in the opening engagement will be decisive.

Will Armor officers be positioned to lead in the next conflict? Recent promotion and command selection boards have all shown a downturn for the Armor Branch. We must reverse this trend as a branch and build the right leaders for the future.

Armor officers are the original masters of chaos. It is awe-inspiring when you consider the level of responsibility and firepower that Armor officers lead and synchronize. From a combined-arms battalion (CAB) unleashing its direct-fire power to a troop engaging with both organic and Joint fires, the available combat power and its synchronization is impressive. Starting with the Armor Basic Officer Leader Course and throughout follow-on courses, we teach Armor officers to synchronize all warfighting functions and anticipate transitions across huge swaths of battlespace.

Therefore Armor officers are in high demand at the Army-enterprise level and for nominative assignments because of our ability to frame the battlefield and build teams across warfighting functions. LSCO remains the primary mission for the U.S. Army, and Armor is purpose-built and trained for this task. With that said, Armor

officers must still fight to maintain their competitiveness and relevancy across the Army. We must maintain our edge with LSCO, but also increase our experience in ongoing lower-intensity conflicts and U.S. military organizations that lead U.S. efforts in these conflicts.

First, a few myths

Myth: Armor officers do not perform well outside of armored brigade combat teams (ABCT). *False.* The truth is that Armor officers, especially majors, perform well at the brigade level in Stryker brigade combat teams (SBCT) and infantry brigade combat teams (IBCTs). This selection speaks to the problem-solving and organizational leadership that Armor officers bring to the fight.

Only 25 percent of the Armor officers selected for tactical battalion command in fiscal year (FY) 2022 have served exclusively in ABCTs. The other selected officers served in SBCTs or IBCTs once or multiple times. The FY21 tactical centralized selection list (CSL) population with exclusive ABCT experience trended closer to 50 percent. In Stryker and light-infantry formations an Armor officer can stay above the competitive fray of multiple infantry officers and also provide the commander a different point of view and mental construct. Armor officers bring the positive attributes expected in these type of formations but must also be ready to physically perform in these BCT types.

The concern for officers is when they remain in those types of formations for multiple assignments. Would these same officers succeed if assigned to an ABCT? The friction for progression becomes more apparent for officers who serve in these formations for squadron command. For example, an officer who has served only in IBCT squadrons

would need a very strong file to compete against his infantry peers for command of an ABCT. Conversely, it is hard to justify slating a highly specialized officer into formations where they have limited skills and experience.

Myth: Armor officers must specialize in a BCT type to be successful. *Depends on the officer.* Specialization vs. generalization is something the Armor Branch has periodically changed its position on. The current position is that officers should serve in the BCT for which they have a passion. “Turret time” or forced slating of officers to an ABCT is not the right way to manage talent, and the Armor Branch halted the practice before the introduction of the Army Talent-Alignment Process (ATAP).

However, I would argue that broadening in other BCTs will ultimately develop a better officer for the BCT in which they have the passion to serve. Recent battalion CSL results appear to show that officers with at least some varied BCT experience will perform better than highly specialized peers.

Figure 1 conceptualizes how officers perform and what skills they develop in each BCT type. The traits, skills and experiences learned are not concrete or all-inclusive but provide a picture of key areas. For example, officers serving in IBCTs will likely plan more vertical operations (airborne, air movement) than officers serving in an ABCT. Officers in SBCTs will be exposed to a level of maintenance and sustainment that will provide them a better footing if their next assignment is an ABCT. Not all officers are created equal, and the generalization crosscut shows the risk when moving from different BCT types, especially opposite spectrums like A to I or vice versa.

The broadening curve is worth more

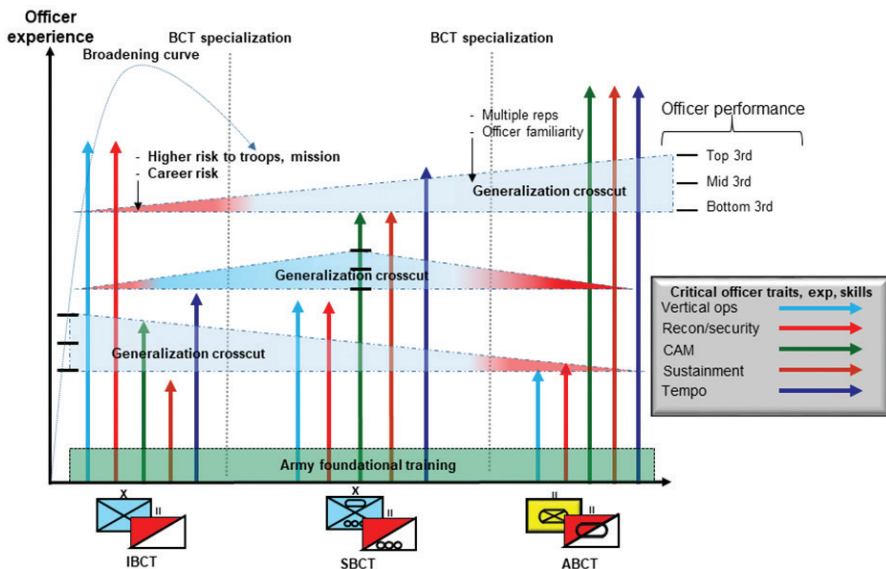


Figure 1. Specialization and generalization of Armor officers.

discussion. As the broadening curve depicts, multiple broadening assignments, especially enterprise or Joint, can create officers who are unfamiliar and out of touch with their base branch. BCT commanders need officers who are, first, tactically competent to lead in combat or plan realistic and efficient training; broadening remains secondary. Officers and their families need breaks from high-operational-tempo BCT assignments, but the type of broadening the Armor Branch and the Army supports need to be reassessed.

The broadening opportunities developed for Global War on Terrorism officers are not likely the best for developing LSCO proficient officers. Assignments to combat-training centers (CTCs) and centers of excellence (CTCs) and centers of excellence can provide both family time and broaden an officer's understanding of LSCO, expose them to different tactics, techniques and procedures (TTPs), teach them best practices and enable them to reflect on applying this knowledge to past experiences.

Myth: Officers must get to a Joint assignment. *Sometimes true.* Most majors and lieutenant colonels believe their next broadening assignment must be to a Joint staff. Joint is required for general officers (GOs), and brigade slating guidance stresses the importance of seating Joint-qualified officers. Although officers should never decline an opportunity, it can be a waste of time and energy for officers

who are not within the top 10 percent of their cohort to pursue a Joint assignment. First, the rating chain in a Joint staff can be unclear and potentially further weaken an officer's file. There is no guarantee that senior raters can or will provide the requisite "most qualified" reports to strengthen a file.

Armor majors and lieutenant colonels must do some internal reflection and truly see themselves before pursuing a Joint assignment. Officers should talk to Armor Branch, mentors and their rating chain to truly understand their file strength and determine the best course of action for their next assignment. The best advice to give an inbound officer headed to a key and developmental position (KD) is that "broadening will work itself out." While in KD, officers must focus on honing their organization leadership and maneuver competencies. Armor officers cannot lose track of the fact that broadening is doubled-edged. These assignments are designed for retention, but they also serve to develop future Army senior leaders.

As Figure 2 captures, post-major KD and battalion CSL assignments are likely the most critical moves a competitive officer will make. Decisions have to be made by an officer to increase or maintain competitiveness. If an officer wants to be competitive, he or she must consider other options besides the often-sought-after nominative and Joint positions.

Senior raters must also do their part. Officers who show senior-level potential must have the applicable reports to compete against other branches for promotion and command selection. Clearly articulated reports with exclusive enumeration remain the easiest way to keep an officer with high potential in the command and promotion conversation.

Positioning branch

Going into the next 10 years, it is likely that the Armor Branch and its formations will be forced to justify its relevance in the Army. So how do we best position the branch?

Reinvestment of senior leaders in the ATAP process.

If people are the Army's No. 1 asset, senior raters and leaders must be involved in the assignment process. The biggest fallacy with the ATAP process is that the messaging disenfranchises the population it was designed to retain. All officers must understand two things when operating in the ATAP market: preference does not equal assignment of choice and the Army's priority manning guidance has not changed. This means high-priority units (like those at the National Training Center, Fort Irwin, CA) will be manned first regardless of how unpopular the location or assignment is. The Army is not going to move a CTC to Eglin Air Force Base, FL, or Fort Carson, CO (two of the most-sought-after locations).

The ATAP algorithm output cannot be the mechanism that delivers an officer's assignment, and its result cannot be a surprise. Senior raters and raters need to steer officers to assignments that make sense through months of counseling and engagement. Officers coordinating with branch and their potential gaining/losing unit commands can help ensure a predictable market result and landing for an officer and his/her family. ATAP signals a culture shift from selfless service to a perceived transactional environment. We cannot lose officers to poor messaging, and we need to ensure the best officers fill priority assignments like instructor and observer/coach/trainer positions. Senior-leader involvement in assignment considerations is not wrong; it shows investment in the future.

Top performers: Officers in this category should focus on maintaining top file strength while operating at enterprise-level assignments. Officers with BCT and GO potential must consider Joint Duty Assignment List (JDAL) assignments. Their file strength allows potential senior-rater rating uncertainty on the Joint staff. Endstate: Officer postured for O-6/BCT command with experience to demonstrate multi-star potential.

For shaping: Officers must consider assignments that increase file strength into the top 10 percent. Consider units that have large senior-major profiles and require maneuver officers to drive operations. Joint experience is irrelevant unless they demonstrate O-6/tactical command potential. Endstate: Officer postured for Battalion Command Assessment Program (BCAP) and later O-6 promotion selection board.

Decision points: Officer performance/position at key decision points (DPs) will drive both officer and senior-rater actions.

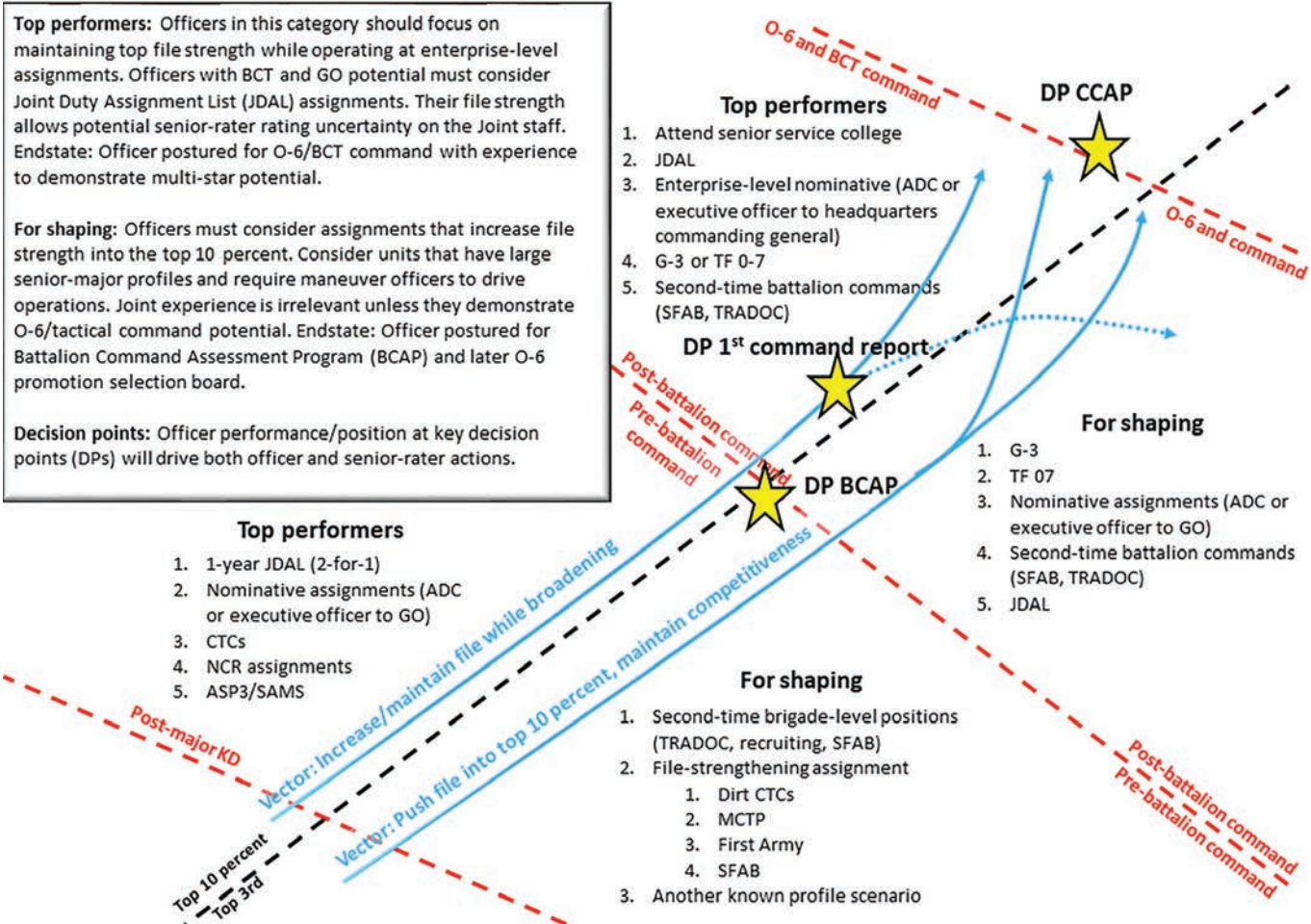


Figure 2. Assignment logic for majors and lieutenant colonels.

Hardcode all squadron command positions. All reconnaissance and security squadrons need to be hardcoded commands for military-occupation specialty (MOS) 19As. The FY22 battalion CSL list will be the first time since 2005 that Armor officers compete internally for hardcoded command positions in CAB – Armor and Cavalry units within armor, Stryker and infantry brigades/battalions.

The internal category was a step in the right direction, but we should take it a step further. In an argument for a relative equal number of tactical commands, infantry retained the airborne-cavalry squadrons. If infantry wants more battalion command positions, they should argue for more infantry battalions. Restricting airborne-squadron commands to only 11A officers is a disservice to their higher headquarters and the MOS 19D trooper and junior officers who serve in those formations. The Army would not entertain this type of hardcoding outside of a

branch if the formation was an artillery or sustainment battalion. If Armor is the subject-matter expert for reconnaissance and security (R&S) operations, our officers should command all battalions or squadrons with those assigned mission-essential tasks.

Armor Branch and senior leaders must continue to be involved in all developments to R&S and mounted warfare. As subject-matter experts for R&S and mounted formations, the Armor Branch needs to be the lead in developing the next generation of both vehicle and formations. The R&S squadrons will be the first in contact, and depending on the speed of war, potentially the only formation in contact. These formations need to be equipped accordingly for the future of warfare. The squadron must win or set the conditions for the supported division or corps to win the opening engagement of the next conflict.

The recent conflict between

Azerbaijan and Armenia is not a revolution in military affairs, but it should serve as a warning for Armor officers to walk away from the hubris and narrow focus of the ABCT. The ABCT will quickly become the battleship of early World War II if we don't change course. Heavy and mounted formations could likely be overwhelmed in the Total Army Analysis by cheap enemy sensor-to-shooter solutions. We must reconsider how the ABCT arrives, and fights against and employs unmanned aerial systems (UAS), long-range fires and robots.

The idea that our cumbersome vehicles and command-and-control infrastructure will survive contact or be rapidly replaced is flawed. The Iranian shoot-down (June 20, 2019) of a U.S. RQ-4A Global Hawk UAS is a perfect example of why the Army needs manned R&S formations and all-weather scouts. Overly complex vehicles, aerial platforms and communication systems will not fare well in the

arc of the enemy's anti-access, anti-denial systems. As the mobile protected firepower platform is tested and incorporated into IBCTs, Armor officers and noncommissioned officers must be in the lead to ensure it is done correctly. If we don't fight to show the relevancy of Armor and R&S in all BCTS, we will be quickly relegated to the niche-enabler corner.

Broaden Armor officers in Special-Operations Forces (SOF) and low-intensity conflict. To keep Armor officers relevant, we must look for broadening opportunities that expose them to the ongoing low-intensity conflicts by serving in SOF or involved commands. Synchronizing and planning operations in low-intensity conflict is not the same as LSCO, but it is a real-world scenario with real and deadly results, something that will never be replicated at a CTC.

In recent years, the Armor Branch has supported junior officers serving within 75th Ranger Regiment. Armor officers should not command these battalions, but broadening experiences learned there can bring valuable experience back to Armor formations and is in line with the Abrams Charter.¹ Supporting this type of broadening also shows a wider audience what an Armor officer can bring to a fight.

We should also consider allowing Special Forces officers who were once branched Armor back into the force after successful completion of detachment command. An officer with varied experience, including both heavy and SOF, could be a powerful asset.

Build a selective regiment. Another great way to retain talent and hone the mission-essential-task-list skills for Armor is to have a selective regiment. Like SOF or Ranger forces, it makes sense for the branch to have a regiment where it can train leaders and develop TTPs for the greater Armor force. The monumental task of providing an R&S formation to a corps commander in the event of LSCO cannot be left to whichever BCT is randomly assigned the mission at the Army Synchronization and Resourcing Conference.

During the 2017 R&S excursion, 1st SBCT/4th Infantry Division spent

months on educational and experiential before the culminating CTC event.² R&S operations are complex operations that require multiple iterations by professionals to ensure we get the operation right in the event of war. During the 2017 R&S excursion, a selective unit would build esprit de corps and naturally draw talented and motivated officers. Officers, who upon completing their tour, could return to share their knowledge with other Armor formations.

Armor and R&S warfare is a mentality based on training and experience and not defined by a specific platform. Armor Branch's strength must be rooted in the capability and competence of its officers, but it must be relevant and applicable. LSCO in the future will not look the same as it does today or in the past, and leaders of the branch must be aware and fight to implement changes to maintain relevancy.

LTC Josh Suthoff was the lieutenant-colonel career manager for Armor Branch, Human Resources Command, Fort Knox, KY, and is now the chief of operations for V Corps, also at Fort Knox. His previous assignments include brigade executive officer, 1st SBCT, 4th Infantry Division, Fort Carson, CO; brigade S-3, 1st SBCT, 4th Infantry Division, Fort Carson; battalion executive officer, 2nd Battalion, 23rd Infantry Regiment, 1st SBCT, 4th Infantry Division, Fort Carson; commander, Troop B, 1st Squadron, 38th Cavalry Regiment, 525th Battlefield Surveillance Brigade, Fort Bragg, NC; and platoon leader, Troop B, 1st Squadron, 33rd Cavalry Regiment, 3rd IBCT, 101st Airborne Division (Air Assault), Fort Campbell, KY. LTC Suthoff's military schools include Command and General Staff College, Armor Officer Basic Course, Engineer Officer's Career Course and Ranger, Airborne, Air-Assault, Pathfinder and Jumpmaster schools. LTC Suthoff has a master's of science degree in geological engineering from Missouri Science and Technology and a bachelor's of arts degree in psychology from the University of Missouri-Columbia. His awards include the Bronze Star Medal with three oak-leaf clusters and the Meritorious Service Medal with three oak-leaf clusters.

Notes

¹ LTC Kent T. Woods, "Leaders trained in the Ranger battalions should return to the conventional Army to pass on their experience and expertise," *Rangers Lead the Way: The Vision of General Creighton W. Abrams*, Carlisle Barracks, PA: U.S. Army War College, <https://apps.dtic.mil/dtic/tr/fulltext/u2/a415822.pdf>.

² COL Curt Taylor and MAJ Joe Byerly, "Fighting for Information in a Complex World – Lessons from the Army's First Reconnaissance and Security Brigade Combat Team," *Reconnaissance and Security Brigade Combat Team Excursion Newsletter*, Fort Leavenworth, KS: Center for Army Lessons Learned, May 2018, <https://call2.army.mil/docs/doc17682/18-19.pdf>.

ACRONYM QUICK-SCAN

ABCT – armored brigade combat team
ADC – aide-de-camp
ASP3 – Advanced Strategic Studies Program
ATAP – Army Talent-Alignment Process
BCAP – Battalion Command Assessment Program
BCT – brigade combat team
CAB – combined-arms battalion
CAM – combined-arms maneuver
CCAP – Colonel Command Assessment Program
CSL – centralized selection list
CTC – combat-training center
DP – decision point
FY – fiscal year
GO – general officer
IBCT – infantry brigade combat team
JDAL – Joint Duty Assignment List
KD – key and developmental position
LSCO – large-scale combat operations
MCTP – Mission Command Training Program
MOS – military-occupation specialty
NCR – National Capitol Region
R&S – reconnaissance and security
SAMS – School of Advanced Military Studies
SBCT – Stryker brigade combat team
SFAB – security-force assistance brigade
SOF – Special-Operations Forces
TF – task force
TRADOC – (U.S. Army) Training and Doctrine Command
TTP – tactics, techniques and procedures
UAS – unmanned aerial system

Solving the Identity Crisis: Modest Proposals for Redefining Roles in Cavalry Squadrons

by LTC Ben Ferguson and CPT Lennard Salcedo

The Army should take measures to increase and sustain the cavalry's ability to accomplish a full spectrum of mission sets and enable scouts to effectively train reconnaissance and security (R&S) operations.

The cavalry has served as an integral part in Army operations from its inception in 1776. Be it on horseback, armored-cavalry assault vehicles, Bradley Fighting Vehicles (BFVs), humvees or the next generation of scout vehicles, cavalry scouts have continually accomplished complex mission sets in combat that infantry and armor units are unsuited for.

Despite these unique conflicts and platforms, the cavalry gradually assumed an ambiguous form that leads to inefficient employment due to the Global War on Terrorism (GWOT). We owe it to cavalry scouts to provide clear training guidelines and training progressions while they train for reconnaissance, security and the ability to fight for information. Such efforts will improve expertise in reconnaissance, security and surveillance operations, which will enable commanders to make better decisions at echelon. We believe we can achieve this level of expertise by establishing military-occupation specialty (MOS) 19L, reconnaissance scout.

Current status

In addition to performing their R&S tasks, scouts have performed infantry-like tasks during GWOT. This reset expectations on what their mission set looks like as the Army transitions to multi-domain operations (MDO) and large-scale combat operations (LSCO). Having operated in areas of responsibility not requiring intensive doctrinal reconnaissance and surveillance operations, cavalry scouts were employed similarly as infantry for more than a decade by conducting cordons-and-searches as well as presence patrols; operating in urban terrain; and performing other tasks. Even combat-training centers shifted their training motif to include counterinsurgency

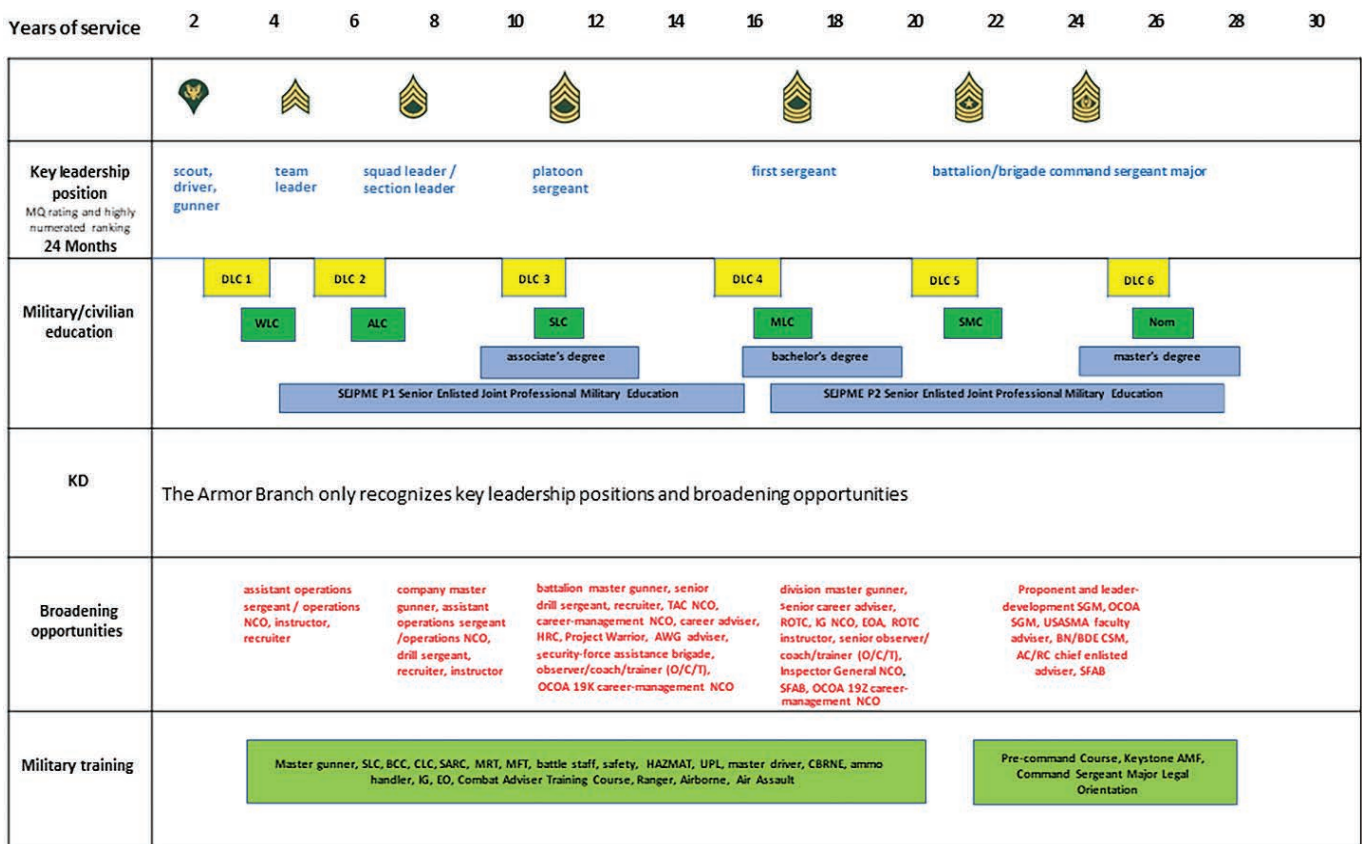


Figure 1. 19D talent-development model. As indicated by the timeline, there is no specification for 19D team- or section-leader time to rotate between dismounted and mounted operations. Thus their ability to rotate depends on the unit's manning, training progression and other factors. (Adapted from a chart on the Office of the Chief of Armor (OCA) Website)

(COIN) themes to prepare units for GWOT deployments.

Cavalry scouts now find themselves in ambiguous situations as they quickly shift their training focus to R&S during rotations to Europe, Korea and Kuwait.

U.S. Army Training and Doctrine Command (TRADOC) and the Armor School have helped eased the return to MDO and LSCO from COIN operations. Primarily through the Cavalry Leader's Course (CLC) and the Scout Leader's Course (SLC), students are receiving proper instruction on leading cavalry formations. Also, the Armor Basic Officer Leader's Course has altered its program of instruction (Pol) to focus less on R&S operations and more on tank employment. Even the extension of 19D one-station unit training has helped bolster cavalry proficiency at the entry level.

However, these efforts do not address the challenging career these Soldiers may experience. The current career progression model has 19D Soldiers alternating between dismounted and mounted positions. This makes sense at first glance as an industrial-age process, but it does create some issues.

The career progression provides flexibility but fails to build subject-matter experts. While junior-enlisted Soldiers are mostly guaranteed to be both a dismount and a driver, there is no guarantee to alternate between mounted and dismounted positions as manning becomes more difficult as noncommissioned officers (NCOs) are promoted. New NCOs transitioning from different types of brigade combat teams (BCT) often face a steep learning curve where they may be tempted to seek a key and developmental (KD) position conducive from the formation they came from (example: armored BCT (ABCT) 19Ds may seek to be assigned as a mounted section leader).

How we got here

Twenty years ago, 11Ms filled the role as mechanized infantry on BFVs.¹ This enabled 11Bs to truly specialize in dismounted operations within infantry BCTs (IBCTs). While this may seem as mitigating flexibility, the result was a fighting force with a high degree of

proficiency in mechanized-infantry units. Their expertise and lethality generated by their MOS was on par with the expertise expected of 19Ks on Abrams tanks that enabled ABCTs (then called "heavy" BCTs) to function efficiently and effectively.

With the Army's decision to generalize some MOSs, combined with retention issues, all 11-series Career Management Field Soldiers can serve in mechanized-infantry units at various effectiveness. This trend includes the current requirement for 19Ds to man the Mobile Gun System in Stryker BCTs (SBCTs), but this takes away from the pool of junior-enlisted Soldiers that could be value-added to the reconnaissance troops.

Recent discussion over 19Ms replacing 11Bs on BFVs further reiterates the necessity for an MOS to focus on what value it adds to the operating environment.² The concept is for this force to spend their careers as BFV operators so that 11Bs can focus on dismounted operations.

As early as 1984, senior leaders communicated their concerns that R&S operations were not executed effectively. Martin Goldsmith's seminal RAND article highlighted significant shortcomings in the reconnaissance fight that was causing units to consistently lose battles against the opposing force.³ The multi-year study identified trends found that Blue Forces often didn't answer priority information requirements (PIRs) and failed to prevent detection from the enemy at the National Training Center.

While courses like Heavy Weapon Leader's Course developed to bridge the capability gap for 11M, the Armor School created the Scout Platoon Leader's Course (now SLC) to teach and enrich the cavalry community. Combined with years of COIN operations, it is clear that R&S operations have not received the priority and resources they need to properly grow experts within the formation.

Also, the frequent turnover in duty positions to try to balance out 19D Soldiers careers results in turbulent crew and squad certifications within cavalry squadrons. In a budget-constrained environment, it becomes difficult to

justify the frequent certifications that could be used for advanced training for the troops and squadron. Even if executing these certifications are not the most expensive thing a brigade does, the training becomes less effective for those who must serve longer in KD positions.

It is notable that running certification events is beneficial for planning and general training, but the organization must acknowledge that without the ability to greatly adjust live-fire exercise lanes and situational-training exercise lanes to reflect the unpredictable chaos of combat operations, it is training Soldiers to the "lane" instead of building versatile leaders.

Finally, it is notable that the current system defaults to manning requirements vs. slotting Soldiers where they can continue to grow their expertise.⁴ While some senior NCOs have served on all or most platforms, there is likely a population who have primarily served in only one or who have a strong desire to continue serving in just one formation type.

The 19D branch managers try to keep staff sergeants and sergeants first class in the same formations to provide better leadership and maintain proficiency in platform employment. Initiatives such as Assignment Satisfaction Key – Enlisted Module (ASK-EM) cycles have been established to better assist enlisted Soldiers in having satisfying careers. However, manning requirements and availability move dates continue to be the driving force behind who gets slotted to which billets, which can come at a cost of tactical expertise and mentorship from senior NCOs.

Proposal 1: 19Ds and 19Ls

Delineating the current cavalry-scout tasks are the keys to rectifying the issues previously highlighted. Cavalry-scout 19Ds should retain guard-and-cover tasks, along with reconnaissance-by-fire and zone reconnaissance. This will keep them aligned with reconnaissance suited for LSCO similar to the cavalry groups of World War II and the Vietnam era. This does not discount their usefulness in COIN operations, as the ability to bring

firepower into the fight quickly is required to win in LSCO and MDO. Their primary training focus will be operating mounted on vehicles for versatile responses to ambiguous situations.

The 19L (reconnaissance scout) draws more inspiration from long-range reconnaissance and surveillance (LRRS) units. Although LRRS units shut down only a few years ago, it is important to preserve their mission set and pass it along to the 19Ls.⁵ The 19Ls would be tasked with screens and limited area-reconnaissance missions to answer PIRs deliberately.

This mission set is highly valuable in both COIN and LSCO operational environments by having a dedicated force to stealthy observation. Their ability to conduct these operations will improve reporting efficiency while also preserving the 19D force by preventing premature decisive engagements; this will allow the 19D force to respond appropriately. The 19L training will also provide the capabilities that LRRS units once provided on the division and corps levels.

These MOSs would still reside in the cavalry squadron within the BCT (or the successor of the BCT in the next organizational shift). Mounted-section leaders and their subordinates would be coded for 19D, while the dismount scout squad and their subordinates would be coded for 19L. While it may seem like a nuisance change, it is a necessary one to build a competent force capable of executing R&S missions in varying environments. The difference is now there is a clear delineation of which scouts within the cavalry squadron do which mission types; this will allow subject-matter experts to thrive and build effective formations. These subject-matter experts can further supplement TRADOC R&S schools with their lessons-learned to continue growing effective cavalry leaders throughout the Army.

It is worth noting that in the past, some IBCT and SBCT infantry battalions have conducted tryouts to select Soldiers to serve within the battalion scout platoon. While this has may help the organization experience fewer administrative issues, these Soldiers are not quantifiably better suited or

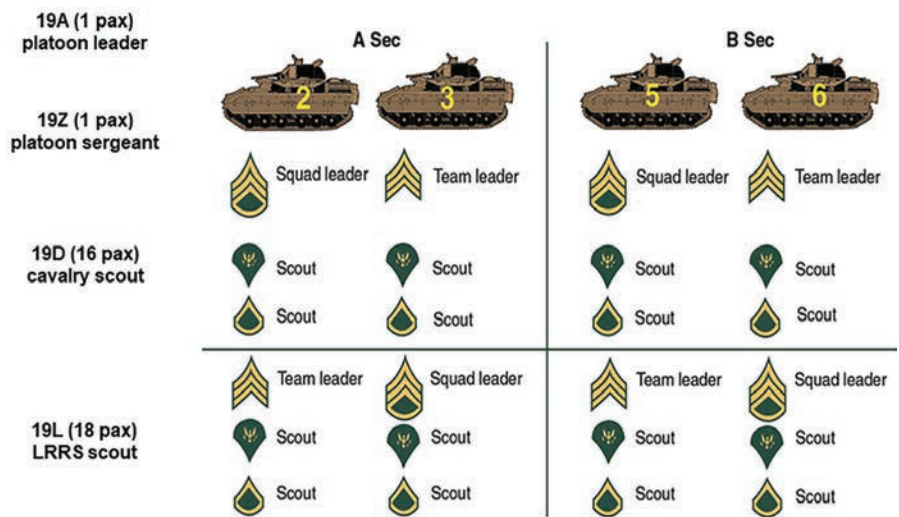


Figure 2. Example of section breakdown.

qualified to conduct R&S operations than a standard 19D. This is further quantifiable by the influx of cavalry scouts going to battalion scout platoons to alleviate the number of infantry Soldiers serving in the scout-platoon capacity. Improved institutionalized training that 19Ds and 19Ls receive will undoubtedly give more R&S capability and proficiency to battalion commanders – more so than a Soldier in a MOS that is better trained for a different mission set.

Proposal 2: training progression and transition courses

Along with building expert 19Ls and 19Ds, we must revisit courses designed to progress their respective MOSs. The 19Ls would attend the Reconnaissance and Surveillance Leader’s Course since it is oriented on their mission set already and designed to generate leaders formerly enroute to LRRS formations. The 19Ls would ideally attend this course immediately following the Basic Leader Course.

They should also continue to build proficiency through SLC immediately following the Advanced Leader’s Course (ALC). The course would be adjusted to be teach students and enable a learning experience so graduates can return to their formations better understanding how to manage assets within the reconnaissance squad.

Finally, leaders would attend the Cavalry Squadron Leader’s Course (CSLC) to help understand their role in

cavalry-squadron operations and other considerations following SLC. CSLC is the hypothetical successor to the current CLC.

The 19Ls can further aid in LSCO by coding their MOS in the modified table of organization and equipment with one or two Pathfinder slots in any BCT with “conduct an air assault” in their mission-essential task list. This will enable the Army to continue training Pathfinders at a limited capacity but still have the knowledge base to grow Pathfinder capabilities when deemed necessary.

Soldiers with MOS 19D would begin to attend more platform-leader courses (Stryker/Bradley Leader’s Course). These courses would adjust their Pol to talk less about statistics and familiarization and focus more on tactical employment, maintenance and best practices from those who have served on the platform for significant periods. Attendance to these courses would occur within 180 days of a permanent-change-of-station move to the new duty station.

The 19Ds would also attend CLC, a course parallel to SLC designed to help them validate their maneuver and ability to execute their R&S tasks at the section level through the Close-Combat Tactical Trainer (or vehicles provided at Fort Benning, GA) and through best practices taught by cadre with extensive experience. While this may sound like situational-training exercises, these revamped courses will be more intensive and focused on

validating section leaders before they return to their formations from ALC. Thus the cavalry sections will see better employment from experienced section leaders having both experience and section-focused training built into their professional military education.

Finally, leaders would attend CSLC to help understand their role in cavalry-squadron operations and other considerations following SLC.

To facilitate easier reclassification to 19L or 19D, courses would reorganize and validate PoI for these courses to also act as transition courses. This would facilitate seamless reclassifications (or additional-skill identifier (ASI) refreshers in lieu of split MOSs) to retain cavalry proficiency within squadrons.

Upon completion of CSLC, the MOSs would merge first to 19Z as sergeants first class and maintain 19Z as first sergeants/master sergeants. This concept still enables 19Ds and 19Ls to grow expertise and to coach both MOSs. This system would also enable more career satisfaction by allowing Soldiers to consciously decide to be mounted or dismounted.

Proposal 3: equipment and vehicle revamp

All cavalry vehicles require the appropriate armaments for their BCT types to be able to fight for information against a near-peer threat. The 19Ds require a proper fighting vehicle regardless of the BCT. While the Next-Generation Combat Vehicle is conducting its second request for proposal to identify the Bradley's replacement, replacing the Stryker Reconnaissance Vehicle/Infantry Carrier Vehicle and the humvee in cavalry squadrons is necessary.

The Stryker Dragoon is a perfect example, as its 30mm cannon is formidable, but its survivability remains relatively unchanged. The humvee is another venerable platform that has earned its place in the IBCT cavalry squadron but lacks comparable effectiveness in fighting for information and survivability.

As the Army continues to modernize, continuous reviews in TRADOC should

focus on what enables the cavalry to fight for information in the operating environment and how those fighting vehicles should be procured from either existing technologies or from longitudinal study and design:

- The M5 Ripsaw, the potential medium Robotic Combat Vehicle (RCV), could be reconfigured to replace humvees in the IBCT cavalry squadron.
- A sustainable motor, coupled with a 30mm or 50mm main gun, would provide the ability to fight for information at a sustainable pace with its electric motor or other engine (provided that this configuration is feasible from the vendor).⁶
- A stabilized fire-control system with an appropriate weapon system (potentially a 30mm with a Javelin command-launch unit) and reconfigured Joint Light Tactical Vehicle could also provide the desired ability to fight for information with a vehicle inbound to IBCTs.

The 19Ls require a significant change to authorized equipment via modernized technology to enable successful execution of their mission sets. For example, 19Ls should receive augmented dismount equipment:

- They would ideally possess portable, lightweight Joint Capabilities Release (JCR) to facilitate stealthy and deliberate reconnaissance. This version of the JCR would be configured for quick set-up to send and receive updates and then eliminate the signal to prevent detection from enemy cyber assets and communication interceptors.
- Recon scouts would carry improved ultra-high-frequency radios and Lightweight Laser Designator Rangefinders to further enable their operations.
- With the addition of RCVs, observation posts (OPs) could effectively double and provide limited ability to counter threats. At minimum, robotic scouts could continue monitoring named areas of interest or attacking enemy forces while OPs displace, providing valuable displacement time for scouts. By adding RCVs, operators

could use these vehicles to fight first and preserve the rest of their forces until an exploit is identified.

Alternative: more ASIs

If the creation of a new MOS is unfeasible, another potential solution to this issue is the use of ASIs. These ASIs would be associated with reconnaissance scouts or cavalry scouts to better slot them into formations where they can learn their desired craft through institutional training and experience.

Through this method, Soldiers could still be slotted anywhere but could develop more expertise via proper assignment and management through ASK-EM to positions requiring their ASI.

The major benefit is less administrative change by the Army to change the MOS and adjust manning numbers while also growing proficiency. The con is that ASI slotting is less of a requirement and more of a discriminator to help determine where Soldiers are slotted.

Thus the cavalry force is still at risk to go where they are needed for the Army, as opposed to where they can develop expertise and MOS proficiency. The ASI alternative could work, but the MOS-creation option ensures that the force is appropriately suited for its mission set.

Conclusion

Developing proficiency within the cavalry community is essential to winning the tactical fight in the next major conflict. Creating the 19L MOS and redefining the 19D MOS enables the Army to train the cavalry to become more proficient at R&S operations while protecting Soldiers' ability to serve in their desired capacity.

Scouts are expected to operate in ambiguous environments and accomplish the mission against a near-peer adversary. While this has undoubtedly made cavalry scouts a venerable force, we do not believe it has helped develop the cohort of subject-matter experts that can continually capture best practices in both doctrine and in leaders. We can accomplish this by delineating what cavalry scouts do through a

separate MOS or through ASI management and slotting.

As an organization, we owe it to the cavalry scouts to provide clearer guidance for career progression and leader development so that the subsequent generation of scouts are better prepared to succeed in the Army's next fight.

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ACRONYM QUICK-SCAN

ABCT – armored brigade combat team
AC – Active Component
ALC – Advanced Leader's Course
ASI – additional-skill identifier
ASK-EM – Assignment Satisfaction Key – Enlisted Module
AWG – assessment working group
BCC – Basic Combatives Course
BCT – brigade combat team
BFV – Bradley Fighting Vehicle
CBRNE – chemical, biological, radiological, nuclear, and explosives
CLC – Cavalry Leader's Course
COIN – counterinsurgency
CSLC – Cavalry Squadron Leader's Course
DLC – distributed leader course
EO – equal opportunity
EOA – equal-opportunity adviser
GWOT – Global War on Terrorism
HAZMAT – hazardous material
HRC – Human Resources Command
IBCT – infantry brigade combat team
IG – inspector general
JCR – Joint Capabilities Release
KD – key and developmental
LRRS – long-range reconnaissance and surveillance
LSCO – large-scale combat operations
MDO – multi-domain operations
MFT – master fitness trainer

MLC – Mortar Leader's Course
MOS – military-occupation specialty
MQ – most qualified
MRT – master resilience training
NCO – noncommissioned officer
O/C/T – observer/coach/trainer
OCOA – Office of the Chief of Armor
OP – observation post
Pax – personnel
PIR – priority information requirement
Pol – program of instruction
R&S – reconnaissance and security
RC – Reserve Component
RCV – Robotic Combat Vehicle
ROTC – Reserve Officer Training Corps
SARC – sexual-assault response coordinator
SBCT – Stryker brigade combat team
SEJPME – Senior Enlisted Joint Professional Military Education
SFAB – security-force assistance brigade
SLC – Scout Leader's Course
SMC – Sergeants Major Course
TAC – tactical operations center
TRADOC – (U.S. Army) Training and Doctrine Command
UPL – unit prevention leader
USASMA – U.S. Army Sergeants Major Academy
WLC – Warrior Leader's Course

COBRA COMMENTS



Engagement-Area Development during Security Operations

by CPT Christopher M. Salerno

Cavalry troops often execute security operations poorly during National Training Center (NTC) rotations due to failure to plan and execute engagement-area (EA) development. Troops operate across a large area of operations, and commanders need to efficiently apply their combat power. Security operations are complicated; EA development provides the necessary framework for efficiently approaching these missions.

In this article I will describe a scenario where a troop commander fails to use EA development. The troop will struggle with its assigned security operation to the brigade's detriment. I will then show how, by using EA development, the same commander can approach the mission in an organized manner, with leaders understanding their responsibilities.

Troop commanders and scout-platoon leaders should study Army Techniques Publication (ATP) 3-20.97, *Cavalry*

Troop, and ATP 3-20.96, *Cavalry Squadron*. These publications both explain how EA development fits into security operations.

First scenario

The brigade commander tasks the squadron to guard to provide the brigade with the reaction time and maneuver space necessary to seize urban terrain. The squadron staff hastily executes the military-decision-making process and comes up with a plan. The squadron commander pulls the troop commanders to the mobile command group (MCG) and briefs the plan.

The squadron commander tasks the three troop commanders to screen and the tank-company commander to attack to destroy, on order, along one of three potential avenues of approach. The squadron commander issues the reconnaissance and security (R&S) guidance. He focuses on the displacement criteria for the three cavalry troops, which also serves as the tank-company's call-forward criteria.

The squadron commander tasks Troop B to screen Phase Line (PL) Dillon oriented on Named Areas of Interest (NAIs) 101 and 102. The troop commander quickly updates his graphics with the boundaries and NAIs. Then he moves back to his Bradley Fighting Vehicle (BFV) and maneuvers to the troop command post (CP).

The troop commander, short on time, pulls in his platoon leaders and issues a quick verbal order based on his notes. He orders them to begin movement to PL Dillon. The troop commander looks at the mapboard and decides to simply cut his area of operations in half and give one half to each platoon. He calls the platoon leaders on the troop net and tells them their respective boundaries and tasks them to screen.



Figure 1. Infantry Soldiers from A and B companies, 1-163rd Combined-Arms Battalion, assault through the city with coverage from BFVs during the taking of Razish, an urban training environment at NTC, Fort Irwin, CA. The Montana Army National Guard's 1-163rd is one of three combined-arms battalions in 116th Cavalry Brigade Combat Team. (National Guard photo by CPT Gregory Walsh, 115th Mobile Public Affairs Detachment)

The troop arrives at PL Dillon, and the platoon leaders execute the plan. The BFV commanders stop at the best terrain they can find. The dismounts disembark their respective BFVs and move tactically to the spot the platoon leader identifies on the map. The platoon leaders report “set” to the troop commander.

The troop fire-support officer (FSO) gets on the radio and requests grids to all locations so she can establish no-fire areas. The troop commander reports to the squadron commander that he is set.

The troop anxiously awaits the enemy’s arrival. The 1st Platoon’s dismounted scouts identify dust trails in the vicinity of the pass complex. The dismount team leader struggles to reach his platoon leader on the radio. After a few minutes, he successfully sends a report to the platoon leader. The platoon leader reports this to the troop commander.

The enemy advances toward Troop B and is well within the 7,200-meter range of the troop’s mortar section. The troop commander prompts the platoon leader to call for fire (CFF). The platoon leader radios to the dismount team leader and asks for a grid. The dismount team leader eventually gets an accurate grid and reports the grid to the platoon leader. The enemy continues advancing using terrain to his advantage.

The platoon leader successfully sends a CFF to the FSO. She processes the mission, clears ground and sends it to the mortars. The enemy is now within 3,750 meters, direct-fire range of the troop’s 13 tube-launched, optically tracked, wire-guided (TOW) missiles.

Neither platoon leader nor the troop commander issues a fire command as they wait for the mortar rounds to land. Eventually a senior scout asks if he can engage the enemy; the platoon leader asks the commander. The commander gives permission, and individual vehicle commanders begin to open fire. The platoon leaders do not report an accurate count of the enemy’s composition to the troop CP. The squadron staff does not yet know the size of the enemy in Troop B’s sector. Company D is unaware of the situation. Individual

Step 1. **I** – Identify likely enemy avenues of approach.

Step 2. **I** – Identify most likely enemy course of action.

Step 3. **D** – Determine where to kill the enemy.

Step 4. **P** – Plan for and integrate obstacles.

Step 5. **E** – Emplace direct-fire weapon systems.

Step 6. **P** – Plan and integrate fires.

Step 7. **R** – Rehearse the execution of operations within the engagement area.

Figure 2. Steps for successfully using EA development during security operations.

vehicle commanders engage and report. Leaders clog the platoon and troop nets with incomplete reports in non-standard formats.

Consequently the enemy quickly overwhelms Troop B and destroys most of its combat power. The troop CP reports the contact but fails to paint an accurate picture to the squadron. The squadron is not in position to bring more assets into the fight. The troop meets the displacement criteria, but due to a lack of accurate reporting, fails to understand that they have. They continue to fight as the enemy maneuvers past the screen toward the brigade’s main body at Razish.

Company D understands there is a fight but does not realize that Troop B has been destroyed and bypassed. Company D is now out of position and cannot support or reinforce.

Teaching point

The troop commander needs to provide the brigade reaction time and maneuver space. Therefore troop commanders should incorporate EA development into their planning process. Commanders rarely have enough time but must use every moment by training subordinate leaders.

EA development provides a systematic approach to the problem. A troop

commander who uses EA development approaches the preceding scenario in a more organized manner.

Second scenario

The squadron commander issues the same plan and guidance to all the commanders. The Troop B commander and his FSO stop and talk to the S-2 at the MCG. The troop commander and the S-2 discuss the enemy’s likely avenue of approach, the enemy’s most likely course of action and the enemy’s most dangerous course of action. After the conversation, the troop commander understands the enemy’s scheme of maneuver better, which frames how he develops his own scheme of maneuver.

The commander determines he will kill the enemy as they come through the pass complex by massing his troop’s weapons systems. With that intent in mind, the FSO builds a fires plan that supports her commander’s intent. She runs the plan by the squadron FSO at the MCG. The squadron FSO helps the troop FSO refine the plan and starts working with his team to ensure they can support the requested artillery targets. Finally, the troop FSO coordinates with the squadron FSO for a Raven small unmanned aerial system (SUAS) restricted operating zone (ROZ) in the vicinity of the pass complex.

The commander contacts the platoon leaders, the mortar section sergeant, the first sergeant and the executive officer over frequency-modulation radio and tells them to meet him at the CP. He issues the updated graphics. The graphics clearly show where the commander wants to kill the enemy. He establishes phase lines for each weapon system, and he uses the quadrant system with target reference points (TRPs) to orient his fires. He identifies initial spots for the dismount Javelin teams where they can effectively identify the enemy’s movement. He places tentative platoon fighting positions offset from the Javelin teams but briefs the platoon leaders to refine the positions as the troop reaches PL Dillon.

The commander issues clear, complete and concise R&S guidance. He reminds the platoon leaders that it is important to exercise initiative within that



Figure 3. A scout identifies his sector of fire as part of a troop screen. (Copyrighted photo by MSG Luis Coriano, Cobra 12A; used by permission)

guidance. The platoon leaders understand that it is imperative they rapidly report and quickly develop the situation.

The FSO and the mortar section sergeant brief the fires plan. They make sure the platoon leaders understand who is responsible for which pre-planned targets, with clearly identified primary and alternate observers. The FSO makes sure everyone understands the trigger for the final protective fires. The FSO also briefs the plan for using Ravens to identify the enemy before they maneuver through the pass complex. Spot reports from the Raven will trigger a pre-planned artillery mission.

The commander issues guidance in regard to obstacles. He acknowledges that the troop has no engineer support but identifies a wadi the enemy may use to maneuver out of direct-fire range – he tasks one platoon to consolidate concertina wire and place a disruptive obstacle in the wadi. The troop first sergeant understands the scheme of maneuver and issues quick guidance on maintenance recovery points and casualty collection points. Finally, the commander issues a timeline covering actions at the screen and a rehearsal schedule.

The troop arrives at PL Dillon and

develops the EA. Individual BFV commanders refine their positions using advantageous micro terrain. The troop emplaces concertina wire, establishes the observation posts and emplaces the weapons systems. The platoon leaders send out teams to emplace pickets with infrared chemlights at the TRP locations. They confirm everyone can see their respective TRPs.

The leadership looks at the friendly line from the enemy perspective and adjusts positions as needed. Vehicle commanders identify alternate positions and ensure they can still identify the TRPs. Simultaneously, the executive officer reconnoiters and marks the passage lane in case Company D maneuvers to reinforce the Troop B screen line. He quickly builds the passage lane using the standard from the squadron's tactical standing operating procedure (SOP).

The commander now directs rehearsals, which involve the entire troop. They rehearse contact reports and immediate CFF missions. They rehearse target hand-over between dismounts and BFVs. They rehearse reloading drills, occupying alternate positions, casualty evacuations and vehicle evacuation. The team is confident. They know when they are supposed to open with each weapon system. They understand the commander's intent and

their role within that intent.

The commander continues to rehearse as he activates the ROZ and launches the Raven. The Raven conducts an aerial reconnaissance of the pass complex. The operator identifies the enemy maneuvering into the pass complex. The troop CP relays the visual contact on the troop and squadron radio nets. The troop FSO reports to the squadron FSO, and the artillery is ready. The Raven SUAS moves away handing the reconnaissance to the dismount teams as artillery begins to hit the enemy.

The enemy continues to push forward and begins to emerge from the pass complex. The lead enemy element arrives at PL Mortar at the edge of the EA. The dismount team leaders report the contact on the platoon net. The platoon leaders CFF using pre-planned 120 mortar targets. With guns already laid, the mortars are ready to fire. The FSO sends the mission, and the mortars fire. The mortar section immediately orients its guns on the second target. The enemy continues to advance as artillery and mortars destroy their optics, slow their movements and inflict casualties.

The enemy (as expected) uses the terrain to mask its movement, but the wadi system it preferred is blocked with concertina wire. The dismount team leaders hand the visual contact over to the BFVs. The BFVs understand their engagement criteria and wait until the enemy passes PL TOW. The platoon leaders issue fire commands, and the platoon launches a massed volley of TOW missiles against the enemy, with each platoon destroying four vehicles per fire command. The troop fights as it rehearsed, properly reloading its TOWs after the second engagement and occupying alternate battle positions.

The platoon leaders send the troop CP a count of vehicles by type. The troop CP reports this information to the squadron. The squadron alerts Company D that is prepared to attack to destroy. Company D maneuvers to PL Dillon. The Troop B executive officer coordinates directly with the Company D commander and ensures they approach the passage point. Troop B



Figure 4. SPC Bailey Wilson, Company C, 2-116th Combined-Arms Battalion, watches over a convoy moving through the valley below at NTC. The 2-116th is one of three combined-arms battalions in 116th Cavalry Brigade Combat Team. (National Guard photo by CPT Gregory Walsh, 115th Mobile Public Affairs Detachment)

continues to fight.

The enemy continues to maneuver deeper into the EA and passes PL Bushmaster, at which time the BFVs open fire with their 25mm guns. The enemy is in disarray as it continues to take casualties from persistent indirect fire from artillery and mortars, combined with direct fire from the BFVs. The enemy commander maneuvers his tanks forward in an attempt to overwhelm and penetrate the friendly forces. The dismount team leaders see the tanks maneuvering, and they engage the enemy with their Javelins. They destroy two tanks, report the contact and displace back to their respective BFVs.

Company D approaches PL Dillon and conducts near linkup with the Troop B executive officer. The Troop B executive officer relays the most current situation update. Company D begins to pass through Troop B's line in accordance with SOP. The Troop B commander lifts his fire as Company D

reaches the battle handover line. The Company D commander successfully continues the counterattack into the enemy, destroying the remaining combat platforms and devastating the vulnerable sustainment assets trailing the enemy's attack.

The Troop B commander consolidates his forces and reaches out to squadron for further guidance. The brigade successfully seizes Razish, and the enemy is unable to influence friendly operations with spoiling attacks or counterattacks into the flank of the combined-arms battalions. The result was that Troop B successfully provided the brigade with the reaction time and maneuver space to succeed in the decisive operation.

Takeaway

Troop commanders can successfully execute security operations, but they should not abandon doctrinal defensive tenants such as EA development. EA development allows commanders to approach their mission deliberately

and systematically. A troop commander cannot gain success by haphazardly fighting his/her way through a security operation.

On the other hand, a commander who takes a few extra minutes to deliberately approach the problem and issues clear, complete and concise guidance with corresponding graphics will achieve his/her commander's intent. During security operations, EA development provides the systematic approach necessary to enable the squadron and brigade to win. Troops that shortcut the process or skip it entirely will struggle throughout an NTC rotation and face destruction in large-scale combat operations.

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Figure 5. A scout team assigned to a Stryker scan their assigned sector during security operations. (Copyrighted photo by MSG Luis Coriano, Cobra 12A; used by permission)

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ACRONYM QUICK-SCAN

ATP – Army techniques publication	R&S – reconnaissance and security
BFV – Bradley Fighting Vehicle	ROZ – restricted operating zone
CFF – call for fire	SOP – standing operating procedure
CP – command post	SUAS – small unmanned aerial system
EA – engagement area	TOW – tube-launched, optically tracked, wire-guided (missile)
FSO – fire-support officer	TRP – target-reference point
MCG – mobile command group	
NAI – named area of interest	
NTC – National Training Center	
PL – phase line	

FROM THE BORESIGHT LINE

Recommended Changes to the Squad/Section/Platoon Integrated Weapons Training Strategy Tables

by MAJ Gary M. Klein

The Army's recent Integrated Weapons Training Strategy (IWTS) has successfully standardized the nomenclature and the number of tables used to describe the live-fire training progression for armor, cavalry and infantry units at echelon. However, a number of questions remain:

- How are the six IWTS tables nested with the Army's "crawl-walk-run" training methodology, specifically its "dry-blank-live" live-fire training sequence?
- How does the Army define the terms situational-training exercise (STX) and field-training exercise (FTX)?
- Does the Army's use of the term FTX to describe the IWTS's squad/section/platoon Table IV contribute to shared understanding of the intent of that table?
- How does the Army prioritize external evaluations, combined-arms proficiency and organic lethality at the squad, section and platoon-level?

The Army must address these questions to clarify its priorities and reduce ambiguity in its current training strategy. IWTS has made it easier for leaders to understand and compare different armor, cavalry and infantry units' training progression, but the Army must ensure it is describing its tables in a way that creates shared understanding of the intent for each IWTS table and prioritizes building lethality at echelon.

Nesting platoon IWTS

Crawl-walk-run is the cornerstone of the Army Training Methodology, and the Army's live-fire doctrine generally follows this progression.¹ Two well-established examples exist within

infantry live-fire and armored/mounted gunnery training. Infantry live-fire training generally follows a sequential dry-blank-live, live-fire progression at echelon, while armored/mounted crew qualification tables include a dry-fire table followed by progressively more challenging live-fire tables.² Interestingly, the Army's most recent IWTS seemed to move away from a crawl-walk-run and dry-blank-live progression at the squad/section/platoon-level.

The most recent armored/mounted section and platoon qualification tables included a three-step live-fire progression, but current IWTS qualification tables do not include a similar progression. The Army's heavy brigade combat team gunnery-qualification tables progressed from a blank Multiple Integrated Laser Engagement System "proficiency" table (training Tables VII and X) to an Abrams sub-caliber or Bradley full-caliber "practice" table

(training Table VIII or XI) and finally a full-caliber qualification table (training Table IX or XII).³

Current IWTS tables (adjacent Table 1 and Table 2's "current description" column) progress from an internally evaluated STX (Table III) to an externally evaluated (exeval) FTX (Table IV) to a fire-coordination exercise (Table V) – integrating direct, indirect, attack aviation and other warfighting functions – and finally, a live-fire proficiency gate exeval (Table VI).⁴ The IWTS tables seem to focus more on progressing from internal to external evaluations and the integration of combined arms rather than progressive repetitions of direct-fire training (Tables 2 and 3).

Commanders must develop unit training plans that progressively integrate combined arms and exevals, but collective live-fire training at the squad, section and platoon-level should focus

Echelon	Table I Prerequisite Crawl	Table II Prerequisite Crawl	Table III Prerequisite Walk	Table IV Collective task proficiency Run	Table V Coordination / rehearsal / practice Run	Table VI Live-fire proficiency gate Run
Battalion	TEWT <i>Live</i>	STAFFEX <i>Blended</i>	CPX <i>Live</i>	FTX <i>TADSS</i>	FCX <i>Blended</i>	CALFEX <i>Live-fire</i>
Company	TEWT <i>Live</i>	STX-V <i>Virtual</i>	STX <i>TADSS</i>	FTX <i>TADSS</i>	FCX <i>Live-fire</i>	CALFEX <i>Live-fire</i>
Platoon	Class SOP <i>Live</i>	STX-V <i>Virtual</i>	STX <i>TADSS</i>	FTX <i>TADSS</i>	FCX <i>Live-fire</i>	LFX <i>Live-fire</i>
Section						
Squad						
Mortar formation	GST <i>Live</i>	STX-V <i>Virtual</i>	STX <i>TADSS</i>	FTX <i>TADSS</i>	Practice <i>Live-fire</i>	Qualification <i>Live-fire</i>
Crew platform				Basic <i>Live-fire</i>		
Special-purpose weapons	PMI&E <i>Live</i>	PLFS <i>Virtual</i>	Drills <i>TADSS</i>	Basic <i>Live-fire</i>	Practice <i>Live-fire</i>	Qualification <i>Live-fire</i>
Crew-served weapons						
Individual weapons						

Table 1. IWTS as summarized in Table 1-1 from Training Circular (TC) 3-20.0.⁵

Platoon Qualification Tables		
	Current description	Proposed description
Table III	“[L]ive environment, hands-on training event [using] training aids and devices (laser-based devices), and includes the use of blank ammunition, pyrotechnics and battle-effects simulators. Training and evaluation of the element is the responsibility of their platoon sergeant and platoon leader. ”	“[L]ive environment, hands-on training event [using] training aids and devices (laser-based devices), and includes the use of blank ammunition, pyrotechnics and battle-effects simulators. Commanders determine if the training and evaluation of the element is done by the platoon, company or exeval. ”
Table IV	“[L]ive-environment training event where platoons conduct an externally evaluated FTX . The exeval [uses] the training and evaluation outlines. ... The training scenarios use blank ammunition, pyrotechnics and battle-effects simulators, as well as an appropriately trained and equipped opposing force. ”	“[L]ive-environment training event where platoons conduct a dry-fire specifically geared toward preparing for the upcoming live-fire exercise (Table VI) . Commanders determine whether this training is full-force or reduced-force, and whether this training event is on the same, similar or dissimilar terrain as Table VI. The training scenario does not require any ammunition or the integration of indirect fire, attack aviation or other warfighting functions, but the commander can elect to add those elements. ”
Table V	“[L]ive-fire event that trains commanders and key leaders in planning and integrating direct fires, indirect fires, attack aviation, close air support and other warfighting functions, to support maneuver. It may be a reduced-force exercise. ... Full-caliber munitions may be substituted with sub-caliber ammunition and devices. ”	“[L]ive-fire training event where platoons conduct a practice live-fire/full-dress rehearsal specifically geared toward preparing for the upcoming live-fire exercise (Table VI) . Commanders determine whether this training event is on the same, similar or dissimilar terrain as Table VI. The training scenario includes the use of live ammunition, pyrotechnics and battle-effects simulators. Similar to Table IV, commanders may elect to integrate indirect fire, attack aviation or other warfighting functions. ”
Table VI	“[A]n externally evaluated live-fire event that measures a unit’s proficiency in executing a series of supporting collective tasks. ... Table VI uses full-caliber training ammunition on an authorized live-fire facility or safety-certified training area. Table VI is the platoon’s externally evaluated live-fire proficiency gate.”	“[A]n externally evaluated live-fire event that measures a unit’s proficiency in executing a series of supporting collective tasks. ... Table VI uses full-caliber training ammunition on an authorized live-fire facility or safety-certified training area. Table VI is the platoon’s externally evaluated live-fire proficiency gate.”

Table 2. Left/current description: The current description of the IWTS platoon qualification tables. The red text highlights the key aspects of each table.⁶ Right/proposed description: The proposed IWTS platoon qualification tables. The red text highlights the changes suggested by the author.

on synchronizing safe and lethal direct fires. Squads, sections and platoons are the fundamental building blocks that enable lethality, so these leaders must master the principles of direct fire control and direct fire control measures through repetition. Commanders can do this within the existing IWTS by developing dry-blank-live repetitions within each table (for example, platoon Table VI dry-fire live-fire exercise (LFX), Table VI practice

LFX and Table VI qualification LFX), but this would create more requirements in an already high-operations-tempo training environment.

Another way to create progressive repetitions is for the IWTS tables to progress from STX training (Table III) to a basic dry-fire table (Table IV) to a practice live-fire table (Table V) and finally a qualification live-fire table (Table VI) (article Table 2, “proposed description” column, and Table 3). This

proposal does not prescribe how or when to integrate combined arms, nor does it remove exevals from STX or live-fire training at echelon. Rather, commanders should determine how to integrate combined arms and exevals into their unique unit training plans.

Comparing the current squad/section/platoon IWTS tables to the proposed tables (article Tables 2 and 3) reveals options to continue focusing on the standardization of integrating

	Table I	Table II	Table III	Table IV	Table V	Table VI
Crew platform (current)	GST <i>Live</i>	STX-V <i>Virtual</i>	STX TADSS	Basic <i>Live-fire</i>	Practice <i>Live-fire</i>	Qualification <i>Live-fire</i>
Platoon (proposed)	Class SOP <i>Live</i>	STX-V <i>Virtual</i>	STX TADSS	Basic <i>Dry-fire</i>	Practice <i>Live-fire</i>	Qualification <i>Live-fire</i>
Platoon (current)	Class SOP <i>Live</i>	STX-V <i>Virtual</i>	STX TADSS	FTX <i>TADSS</i>	FCX <i>Live-fire</i>	LFX <i>Live-fire</i>

Table 3. The current crew (top row), current platoon (bottom row) and proposed (middle row) IWTS platoon qualification tables. The red text highlights the proposed changes to the IWTS tables.

combined arms and exevals or to prioritize additional collective-level direct fire training. Given this option, the Army should standardize the expectation that squads, sections and platoons conduct more repetitions of collective direct-fire engagements to improve safety and lethality. This is particularly pertinent at the squad, section and platoon level since many of these leaders are maneuvering multiple vehicles or subunits for the first time. The emphasis on combined-arms integration is better suited at the company or battalion level where leaders have more experience to focus on synchronizing these different assets.

Platoon IWTS Table IV

The Army's existing squad/section/platoon-level IWTS tables include an FTX (Table IV), but does this term carry the same meaning across organizations? The Army's capstone training doctrine Army Doctrine Publication (ADP) 7-0, **Training**, does not use the terms or describe the FTX or STX. Field Manual (FM) 1-02.1, **Operational Terms**, spells out the FTX acronym, but it does not specifically define the FTX or STX.⁷ FM 7-0, **Train to Win in a Complex World**, defines an STX as "a mission-related, limited exercise. This short, scenario-driven exercise trains a group of related tasks or battle drills through practice. An STX usually contains multiple collective tasks linked to form a realistic scenario of a military operation, sometimes incorporating free play."⁸

Spelling out the FTX acronym as a field-training exercise leads us no closer to the Army's intent of the IWTS Table IV, so we must read the in-depth description of this table in the IWTS

manual. Unfortunately, after reading and comparing the in-depth descriptions of Table III (STX) and IV (FTX) (article Table 2), readers might be left with the impression that the only difference between the STX and the FTX is that the FTX includes external evaluators. If this is the intent, then the Army might be better off changing the titles of Tables III and IV from "STX, training aids, devices, simulations and simulators" (TADSS) and "FTX, TADSS" to "STX, TADSS" and "STX, TADSS, eval." However, instead of this minor update, the Army should retitle and redefine Tables IV and V so that Table IV is a "crawl" basic dry-fire table and Table V is a "walk" practice live-fire table (article Tables 2 and 3), thereby increasing repetitions to increase lethality in its Table VI "run" qualification live-fire table.⁹

Conclusion

The Army should update its squad/section/platoon IWTS tables to prioritize a crawl-walk-run progression from

a basic dry-fire to a practice live-fire table and, finally, a qualification live-fire table. This progression would enable the safe transition from individual and crew qualifications to small-unit collective live-fires where leaders must control subordinate elements for the first time while simultaneously increasing lethality through repetition. The Army must build combined-arms proficiency and seek objective exevals, but it should not do so at the expense of additional small-unit live-fire repetitions that will enhance small unit lethality.

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Defining STX and FTX

Army doctrine does not specifically define an FTX, which is problematic when doctrine uses the term FTX to describe IWTS Table IVs. The Army's unique language of terms and acronyms enables efficient and effective communication, but in this case, the lack of a definition hinders communication. To enable future communication, the author proposes that doctrine define an FTX as "a training event in which a unit deploys to and operates out of the field over a period of time to conduct training, often including a

series of STX or LFX training iterations or lanes."

For example, a battalion FTX is a training event where a battalion deploys to the field to enable itself and its subordinate units to cycle through various STX and LFX training lanes. Also, although current doctrine does not make this distinction, one of the easiest ways to distinguish between a STX and a LFX is that a STX often includes some form of live force-on-force, including an opposing force (opfor) and roleplayers, whereas a LFX uses some form of targetry.

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Notes

¹ Department of the Army, ADP 7-0, *Training*, Washington, DC: Government

Printing Office, 2019.

² Department of the Army, TC 7-9, *Infantry Live-Fire Training*, Washington, DC: Government Printing Office, 1993; Department of the Army, FM 3-20.21, *Heavy Brigade Combat Team (HBCT) Gunnery*, Washington, DC: Government Printing Office, 2009; Department of the Army, TC 3-20.0, *Integrated Weapons Training Strategy (IWTS)*, Washington, DC: Government Printing Office, 2019.

³ FM-20.21, Chapter 18.

⁴ TC 3-20.0, Chapters 8-10.

⁵ Ibid.

⁶ Ibid.

⁷ ADP 7-0; Department of the Army, FM 1-02.1, *Operational Terms*, Washington, DC: Government Printing Office, 2019.

⁸ Department of the Army, FM 7-0, *Train to Win in a Complex World*, Washington, DC: Government Printing Office, 2016.

⁹ CPT Gary M. Klein, "Doctrine: Our Professional Language and Observations from the Joint Readiness Training Center," *ARMOR*, Spring 2015 edition.

ACRONYM QUICK-SCAN

ADP – Army doctrine publication
CALFEX – combined-arms live-fire exercise
CPX – command-post exercise
Exeval – externally evaluated
FCX – fire-coordination exercise
FM – field manual
FTX – field-training exercise
GST – gunnery-skills test
LFX – live-fire exercise
IWTS – Integrated Weapons Training Strategy
MCCC – Maneuver Captain's Career Course
PLFS – preliminary live-fire simulations
PMI&E – preliminary marksmanship instruction and evaluation
SOP – standard operating procedure
STAFFEX – staff exercise
STX – situational-training exercise
TADSS – training aids, devices, simulations and simulators
TC – training circular
TEWT – tactical exercise without troops
V – virtual (training environment)

Honoring our Armor and Cavalry Medal of Honor Heroes

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

HAWKINS, THOMAS R. SGM
 Unit: 6th U.S. Colored Troops. Place and date of action: Chapins Farm, VA, Sept. 29, 1864. Entered service: Philadelphia, PA. Born: Cincinnati, OH. Date of issue: Feb. 8, 1870. Citation: Rescue of regimental colors.

HAYS, JOHN H. PVT
 Unit: Company F, 4th Iowa Cavalry. Place and date of action: Columbus, GA, April 16, 1865. Entered service: Oskaloosa, Mahaska County, IA. Born: Jefferson County, OH. Date of issue: June 17, 1865. Citation: Capture of flag and bearer Austin's Battery (CSA).

HEALEY, GEORGE W. PVT
 Unit: Company E, 5th Iowa Cavalry. Place and date of action: Newnan, GA, July 29, 1864. Entered service: Dubuque, IA. Born: Dubuque, IA. Date of issue: Jan. 13, 1899. Citation: When nearly surrounded by the enemy, captured a Confederate soldier and, with the aid of a comrade who joined him later, captured four other Confederate soldiers, disarmed the five prisoners and brought them all into the Union lines.

HEDGES, JOSEPH 1LT
 Unit: 4th U.S. Cavalry. Place and date of action: Near Harpeth River, TN, Dec. 17, 1864. Entered service: Ohio. Born: Ohio. Date of issue: April 5, 1898. Citation: At the head of his regiment, charged a field battery with strong infantry supports, broke the enemy's line and, with other mounted troops, captured three guns and many prisoners.



(U.S. Army photo by SGT Jeremiah Woods)

by MAJ Jonathan Buckland

In Shakespeare’s *Richard III*, the king loses his horse in the middle of the battle and shouts, “A horse, a horse, my kingdom for a horse.” At the time, the king needed this small item, a horse, and was willing to trade it for something of great value, his kingdom, to win the battle. This example correlates to conducting military training where the linchpin to a successful operation can be insignificant at any other time outside of that specific time and space. Finding out that something small is missing at the decisive point of the operation can be the difference between winning and losing.

Training for a combat-training center (CTC) rotation at company level is often primarily dictated at higher echelons to meet specific gates required to execute each rotation: platoon and company live-fire exercises, gunnery and brigade field-training exercises. Often, once a unit has entered this cycle, it is a sprint to the always-moving finish line, where completion of one training event signals another’s start.

The lack of company-guided and -executed training transfers to a CTC rotation. Opportunities to gain valuable training and lessons-learned are often lost because the company did not have enough time to prepare for the minor, but critical, things that would

have afforded them valuable time during the rotation.

This article identifies things companies can do at home station before arriving at a CTC. The article encompasses 10 areas:

- Sustainment operations;
- Situational awareness;
- Load plans;
- Company rehearsals;
- Reducing signature;
- Recommendations for additional home-station training;
- Signaling;
- Standing operating procedures (SOPs);
- Orders production; and
- Multiple Integrated Laser Engagement System (MILES) training.

Sustainment operations

Department of the Army (DA) Form 5988 (Equipment Maintenance and Inspection Worksheet): How does your unit conduct and track field maintenance? Does your company executive officer print a stack of DA Form 5988s?

A recommendation would be to prepare multiple laminated 5988s with the company’s administrative details for each vehicle already printed on the form. When completed, the operator can turn in one laminated 5988 to the

company executive officer. The executive officer can then use this to fill out the overall company tracker before submitting all 5988s to the forward-support company, depending on your unit’s procedures.

Multiple laminated 5988 forms per vehicle will make supporting the constant maintenance cycle easier and enhance continuous tracking for all the company’s vehicles.

Platoon sustainment: Companies should laminate multiple platoon-sustainment request forms. A recommendation is for one to be maintained at the platoon-sergeant level, as well as another that gets turned into the company executive officer and supply sergeant. The executive officer can then keep a company sustainment report to turn directly into the battalion S-4 or executive officer. This action will prove to be a better organizational process than platoon sergeants turning in scraps of paper or providing a verbal status report to the executive officer.

Pre-formatted Joint Battle Command-Platform (JBC-P) messages: Company executive officers expend precious time filling in the administrative information when sending JBC-P messages. Instead, take the time before beginning a CTC rotation to prefill out these messages with recipients and class; the messages can then be populated

with actual data of supplies when needed.

Situational awareness

20-minute boards: Imagine you are a rifleman or a tank driver. Some questions to think about are your understanding of the overall company, battalion or brigade operation; what you are fighting for; and how do you level the common operating picture (COP) throughout your company?

A solution is to use 20-minute boards – a concept used within the airborne community. At the 20-minute warning before exiting the aircraft, small clipboards are passed through the aircraft with operational graphics, restated mission and command-and-signal information. These boards are used as a quick refresher to paratroopers before they jump into the fight.

This same concept can prove useful in the mechanized community for dismounts sitting in the back of an M2 Bradley or Stryker. Soldiers might have been sitting in the back for 30 minutes to several hours after the ramp goes up, so a quick refresher of the current situation can ensure a clear COP across the formation.

Frequency-modulation (FM) rehearsal script: Companies often have very little time to disseminate information to the lowest level or conduct effective rehearsals. Companies are rushed to a Readiness Condition 1 status and then wait several hours for operations to start. An FM rehearsal script can maximize the use of the limited available time while waiting for operations to start.

This script allows quick dissemination of information and then allows each subordinate to talk through their actions throughout the operation. It also ensures that the unit stays organized and limits long transmissions on the company net and broadcasting signal. This rehearsal enables dismounts in the vehicles to listen to the talk-through, obtaining situational awareness and a COP over the company channel.

Load plans

Load plans are critical, especially when conducting mounted operations.

Generally, while maneuvering, it is not the rollover that causes the most significant damage – it is the damage inflicted by unsecured items due to a failed load plan. Units must conduct a deliberate process when developing a known company load plan.

Mounted operations: Company and platoon leadership need to develop a plan for how and where extra gear, tuff boxes and extra sustainment items will be stored. There must be a standard process for the location of sustainment and basic-issue items (BII) and how they are adequately secured within the vehicles across the company. A standard location across the

company for specific items cuts down the time to search for needed equipment.

Also, before deployment, take the needed time to organize the placement of supplies and items within the company trains. This effort will allow for more rapid and easier access to items when they are needed.

Dismounted operations: Identify the aid and litter, enemy prisoner of war and Javelin teams now! Ensure they can properly carry all necessary equipment.

This preoperational planning is critical when it comes to the Javelin teams.



Figure 1. A rifleman carries both the Javelin missile and the command-and-launch unit. (U.S. Army photo by MAJ Jonathan Buckland)

Unless doing a Financial Liability Investigation of Property Loss on the command-and-launch unit when you return to home station is preferred, decide ahead of time how to transport the unit effectively while mitigating loss. The proper way is not merely to attach it to the missile and have the youngest Soldier carry it for the entire force-on-force period.

Company rehearsals

Scripts: Establish a script for company rehearsals and ensure you include all forces and enablers. The script will enable you to stay on topic and not turn the rehearsal into a two-hour conference. Also, ensure all leaders and Soldiers know who is required to participate in the rehearsal.

Have a plan for how security will be conducted when leaders meet and a plan if platoons are pulled off the line to conduct their internal rehearsals. Planning for and establishing these procedures before your rotation will provide you more time to conduct your rehearsals and enhance preparation for the impending operation.

Terrain-model kits: Have a good company terrain-model kit with all the necessary items that allows for a detailed terrain model to be built promptly and properly. Having a prepared kit will prevent the need to run around at the last minute to put together a model with engineer tape and rocks. A pre-built kit will allow the company to add this to their priorities

of work as soon as they occupy their assembly area, and it will substantially help the commander to provide a detailed operation order.

Reducing overall signature

Camouflage netting: Companies should not begin thinking about camouflage netting placement at the intermediate staging base (ISB). They should do so at home station before deploying to a CTC.

Proper mounting and placement of the netting are vital to ensuring that the nets can be safely and effectively stored when moving. Placement will prevent the nets from getting caught in wheels or tracks while ensuring successful camouflaging of vehicles.

When mounting camo netting, commanders also need to consider openings for MILES sensor gear to ensure the net is not blocking the ability to read opposing-force (OPFOR) lasers.

Company headquarters location: When establishing a company headquarters location, one of the best practices observed during National Training Center (NTC) rotations was when the executive officer and first sergeant vehicles parked with rear ends facing each other and connecting camo netting was erected between the two. This configuration allowed some concealment of the vehicles and a shaded area for meeting with company leadership. The commander's

vehicle can easily link into this configuration while still providing it the ability to move more freely to higher headquarters' meetings.

Home-station training

Maneuver training does not need to occur in vehicles; in fact, that is the "running phase." Companies can start at the "crawl phase" in the motorpool or in an open field at the team and platoon level – with walk-throughs to practice crew-movement formations and teach different formation changes. Doing these slow and methodical practice sessions will ensure, for example, that the platoon sergeant's wingman always knows when he/she is going to the right or left, or that the gunner learns how to pick up a specific sector of fire immediately.

This training will help units to react immediately on contact and not waste time giving orders. Focusing on target identification (distance, direction and description), and more rapid target engagements will ultimately increase lethality.

Recovery-operations training is best conducted before an actual recovery takes place. During this process, you can ensure vehicles have the proper BII to prevent stalling operations during engagements. Training on self-recovery once a week, perhaps during motorpool maintenance, will ensure everyone learns the procedures before execution.

This basic but important training will help keep more mobility platforms in the fight during your operations. Always ensure that you have the correctly rated tow straps or tow bars for your company vehicles, and remember to ensure heat shields are present for the self-recovery of tankers.

Engineers: Training with your engineers is essential to success when conducting a breach. Do not meet your engineers for the first time at the combined-arms-breach rehearsal. Reach out to your counterparts at home station to conduct training together to build the team.

Team building can be as easy as conducting physical training (PT) once or twice a month together, or it can be more complex – for example, by



Figure 2. Company terrain model. (U.S. Army photo by MAJ Jonathan Buckland)



Figure 3. A company commander meets with his platoon leaders in the back of his M1126 Stryker Infantry Combat Vehicle to reduce signature in having separate command setups. (U.S. Army photo by MAJ Jonathan Buckland)

having the units conduct suppress, obscure, secure, reduce and assault (SOSRA) drills using an open field. SOSRA training will allow maneuver Soldiers to see what the breach process entails and what the engineers need to complete a successful breach. This training will prevent problems like running on the wrong side of the handrail and getting caught in the concertina wire.

Routines: Good units train routine things routinely. The most sacred time in the Army should be PT. Whatever happens to the weekly or daily schedules, Soldiers know that at least from 6:30-8 a.m., daily PT is going to take place.

Use the last 10-15 minutes of PT during the cool-down period to conduct specific training throughout the week. I used a model that focused on separate areas each day of the week:

- Monday: weapons;
- Tuesday: medical;
- Wednesday: communications;
- Thursday: chemical, biological, radiological and nuclear (CBRN) defense; and
- Friday: tactics.

The training was always something

very specific and functioned as a quick refresher course. For example, during CBRN training, we could cover how to use a Joint Chemical Agent Detector or how to disassemble and assemble an M240 machinegun.

The block of instruction also allows junior leaders to teach and demonstrate their future leadership potential to their superiors.

Signaling and marking

Vehicle markings: Vehicle markings are extremely important during a CTC rotation for both daytime and nighttime operations. Most units develop a quick solution after the first night movement or a fratricide incident. That is too late!

Some successful companies have used cut-up VS-17 panels on antennas, where the left or right dictates the platoon, and the other side represents the position within the platoon. Others have used 100-mph tape on the side, which usually lasts about a day or two in the dust or rain. Develop a system before deployment that is durable and understood within your formation, your battalion and brigade.

Degraded communications: In a degraded-communications environment, it is critical to know how you will

communicate between vehicles without FM radio communications. Most units already go through a primary, alternate, contingency and emergency plan while dismounted – FM, whistle, star cluster, runner, etc. – but what are the actions when mounted? Simple solutions might include reaching back into history and pulling out those old flags for command signals or to ensure your formation is fluent in hand and arm signals.

Dismounted markings: Dismounted marking is vital at the breach and in an urban environment. Colors may vary across the Army, but usually, blue chemlights mark the breach, and green chemlights communicate that a room is clear. Foxtails (VS-17 panel tied to a rock) might indicate the shifting and lifting of fires or mark a friendly unit's frontline trace when hanging outside of the backside (facing friendly forces) of a building.

More questions to consider for dismounted markings include: Does your unit have a "Moses pole" and marking system for the frontline trace of friendly units clearing a trench, or will you resort to using an Advanced System Improvement Program antenna at the last minute? How will the engineers mark the handrail of the breach and where do they mark it – left or right side? The key is not developing these signals in a vacuum. They should be codified in the battalion/brigade



Figure 4. Example of a foxtail, annotating that the room has been cleared. (U.S. Army photo by MAJ Jonathan Buckland)

tactical SOP (TACSOP). If your unit does not have a TACSOP, be proactive and start a conversation with your command sergeant major and develop one.

Company SOPs

Assembly areas: Does your company already have an SOP to occupy an assembly area (AA), or are you going to have a 10-minute conversation on the company net about how you want to emplace? Establish the SOPs for occupying AAs, both dismounted and mounted, before your rotation. It can be as simple as this: The lead element always has the 9-to-3 by way of 12, the second element has the 3-to-6 by way of six, and the third element has the 6-to-9 by way of six. Company trains will locate just above the six.

Whatever you decide it to be, establish it and rehearse during home-station training. Do not try to do it for the first time at 3 a.m. in the rain while in the middle of a force-on-force engagement.

Priorities of work: Is the priority of work known throughout the formation, or do leaders have to publish

them every time they occupy the AA? Publish it beforehand so that drivers know to get out and immediately conduct preventive maintenance checks and services – checking track tension, petroleum, oil and lubricants. It's also important that gunners know to bore-sight and execute dismounted teams, and that the Javelin teams know to build fighting positions.

Plan for the safety factor as well, especially when locating sleeping areas. By doing this, Soldiers will already know where to sleep, and if drivers must move, they will know where those areas are.

Pre-combat checks (PCCs) and pre-combat inspections (PCIs): PCCs/PCIs is a phrase that is thrown around throughout the Army without specific guidance as to what they are or when they are conducted. Ensuring that subordinates and junior leaders understand the difference between PCCs and PCIs and what they are looking at is key to ensuring Soldiers have the right equipment for their operation.

Pre-combat inspections are actually that – an inspection, not an interview. This inspection is the opportunity for

a first-line supervisor to put hands on all their Soldiers' equipment to ensure it is 100-percent ready for the mission.

Pre-combat checks are the ability for leaders to conduct spot-checks within their formation to verify that inspections have been conducted. A standard checklist needs to be published at the company level to guarantee all leaders know to confirm the same equipment. This way, if a squad is attached to another platoon, the leaders have the same expectations.

Orders production

How will you develop a company operations order (OPORD) at 2 a.m.? Is your executive officer going to brief sustainment operations? Is your first sergeant going to brief the medical portion? Who is present at the commander's OPORD? These are all questions you should ask now, before deployment, to ensure you are prepared to give a detailed and timely OPORD. The OPORD should provide enough information so that everyone knows their mission and responsibilities while ensuring subordinates have enough time to issue their orders.

There are many templates you can use; the key is finding the one that works best for you. I have seen a commander use his computer to type up orders and use downloaded maps to make graphics. It was a great technique until he ran out of paper and ink.

An option is using carbon-copy paper to write the order and issue the copies to your subordinates. Another practice is to have laminated order templates that every leader can fill out while the OPORD occurs. Whatever method you choose, practice it before your rotation to the operational environment.

Operational graphics: Once you have published your order, how will you publish operational graphics? Do you have your overlays available from higher for your subordinate leaders to copy?

Operations graphics allow units to communicate clearly and quickly in a complex operational environment. Battle boards or hard backings that maps mount to with clear overlays



Figure 5. Example of a Javelin battle position. (U.S. Army photo by MAJ Jonathan Buckland)

WARNO <u>1</u> TO		Page 1 of 2
OPORD <u>ASSASSIN RAGE</u>		
Initial Task Org:		
Effective: 051500FEB20		
1. SITUATION: General Enemy Overview: Donovanian forces have crossed the international boundary into Atropia in the past 72 hours. Atropian forces have been unsuccessful in repelling the Donovanian offense and have ceded substantial terrain. The Donovanian 801 st BTG is currently staged vic. Borun/Debrun pass and is expected to advance south to Rikish by 07 FEB and further south to the Whale Gap by 08 FEB. They are supported by DTG Recon, SF, etc.		AO: Valley of Death/Tierfort North 13 Northing (NSR IN DRANGE) South 96 Northing (PL DEBBIE) East 57 Easting (PATA PATTI WADI) West 28 Easting (ISB)
Who the CO/TM is fighting: 2-4 x DTG recon ops (2-4 BRM-2 and 1-2 BRM-3K) and 1x Mechanized Infantry Company mobile and responsive throughout the AO. Assessed to be at 85% strength.		AI: Erdabil Province, Atropia North 28 Northing South 94 Northing East 62 Easting West 18 Easting
BCT Mission: NET 080600FEB20 TF RAIDER attacks to destroy the 801 st BTG in zone from PL SCOTT to PL COURTNEY IOT protect 2/5Z ID's flank. O/O TF RAIDER defends along PL COURTNEY IVO BP3A, BP3B, and BP3C to destroy elements of the 801 st BTG IOT prevent the envelopment of 2/5Z ID with PL DEBBIE as the no penetration line.	BCT Cdr Intent: Purpose: Defeat 801 st BTG to compel Donovanians to withdraw Key Tasks: 1. Destroy ENY recon 2. Neutralize ENY (ADs, IDF, RST, and ENG) to enable FOM 3. Secure, isolate, & clear gully and laboratory 4. Protect LOCs 5. Transition into hasty defense ENDSTATE: 1. Defending along PL COURTNEY, 2. Recon destroyed 3. BTG neutralized 4. Atropian control	
BN/TF Mission: 2-7 IN suppresses ENY on OBS STRUKART IOT allow FOM for the BDE DO (3-69 AB).	BN/TF Cdr Intent: Purpose: Enable restoration of international boundary Key Tasks: 1. Destroy ENY recon to enable FOM 2. Mass combat enabled at decisive point 3. Mass and control tempo of fight; pressure CBT PWR; reputation unable to impact BOE ENDSTATE: Key Terrain Controlled, 801 st BTG destroyed; counterattack defeated	
2. MISSION: Upcoming Task and Purpose or <u>Type of Operation/General location:</u> A/2-7 attacks to seize OBS IVO Valley of Death and O/O suppresses OBS's east of (SO) Tierfort mountain range IOT enable the BN DO to suppress ENY forces opposing the penetration of 801 st defenses.		
3. EXECUTION: Movement Instructions/ <u>Movement to initiate:</u> Our Current Location: <u>ISB (RUBA)</u> Our Next Location: <u>ATK POS ABLE (vic. 3497)</u> Objective Location: <u>TBD (vic. Valley of Death)</u> Recon Team: 1x section + 2 SQDs of 2/A with ASSASSIN RAVEN in support		Recon Tasks/ Recon to initiate 1. Map Recon (oriented vic Langford Wells, Bowling Alley/Rur, Valley of Death) 2. 2/A conduct coordination with 2-7 Scouts to determine scheme of maneuver and collection plan. 3. Prepare RAVEN for flight within first 48 hours of operation.
		Information Requirements 1. OBS locations 2. Unit boundaries 3. PoF and fire support tasks 4. BN triggers for movement and direct fire engagements

Figure 6. Example of a laminated company warning order. (U.S. Army photo by MAJ Jonathan Buckland)

Figure 7, right. A company commander conducts a company OPORD brief with company leadership. (U.S. Army photo by MAJ Jonathan Buckland)



that show obstacles, targets, target-reference points, battle positions or adjacent unit locations are common in the mounted community. These boards are just as easy to make within the light community.

They are compact enough to fit in a rucksack or cargo pocket. Building these boards before an operation will ensure that leaders can copy graphics with the expectation to use them during a rotation.

Make MILES effective

Every rotational unit that comes through a CTC thinks that the OPFOR cheats somehow with their MILES gear. The reality is that the OPFOR is lethal in the MILES environment because they regularly use and train on the equipment to ensure its lethality against an opposing force.

You should not be using your MILES gear for the first time at the ISB or the rotational-unit bivouac area. Draw the equipment at your home station and incorporate it into your training. Become proficient with it, and lethality against an opposing force will follow suit.

Do not just draw MILES for your individual weapons. Train with MILES on your Stingers and Javelins so that you can be lethal against Red air and armored formations as well.

The same home-station training should be conducted for mounted MILES – boresight and zero both your

M1 Abrams or M2 Bradley. You can conduct lethality checks on your lasers all day in the box, but if you have not boresighted or zeroed out to the range you think you are going to engage the enemy, it is a waste of time.

These techniques will tip the scales in your favor for a more successful rotation. Rotations are infinitely more fun when you win.

Takeaway

This article is not intended to provide company-level leadership with all the information needed to prepare for a CTC rotation. It is meant to start a dialogue within the company leadership to think through their SOPs and determine areas where the company is lacking. If these areas are addressed before deployment to the CTC, it will allow the company and its observers/coaches/trainers (O/C/Ts) the opportunity to focus on other areas that need to be improved during your rotation.

Enjoy your time during your rotation with your company. Always ask for feedback from your O/C/Ts. You are there to make your team better, and to do that, avoid wasting precious

time learning things you could have thought about and practiced before deployment to your CTC rotation.

If you ever get the opportunity to serve at a CTC, take it. It is one of the most rewarding and professionally developing assignments in our Army!

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ACRONYM QUICK-SCAN

AA – assembly area
BII – basic-issue item
CBRN – chemical, biological, radiological and nuclear
COP – common operating picture
CTC – combat-training center
DA – Department of the Army
FM – frequency modulation
IBCT – infantry brigade combat team
ISB – intermediate staging base
JBC-P – Joint Battle Command-Platform
MILES – Multiple Integrated Laser Engagement System
NTC – National Training Center
O/C/T – observer/coach/trainer
OPFOR – opposing force
OPORD – operations order
PCC – pre-combat checks
PCI – pre-combat inspections
PIR – parachute infantry regiment
PT – physical training
SOSRA – suppress, obscure, secure, reduce and assault
SOP – standing operating procedure
TACSOP – tactical standing operating procedure

has a bachelor's of arts degree in English from the Virginia Military Institute. He is currently pursuing a master's of arts degree in international studies from the University of Kansas.



Figure 8. A company commander briefs his platoon leaders. (U.S. Army photo by MAJ Jonathan Buckland)

Send Us Your Manuscripts

ARMOR magazine's manuscript suspenses for 2021:

• **Fall 2021 edition: Aug. 20**

For planning purposes, ARMOR magazine suspenses are an average of 10-11 weeks before the edition is published.

Junior Officers Community

Armor and Cavalry junior officers looking for a professional space to connect with like-minded leaders about improving themselves and making their units more effective may wish to check out Junior Officer (JO) (<http://cjo.army.mil>).

JO is an on-line space dedicated to the professional development of Army junior officers and the organizations they lead. In JO, junior officers can find an array of leader development resources, including:

- **Blog:** Original articles on topics relevant to junior officers. New content from junior officers is welcome.
- **Document database:** A repository of professional documents written by other junior officers and shared to help others.
- **CCLPDs:** Mobile-friendly leader professional development modules with short videos, articles and discussion questions.
- **(Coming soon) On-line leader challenge:** Put yourself in the shoes of a junior officer facing a tough dilemma with no clear right answer.
- **On-line forums:** A members-only space where junior officers can share ideas and insights.

For organizations looking to professionally develop their junior officers in person, the Center for Junior Officers (U.S. Military Academy, West Point, NY) will provide a custom training package. Options include:

- **Leader challenge:** Video-based leader development program with discussion.
- **Great-teams exercise:** Share and learn from others' experience on a great team.
- **Dogtag exercise:** Build a visual plot of professional experience to reveal new aspects and talents of your team members.
- **Third-generation leadership talk:** A concept that focuses on impacting leaders who have yet to come into service.
- **Company-level leader Interviews:** Share your experience with a leadership challenge.
- **Leader/visual metaphor exercise:** Identify current values reflected in the organization and discuss future development.
- **Leadership psychology talk:** Presentation on a wide range of topics related to the psychology of leadership.

The Center for Junior Officers is an officially sponsored Army unit that supports junior officers across the force. To find out more, email info@jo.army.mil.

31ST CAVALRY REGIMENT



Scarlet and white (silver) represent the Cavalry Branch. The panther embodies the qualities emphasized by the motto, "Swift and Unseen." Black denotes strength and solidarity. The paws and claws terminating the motto scroll symbolize tenacity and a readiness to fight. The green of the scroll and shrub on the shield signify growth and the land, which is a traditional Cavalry environment. Scarlet also denotes courage and sacrifice. The distinctive unit insignia was approved Dec. 30, 2003.

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