

Infantry

Fall 2020



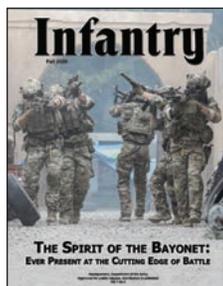
THE SPIRIT OF THE BAYONET: EVER PRESENT AT THE CUTTING EDGE OF BATTLE

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FRONT COVER:

U.S. Army Rangers from the 75th Ranger Regiment simulate clearing a village alley in support of the Army Marketing Research Group's "Warriors Wanted" campaign at Fort Campbell, KY, on 22 July 2018. (Photo by SSG Iman Broady-Chin)

BACK COVER:

Paratroopers assigned to the 2nd Battalion, 503rd Infantry Regiment, 173rd Airborne Brigade, engage the targets during a live-fire exercise as part of Rock Klesman at Pocek Range in Slovenia on 3 March 2020. (Photo by Paolo Bovo)



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

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Commandant's Note

BG DAVID M. HODNE

Our Priority: Instill the Spirit of the Bayonet



We publish this issue of *INFANTRY* as our Army “goes rolling along,” very much living up to our Army song in these interesting times. In the midst of a global pandemic, our Army continues to execute missions around the world while simultaneously pursuing modernization efforts in pursuit of overmatch against near-peer adversaries. Absent context, many are tempted to view today’s challenges as new or unique. In many ways, however, these challenges are not unfamiliar to our very experienced Army. In fact, it is precisely because of our determination to overcome all challenges that our Army remains the unrivaled force that we are. Over 100 years ago, our Army rapidly modernized, or more realistically, endured a total overhaul, in a manner necessary to wage ongoing large-scale combat operations. This, too, occurred in the midst of the obstacles associated with a devastating global pandemic.

As our Army continues to march forward, your U.S. Army Infantry School similarly presses on with our important responsibility of developing leaders. The legacy of the United States Army’s Infantry heralds from our guarantee that we will close with and destroy our enemies in the final yards. This requires investing daily in coaching, teaching, and training the next generation of Infantry. With a proud history in training leaders for the rigors of close combat, you have to look no further than our Infantry School patch to understand our priorities. Emblazoned with an M1905 Bayonet, our mission is to inspire and instill the “Spirit of the Bayonet” in all who train here. The will to meet and destroy the enemy in hand-to-hand combat is the spirit of the bayonet.

Informed by his own combat experience in the trenches of World War I, and in our darkest hours of World War II, General George C. Marshall prioritized the revision and publication of FM 23-25, *Bayonet*. The bayonet, for those with the courage to wield it, serves an important purpose when rushing the enemy in the final yards. This requires will inherent to close quarters combat, best captured in the following excerpt from FM 23-25:

The will to meet and destroy the enemy in hand-to-hand combat is the spirit of the bayonet. It springs from the fighter’s confidence, courage, and grim determination, and is the result of vigorous

training. Through training, the fighting instinct of the individual soldier is developed to the highest point. The will to use the bayonet first appears in the trainee when he begins to handle it with facility, and increases as his confidence grows. The full development of his physical prowess and complete confidence in his weapon culminates in the final expression of the spirit of the bayonet — fierce and relentless destruction of the enemy.

In addition to proudly displaying a bayonet, our Infantry School patch also hosts two simple words, “Follow Me.” These powerful words speak to the spirit of the bayonet, but also speak to the spirit of the Infantry. Fundamentally, all Infantry Soldiers believe in some very important truths. First, they believe in themselves. Whether crossing “no-man’s land” or entering the room to finish the fight, the Infantry Soldier knows they have the skill to accomplish the mission and defeat any foe. Second, all Infantry Soldiers believe in their teammates. They know the members of their squad and platoon will always be at their side. Lastly, Infantry Soldiers expected to overcome difficult odds, believe in their leaders. They expect their leaders to have the wisdom and experience to make the tough calls, and they expect their leaders to look out for their welfare when leading them across “no-man’s land.” When an Infantry Leader says, “Follow Me,” it means something. It means victory.

Instilling the spirit of the bayonet here requires both a willing student and a capable, professional instructor. Instilling the spirit of the bayonet is no small responsibility, and it doesn’t happen without a great deal of effort. Our instructors must be supremely capable and confident in their expertise. They must also display the professionalism necessary to inspire the next generation of Infantry to defeat our enemies in all conditions. Again, our patch says, “Follow Me,” and not, “Do As You Are Told.” Our Drill Sergeants, Black Hats, Ranger Instructors, and our IBOLC Platoon Trainers know they invest daily in both the next generation of Infantry and in the future of our Army. Again, even at the seemingly desperate height of World War II, General Marshall recognized the role professional instructors play in inspiring Soldiers to face an unclear future. After detailing the specific technical competencies and training



methodologies of bayonet fighting, FM 23-25 dedicates attention to a section titled, Advice to Instructors, emphasizing the key attributes of the professional instructor:

He must possess an intense enthusiasm, vigor, and those qualities of leadership which will inspire the best efforts of the men being trained. These qualities, or their lack, will be reflected in the efforts of the men.

...the bayonet fight may be the culmination of a gruelling advance or a determined defense under conditions when men approach exhaustion. Therefore, throughout the training, he emphasizes continued driving forward with the bayonet by sheer power of will even though the body may be ready to collapse.

The instructor avoids boisterous, bullying, impatient methods. He uses a clear, earnest, and encouraging delivery to secure alert and willing response.

The instructor does not use or encourage the use of profanity to instill fighting spirit... Noise is no substitute for enthusiasm of ability.

Much like our motto, Marshall's advice to instructors is similarly powerful. Every day here in the U.S. Army Infantry School, students look to their instructors for good leadership to emulate. Every day we are responsible for living up to our motto, "Follow Me." This requires attention and accountability, and remains critical to instilling the Spirit of the Bayonet and to instilling the will to win within our next generation of Infantry Soldiers and leaders.

In closing, the life of the Infantry, the hardened foot Soldier, is one of both hardship and pride. However, the key to our incredible legacy always comes down to skill and will. This requires both mastery of our craft and belief in self, teammates, and leaders. This mastery, and this belief, inspired generations of Infantry Soldiers to achieve the impossible. Ask any Infantry Soldier about the unimaginable hardships they've endured, and they will tell you instead about the teammates they shared these hardships with.

I remain incredibly proud and humbled to wear the patch of our U.S. Army Infantry School. I am proud to do my part in instilling the Spirit of the Bayonet. I am proud to serve in the company of great NCOs and Officers who invest in the future of our Infantry. Lastly, I am proud to echo the cry of all Infantry Soldiers who've gone before me...

I am the Infantry! Follow me!

Infantry News

Squad Vehicle to 'Motorize' IBCTs

RAE HIGGINS

The Army announced on 26 June that it has selected GM Defense, LLC, to produce the Infantry Squad Vehicle (ISV) to motorize infantry brigade combat teams (IBCTs). Delivery of this modernized capability is slated to begin with the 1st Brigade Combat Team, 82nd Airborne Division next winter.

The ISV program provides IBCTs an additive lightweight vehicle to move Soldiers and their equipment quickly over complex and difficult cross-country terrain. ISVs will provide greater mobility to IBCTs, as they are designed to move across restrictive terrain, allowing Soldiers to close on objectives with less fatigue and greater readiness. The Army can deliver the vehicle to the field by airdrop or helicopter, which increases the flexibility of Soldiers on the move.

This is the second important production contract award for Army light tactical wheeled vehicle modernization programs of record in the last year. The Army announced in June 2019 the production contract of the Joint Light Tactical Vehicle (JLTV). JLTV is modernizing the Army's and U.S. Marine Corps' light tactical wheeled vehicle fleets with a leap-ahead balance of payload, performance and protection.

"The Infantry Squad Vehicle meets the challenges we've faced to give our IBCT Soldiers greater mobility and increased survivability," said Chris Stone, the Maneuver Capabilities Development and



Photos by Michael J. Malik

The Infantry Squad Vehicle carries a nine-man squad, can be externally sling loaded under Black Hawk and Chinook helicopters, is air droppable, and provides exceptional mobility over all terrain.



The ISV underwent rigorous Soldier evaluation as part of the formal acquisition process. Soldiers from the 101st and 82nd Airborne Divisions played a crucial role in the selection.

Integration Directorate’s (MCDID’s) deputy Army capability manager - IBCT at Fort Benning, GA. The MCDID is the Army’s proponent for generating and validating the operational need for the Infantry Squad Vehicle.

“As the Army’s newest light tactical vehicle, ISV will allow IBCTs more flexibility and a greater advantage getting to the objective,” he added.

The ISV’s basic operational capabilities include:

- Nine-man squad carrying capability
- Payload of 3,200 pounds
- External sling load by a UH-60 Black Hawk helicopter
- Internal load/external lift by CH-47 Chinook helicopter
- Low-velocity air drop by fixed-wing C-130 or C-17 transport aircraft
- Exceptional mobility over all terrains

The comprehensive team responsible for bringing the ISV program to production contract award involves not only Army acquisition professionals, but also relevant stakeholders representing the Army’s funding and testing communities, Army Futures Command, and Forces Command. Soldier evaluation via user-acceptance efforts has been a key element of the ISV program from the outset and has helped compress the time it takes to field a modernized capability that meets infantry Soldiers’ needs.

“The Infantry Squad Vehicle program has focused on meeting the Army’s emphasis on enhancing Infantry Soldier mobility and survivability by rapidly fielding modernized capabilities. Our product management team for Ground Mobility Vehicles undertook a great challenge to develop a strategy using experimentation and technical demonstrations to streamline the ISV acquisition process,” said Timothy G. Goddette, the Army’s program executive officer for Combat Support and Combat Service Support (PEO CS&CSS).



According to Steve Herrick, the Army’s product lead for Ground Mobility Vehicles, PEO CS&CSS, the next steps in the ISV program include GM Defense delivering eight ISVs to Aberdeen Test Center in Maryland within four months. “Following delivery, our program office, along with Army testers, will execute an aggressive and tailored testing plan,” he said.

Herrick went on to explain the Army will conduct tailored production qualification testing to address the vehicles’ ability to meet the performance specifications in areas not previously tested. The ISV will also undergo transportability certification, which includes low-velocity air drop and helicopter sling loading. Next summer and fall, the Army will hold an initial operational test and evaluation.

“The program office is marching toward delivering ISVs to the first unit, the 1/82nd at Fort Bragg, approximately eight months after the contract award,” Herrick added. “We are excited about the commercial nature this product brings to the Soldier, and in the future, we could possibly see greater leaps in technology and concepts to include reconnaissance or electric vehicles.”

Rae Higgins serves with the Program Executive Office for Combat Support & Combat Service Support.

Tactical Communications and Hearing Protection

The Best Way to Maintain Overmatch on the Battlefield Is to Ensure You Can Communicate

MAJ EDWARD (TED) HALINSKI
NORRIS SIMMONS

As every Soldier knows, no plan survives first contact, but if you can't hear the new plan after first contact, then there is no surviving. In his book *Men Against Fire: The Problem of Battle Command*, S.L.A. Marshall speaks to this fact. He exhorts the importance of ensuring that men communicate on the battlefield when he states, "Information is the soul of morale in combat and the balancing force in successful tactics."¹ This statement, and many others in his work, drives home the point that Soldiers must communicate on the battlefield to ensure unit cohesion, assist the small unit leader in tactical decision making, and ultimately enable the Soldier's senior commander to apply the right type and mix of combat power that will ensure overmatch against our adversaries. These lessons were true of warfare in the 1940s when Marshall wrote this book, and they remain true today, especially as the U.S. Army begins to transition back to large-scale combat operations in a multi-domain environment. This article will provide some insight in how the Soldier Requirements Division (SRD) of the Army Futures Command is looking to enable ground communications (vocal communications) on the modern battlefield.

To enable the sharing of verbal information, the SRD has chosen to pursue writing a requirement that will result in a dual-purpose material solution. That solution will provide a communications interface with a Soldier's radio as well as active hearing protection to preserve the Soldier's ability to hear. The name of this solution is Tactical Communication and Hearing Protection (TAC-HP). Before we present SRD's plan to field this solution, one must understand the purpose of the Infantry as well as the Army's challenges in protecting Soldiers' hearing to recognize the need for investments in TAC-HP technologies.

The mission of the Infantry is to close with the enemy by means of fire and maneuver in order to destroy or capture him or to repel his assault with fire, close combat, and counterattack. The Infantry engages with the enemy with combined arms in all operational environments to bring



Photo by MAJ Jonathan Camire

An advisor from the 2nd Security Force Assistance Brigade heads out on a mission during the unit's 2019 deployment to Afghanistan.

about his defeat. In simple terms, the Infantry destroys the enemy and holds terrain. To accomplish missions, Infantry Soldiers must be able to hear commands from their leaders. Otherwise, there is no unity of effort on the battlefield, massing of fires, or simple cohesiveness down to the team level. This fact requires the Army to seek some solution that enables Soldiers to better communicate now to protect their hearing.

The Army has a huge challenge in preventing hearing loss. Here are a few reasons why we need to protect our Soldiers' hearing. First, continued, unprotected exposures to hazardous noise can produce a marked loss in one's ability to communicate — think machine-gun fire. In 2018, 21 percent of Soldiers had some degree of hearing loss, and five percent of Soldiers had clinically significant hearing loss.² Second, individuals with noise-induced hearing loss (NIHL) may be unaware of their hearing loss and not notice communication difficulties in quiet listening situations. Unprotected, high-intensity noise exposure can lead to a perceived ringing, buzzing, or hissing sound (tinnitus). Third, the Army's annual cost of hearing aids, batteries, and accessories for active-duty Soldiers is an estimated \$3-4 million for the last six years. The costs for all service members are approximately \$6-9 million for that same period (costs based on aggregated data provided by the Department of Defense Hearing Center of Excellence, derived from the Denver Logistics Center - Remote Order Entry System and the Military Health System Data Repository). These facts, along with a multitude of others not listed here, show why the Army must seek to better protect Soldiers' hearing.



Possible Tactical Communication and Hearing Protection Solutions

Both styles will provide the same functions and capabilities to the Soldier. The names speak mainly to how they are worn. In-the-ear systems are like ear plugs that have a wire running out to a central hub. Over-the-ear systems are more akin to ear muffs that surround the ear. Both styles are common in the industrial base, and each has several pros and cons. The Army has not chosen which style to pursue as of yet and will rely upon Soldier Touchpoints to help decide.

One might ask, where do we stand today with these initiatives — doesn't the Army already have ear plugs? Yes, the Army currently issues passive hearing protection (Combat Arms Earplugs and the Moldex Plug ITE) to Soldiers and has tried an active hearing protection solution — the Tactical Communications and Protection System (TCAPS). While the passive solutions work, they prevent the Soldier from hearing verbal commands clearly. That loss of communication is unacceptable to the dismounted Soldier. This means that the Army needs to pursue an active hearing protection solution. TCAPS has reached the end of its lifecycle due to its lack of interoperability with new radios entering the force. This has placed our Soldiers at risk and created a gap in connectivity to the Army's communication network.

To address this gap, SRD is creating a new requirement that will yield a new material solution under the TAC-HP program. SRD is looking to ultimately field a TAC-HP system that does the following: facilitates command and control, is interoperable with current and future military radios, controls steady state and impulse noise attenuation, allows for audio situational awareness, and empowers configuration control in the Adaptive Squad Architecture. To fulfill this requirement, SRD is primarily exploring two types of solutions: "in-the-ear" or "over-the-ear" styles.

In conclusion, SRD and its partners in the acquisition community are seeking to provide the Army with an advanced communication and hearing protection device that will continue to ensure the success of Soldiers on the battlefield. SRD is currently writing its requirements document and expects to see it approved in mid-fiscal year 2021. This approval will then trigger the acquisition community to produce a much-needed material solution for our Soldiers. What that solution will look like is still to be determined, but SRD does know that it will provide the right capability to our Soldiers.

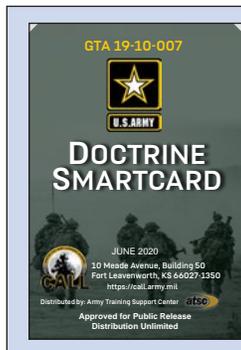
Notes

¹ S.L.A. Marshall, *Men Against Fire: The Problem of Battle Command* (S.L.A. Marshall, 2019), 63.

² LTC John A. Merkley, Army Hearing Program Manager - Army Public Health Center, and LTC Martin B. Robinette, Army Audiology Liaison – DoD Hearing Center of Excellence, DHA/J9, Slide Presentation: Hearing Health in the Army, Slide 2.

MAJ Edward (Ted) Halinski currently serves as lead project officer with the Soldier Systems Branch, Maneuver Capabilities Development and Integration Directorate (MCDID) at Fort Benning, GA.

Norris Simmons currently serves as lead protection action officer with the Soldier Systems Branch, MCDID.



New from the Center for Army Lessons Learned

GTA 19-10-007: Doctrine SmartCard

This quick reference aid aims to help Soldiers quickly identify and reference key doctrinal terms and steps in high operational tempo training environments.
https://usacac.army.mil/sites/default/files/publications/GTA_19_10_007_Doctrine_SmartCard_web_22JUN2020.pdf

Defense of the Cajun Bayou

In 11 rotations a year, the Joint Readiness Training Center (JRTC) challenges infantry brigade combat teams, aviation task forces, combat service support battalions, and other units from all components of the Army with a multi-domain, decisive action training environment.
<https://usacac.army.mil/sites/default/files/publications/CajunBayou.pdf>





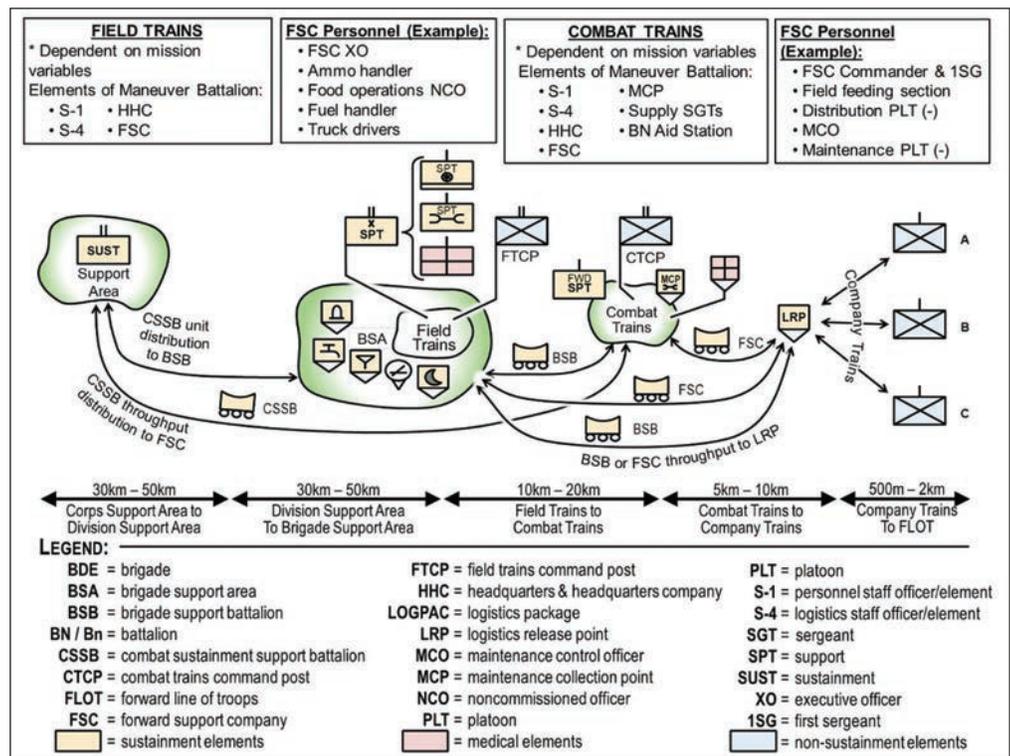
The 1SG's Role in Sustaining the Fight

CSM NEMA MOBARAKZADEH

Napoleon famously said, "Amateurs discuss tactics; the professionals discuss logistics." The counter-insurgency (COIN) fight has left many first sergeants (1SGs) lacking knowledge and experience about sustainment operations, particularly in rifle companies. Resupplying a rifle company is a deliberate operation that takes planning and ingenuity. While there are many ways to conduct resupply operations, my intent is to help rifle company 1SGs understand that sustaining the company is their responsibility. In large-scale combat operations (LSCO), sustainment operations are the lifeblood of the fight.

Logistics sets the tempo and depth of combat operations. Without procuring and distributing the necessary classes of supply, operations will grind to a halt. Furthermore, failing to address casualty evacuation (CASEVAC) and medical evacuation (MEDEVAC) operations will slow progress and lead to unnecessary friendly deaths on the battlefield. Company 1SGs are the linchpin to mission success; they stand at the crossroads that connects the Soldier with essential items and aid from higher. In concert with the combat trains command post (CTCP) and the forward support company (FSC), 1SGs fuel the fight, often literally. 1SGs' management of sustainment operations through the company trains and the CTCP is a critical component of successful LSCO.

Understanding how the sustainment enterprise functions will help 1SGs understand how the logistics process works and how they can identify friction points. To many maneuver 1SGs, the sustainment enterprise is a mythical creature that magically delivers what they need. Sustainment elements



Figures from Field Manual 4-0, Sustainment Operations

Figure 1 — The Sustainment Enterprise

organic to a brigade combat team (BCT) are arrayed across the battlefield to support combat operations. These units position themselves where they can best support the entire brigade, conceal their location in a defensible space, and have adequate room to establish their area of operations. The primary sustainment node for a BCT is the brigade support area (BSA).

The BSA

The BSA contains the bulk of the brigade's supplies and sustainment assets. The BSA is typically 10-20 kilometers behind the forward line of troops (FLOT), but terrain and the mission weigh heavily on its location. The brigade support battalion (BSB) runs the BSA. The BSB oversees the entire BSA, controls its internal assets, and assists the FSCs. The BSB supplies the FSCs with most of the classes of supply

they need to distribute to the battalions. The BSB can offer limited troop transportation capabilities as well. The BSB establishes a role II field hospital, the mortuary affairs collection point (MACP), the supply support activity (SSA), and the ammunition supply point (ASP). Inside the BSA, the FSCs establish field trains command posts (FTCPs).

The FTCP houses the bulk of a battalion's sustainment capabilities. The FTCP controls the battalion's maintenance area, bulk water supply, fuelers, wreckers, and field feeding teams. Typically, the FSC 1SG, battalion S1 or S1 NCOIC, the battalion S4 NCOIC, and possibly some supply sergeants or clerks are located at the FTCP. Units place leaders where they will be most effective; therefore, no two BSAs or FTCPs are outfitted the same. The FTCP recovers inoperable vehicles and repairs them. It also gathers the requested items and packages them for efficient delivery to the battalions. The logistics status (LOGSTAT) informs the battalion and specifically the FTCP of needed supplies. The FSC uses its distribution (DISTRO) platoon to deliver supplies to the logistics release point (LRP) that the CTCP controls.

The CTCP and LRP Operations

The CTCP is the command-and-control element for the DISTRO platoon once it nears the LRP. The CTCP is typically 5-10 kilometers from the FLOT, but it is close enough to the tactical operations center (TOC) to serve as an alternate command node in the event of TOC displacement. The CTCP may have a variety of leaders positioned at its location, but typically the HHC command team, the battalion medical officer (MEDO), an S1 representative, and a supply representative are at the site. The FSC commander is often at the CTCP as well. The HHC command team will control the CTCP if they are the senior members at the site. The CTCP processes nine-line CASEVAC/MEDEVAC calls, oversees the main aid station (MAS) and forward aid station (FAS), coordinates vehicle recovery operations, and normally has a small transportation capability to assist with emergencies. Finally, the CTCP facilitates the DISTRO platoon's operation.

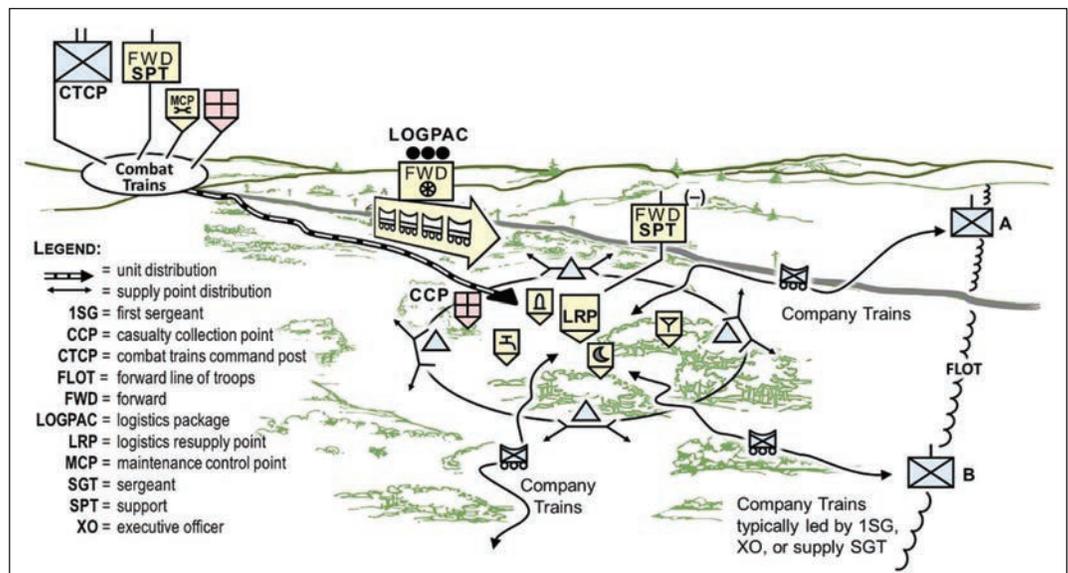
The DISTRO platoon is responsible for delivering supplies to the LRP. Once it leaves the BSA, it either travels to the CTCP or contacts the CTCP enroute to the LRP. Normally, the DISTRO platoon goes to the CTCP so it can first drop needed supplies for the CTCP and battalion TOC prior to moving to the LRP. It is the HHC 1SG's responsibility to facilitate the link up of the DISTRO platoon and the companies' trains. Depending

on the tactical situation and the amount of supplies delivered, the CTCP may escort the DISTRO platoon to the LRP and aid in establishing the site. If DISTRO needs to evacuate remains to the MACP, then it will likely need assistance from the CTCP. The HHC 1SG should serve as a leader who can move to points of friction to aid in recovery, MEDEVAC, CASEVAC, emergency resupply, and other emergent requirements. HHC 1SGs with their limited vehicle and Soldier package can serve as a tremendous combat enabler by being proactive and solving problems when other key leaders are involved in other tasks. The establishment and operation of the LRP is essential to efficient resupply operations.

The DISTRO platoon establishes the LRP at a tactically suitable location that is centrally located to the companies. The LRP and the company resupply point (CRP) are examples of the service-station resupply method. A unit conducts the service-station method by establishing a central distribution site and having subordinate units come to the higher echelon's location to receive supplies. The DISTRO platoon, which may have help from the CTCP, must secure the area. The Soldiers transporting the resupply should configure loads in a way that facilitates effective distribution of the items.

As each company trains arrives at the LRP, it will conduct link-up procedures in accordance with the battalion's standard operating procedure (SOP). The company 1SG, executive officer (XO), or supply sergeant who is leading the trains needs to understand what supplies are being picked up and be ready to hand off backhaul items to the DISTRO platoon. The trains should have a small team ready to move the items back and forth as necessary. Depending on the tactical situation and the unit's preference, company 1SGs may package their supplies for further distribution at the LRP. In a contested environment or if space is limited, the trains may need to move back to the CRP to configure the loads for distribution to the platoons. Company 1SGs can support

Figure 2 — Company Trains



sustainment operations by planning, being proactive, and efficiently running their trains.

Company Trains

Before 1SGs can sustain their company, they need a plan. Everyone is familiar with the adage, “the 1SG is responsible for beans and bullets.” What does that actually mean? While the company commander is planning the operation, the 1SG and XO split their efforts between conducting troop leading procedures (TLPs), pre-combat inspections (PCIs), and pre-combat checks (PCCs); aiding the maneuver planning process; gathering supplies; overseeing rehearsals; and planning sustainment by phase. The sustainment plan must support and enhance the maneuver plan.

Based off the maneuver plan, the 1SG should be able to identify rates of march and likely enemy the formation will encounter. This information will drive when the 1SG can resupply each platoon and aid in forecasting the types and amount of supplies needed. Paragraph four of the operations order should be robust and outline the days of supplies Soldiers will pack, resupply windows, anticipated locations, LOGSTAT reporting requirements, and methods of distribution — namely tailgate vs service-station resupply. The LOGSTAT must be accurate and timely. A late LOGSTAT limits the S4’s ability to consolidate requests in a timely manner, and it hinders the FTCP from finding and loading the supplies. If time is available, the 1SG should host a sustainment combined arms rehearsal (CAR) and an actual rehearsal. The company trains should be a combat multiplier, not a hindrance to success.

The company trains is the pack mule of a company. Most company trains consist of a differing package of vehicles according to the unit modified table of organization and equipment (MTOE). The most common package in a light infantry company is a light medium tactical vehicle (LMTV) with the water buffalo and the commander’s high-mobility multipurpose wheeled vehicle (HMMWV) with a trailer. Soldier load is rightfully a hot topic across our Army. Dismounted Soldiers often carry between 90 and 140 pounds of mission-essential gear in combat.¹ With deliberate planning, the 1SG can drastically reduce the weight some Soldiers carry.

When organized properly, the trains can help reduce Soldiers’ loads. When in the approach march or contact with the enemy is imminent, Soldiers should only carry the items necessary for them to fight and defeat the enemy. We can refer to this as

the fighting load. Soldiers normally carry the fighting load in an assault pack or three-day rucksack. Soldiers pack the rest of their field gear in a rucksack, which can be organized and stored in the company trains. While not a correct use of the doctrinal term, we can refer to the rucksack as the sustainment load. What Soldiers need to carry to fight varies according to the mission. The company trains can alleviate some of the burden for Soldiers, keeping them fresh for the fight. Although the trains can support some of the Soldiers’ gear, there are times when the operational environment will dictate that Soldiers carry their full sustainment load.

There are points in the battle where the trains cannot support carrying Soldiers’ sustainment load. While some equipment, such as additional mortar rounds, anti-tank (AT) systems, and other heavy items can be stored in the trains, Soldiers may need to carry their rucksack. The company or platoon can consolidate rucksacks in a ruck plan at the attack position, the company assembly area, or in an objective rally point (ORP). This will allow the element to move on with only the fighting load necessary to accomplish the mission. The 1SG can then transport the rucksacks with the trains or assist with transporting heavier items so the platoon can move back to their rucksacks. Organizing the trains aids the 1SG in resupplying the company and equipping it for the fight.

Establishing a packing list and issuing guidance will help 1SGs control their CRP. Having a strict packing list that is stored in accordance with an SOP will aid resupply operations, especially if time is a concern. Before distributing rucksacks, the 1SG should issue task, conditions, and standards to the platoon sergeant (PSG). This may be as simple as letting him or her know to keep the rucksacks until the next morning. This will give the platoon the opportunity to swap out dirty clothes, conduct hygiene, and access sleep gear. If there is a



Photo by SPC Austin Carrillo

Soldiers assigned to the 3rd Infantry Brigade Combat Team, 25th Infantry Division arrive at a resupply point for fuel, food, and water during an exercise in Hawaii on 5 June 2019.

time constraint, the 1SG should issue a time hack along with the task to be completed. For example, remove chemical, biological, radiological, nuclear (CBRN) equipment and return the rucksacks in 15 minutes. When Soldiers receive their rucksack, they should know exactly where to reach to get out the items they need because there is not time to dump out a ruck in search of a required piece of equipment. Of course, all of this has to be done while security is maintained and in a location that the trains will not be decisively engaged. A well-organized load plan will aid in the distribution of equipment.

Establishing a load plan is essential for efficient resupply operations. Optimizing the space available in the vehicle package is critical. The trains will likely have Soldiers' gear, ammunition, meals ready-to-eat (MREs), water cans, fuel cans, medical equipment, batteries, platoon equipment, and class IV materials just to name a few items. The items loaded in the trucks have to be organized in a way that casualties can be loaded if there are injured Soldiers. The 1SG should establish a plan and practice loading supplies prior to a mission. The resupply team should organize the trains in a way that allows it to distribute the most important equipment first. For example, after transitioning into the defense, the resupply team will need to hand out class IV items and AT weapons systems quickly. This will be hard to do if they are under cases of energy drinks. Creating speedballs will assist the 1SG in quickly distributing supplies.

Making Resupply Operations More Efficient

Speedballs are of vital importance when resupplying a large group of Soldiers. As resupply needs change in the field, PSGs should be proactive about sending up their LOGSTAT in accordance with the battalion's SOP. Ordering the right equipment and packing important items ahead of time will assist the process. A speedball is simply a pre-packaged container that is easy to maneuver and organized with essential supplies. Soldiers can construct speedballs from many items, but duffel bags, aviator kit bags, and body bags all work well. Soldiers must ensure they waterproof the contents of the bag. The load must not exceed the Soldiers' ability to transport the contents by foot. Ordering extra magazines will allow the 1SG to preload magazines and package them in 50 cal. ammo cans for quick distribution. The PSG can aid the process by collecting up empty magazines to exchange for the prefilled cans. The PSG should also collect dead batteries, batteries that need recharging, MRE trash, damaged equipment that needs repair, and other unneeded items so he or she can essentially swap a used speedball for a fresh one. This method simply requires each squad to carry an extra duffel bag. The PSG should also facilitate the process by identifying a resupply squad that will transport the supplies. When necessary, the resupply squad can make it easier to move the supplies by bringing Skedcos. The resupply squad must be able to move equipment while pulling security, but it should also have the ability to react to contact if necessary. While the 1SG can streamline equipment distribution, water delivery can be more of a challenge.

A rifle platoon requires a lot of water during sustained

The 1SG can predict troop water consumption based off the expected work cycle and environmental considerations. Without a strategy, resupplying Soldiers with water can become time consuming and potentially have a negative impact on operations.

LSCO. A quart of water weighs roughly two pounds. A normal light infantry platoon has an average of 40 Soldiers in it, with each carrying six quarts of water between their fighting load and sustainment load. This equates to 12 five-gallon water cans to resupply a platoon (total weight of 480 pounds). Multiply that across a company, and the 1SG can quickly end up with an LMTV full of water cans and no room for any other equipment. The 1SG can predict troop water consumption based off the expected work cycle and environmental considerations. Without a strategy, resupplying Soldiers with water can become time consuming and potentially have a negative impact on operations.

Delivering water to Soldiers is a complicated task if the 1SG fails to plan. The water buffalo carries the majority of water in the company trains. The problem is how to get water from the buffalo to the resupply squad efficiently. Water cans can fill a platoon at a time and then be refilled prior to delivering to the next platoon when using the tailgate method. A unit conducts the tailgate resupply method by driving the trains to each subordinate unit's location and distributing supplies. When using the service-station method, the resupply squad can bring the platoon's canteens in the duffel bags it is carrying to the CRP and fill them there. The 1SG will have to separate the resupply squads by time and space, as this method of resupply is tedious and time consuming. A limiting factor for this method of resupply is that Soldiers may not be able to move a platoon's worth of water and equipment in a single trip. The 1SG can distribute water more efficiently by planning and ordering the right equipment.

With a solid plan and the correct equipment, the 1SG can resupply water quickly. Using two-and-a-half-gallon water cans can make it simpler for platoons to distribute large quantities of water across their resupply squad. Adding five-quart canteens to a speedball makes it easier to transport and subsequently distribute water. The key is to have enough to swap one for one so there are always some containers available in the company trains. Bulk Camelbaks, water filtration systems, bleach, iodine, and commercial off-the-shelf water purification systems for both individual and bulk water treatment are all viable options for cutting down water resupply frequency. After all, there is a reason that a key criterion for establishing a patrol base is that it is near a source of water. It is up to the 1SG to discern how to quickly get water from the company's buffalo to the individual Soldier or provide equipment to cut down the need for constant water resupply.

Powering Radios in the Field

Another logistical challenge is keeping radios powered. Keeping radios functioning with charged batteries can become difficult during LSCO. Rifle companies carry numerous radios that require different batteries. Disposable batteries are expensive and difficult to keep in stock. This leaves rechargeable batteries as the practical option. The issue with rechargeable batteries is power generation for recharging.

Most companies are not equipped with portable generators. Battery recharging stations typically require a 110-volt outlet. Solar panels and hand-crank generators are an option but take too long to recharge batteries, may require the unit to be stationary, and are generally impractical for charging large quantities of batteries. That leaves a company with two options: a power converter run off the vehicle's battery or a portable generator. A portable generator will allow the company to run several charging stations at a time. The major drawback is the company will have to add gasoline to its sustainment plan. Additionally, generators are loud. If the company command post (CP) can rotate batteries, a power converter and a generator should keep the company's radios powered. It is up to the resupply team to ensure it adds fresh batteries to speedballs and returns dead batteries to the recharging station. With the company resupplied, the 1SGs can turn their attention to CASEVAC and MEDEVAC operations.

CASEVAC and MEDEVAC Operations

The 1SG is a driving force in CASEVAC and MEDEVAC operations. We have all heard the phrase "no plan survives contact with the enemy." The company will have to evacuate Soldiers from the battlefield due to enemy contact, disease, or injury. It is up to the 1SG and his or her medical team to determine the precedence of the patients and facilitate their movement to the appropriate level of treatment. The 1SG must have planned, coordinated, and disseminated company casualty collection points (CCPs).

By matching CCPs to the maneuver plan, the 1SG can often cut down on the time it takes for Soldiers to receive treatment. While the platoons are concentrating on care under fire, tactical field care, and triaging casualties in the platoon CCP, the 1SG must find a way to get the casualties off the battlefield. Depending on the nature of the fight and its proximity to the enemy, it is often unfeasible to bring MEDEVAC assets to the point of injury. By clearly painting the picture during planning and accounting for conditions on the ground, the 1SG can assist the PSGs with understanding when they will be required to move casualties to the company CCP and when the 1SG can move forward to load casualties. Both company and platoon CCPs should support the larger maneuver plan. The company should avoid using rolling CCPs. Tough realistic training should incorporate CASEVAC and MEDEVAC procedures into key collective and mission-essential task (MET) training.

MEDEVAC operations should be routine business for

maneuver forces. The triage of casualties, use of aid and litter teams, and packaging of casualties are all essential elements of successful medical evacuation. First-aid training is vital, but knowing when to conduct first aid is also important. Many Soldiers will stop fighting to treat injured Soldiers. It is important to finish the fight and secure the area before going into medical treatment that goes beyond care under fire. With sufficient training, units will be able to save lives on the battlefield and then focus on moving casualties to higher levels of care.

Another critical component to successful medical evacuation is securing key weapons systems and gear. While it is important to evacuate casualties quickly, it is essential for the fighting element to maintain needed equipment. Units often evacuate casualties with all of their equipment, and later the element discovers that it needs equipment that was evacuated with the patient. Units typically use a status card to mitigate this issue. My unit uses an expanded air assault bump card as our SOP. Soldiers carry three laminated index cards that have their battle roster number, blood type, and element on them. On the back and written in marker, Soldiers list their sensitive items and any mission-essential equipment they are carrying. Leaders take the cards at each stage of the medical evacuation process so they can maintain accountability of Soldiers and their sensitive items. Prior to the evacuation, the leader on the ground uses the card to identify and redistribute key and essential equipment. The formation will still need items such as radios, AT rounds, machine-gun ammo, laser designators, and other like items. When the aid and litter team has removed mission-essential equipment and packaged the Soldier, the 1SG is ready to move the casualty to the MEDEVAC site or the ambulance exchange point (AXP).

The 1SG is responsible for moving casualties from the company CCP to the AXP, MAS, FAS, or to a MEDEVAC landing zone (LZ). It is imperative the 1SG understands where the battalion has established these elements and where adjacent units have their medical assets as well. The 1SG can capture these locations using graphics and an overlay. Depending on the enemy situation and the element's proximity to the various medical assets, the 1SG may need to skip a lower echelon of care to expedite the process. If going to the MAS or FAS, the 1SG will need to coordinate with the HHC 1SG at the CTCP to facilitate the hand off of casualties.

Evacuating Remains and Receiving New Soldiers

Despite our best efforts, Soldiers will die on the battlefield, and the 1SG must have a plan to evacuate their remains. Transporting the remains of deceased Soldiers is a daunting task. Training LSCO at the Combat Training Centers (CTCs) has unveiled a gap in our training and doctrine. What should units do when they have a platoon of deceased Soldiers? While the Army figures out the way forward, rotational units have to figure out the best procedures for solving the problem. There are some methods that can help. The unit should not move deceased and living Soldiers together. Additionally, the deceased are the lowest level of precedence for evacuation.



Photo by PVT Brooke Davis

Soldiers assigned to the 4th Battalion, 17th Infantry Regiment, 1st Stryker Brigade Combat Team, 1st Armored Division, carry a simulated casualty to a casualty collection point during a rotation at the National Training Center, Fort Irwin, CA, on 1 October 2018.

Leaders should apply prudent judgment when assigning aid and litter teams. When possible, friends of the deceased and direct supervisors should not be the Soldiers that receive the task. In a combat environment and when practical, the company may need to request the Chaplain to speak to Soldiers. During LSCO, it may not be possible for Soldiers to have access to other mental health providers until later in the fight. Finally, the company will have to move the remains to the MAS or the CTCP for further transportation to the MACP. Eventually, the company will receive replacement Soldiers or attachments from other elements.

Once the CTCP notifies the 1SG that new Soldiers have arrived at the CTCP, the 1SG will have to coordinate to have the Soldiers moved to the company CP. The 1SG may need to lead the convoy from the LRP to the CP. Other times, the 1SG will have to use the company trains to move the Soldiers. After their arrival, it is up to the 1SG to assign replacements to the appropriate elements, concentrating on filling the shortest platoons and re-manning key weapons systems. Leaders at all levels should make a concerted effort to conduct rehearsals when tactically appropriate so the newly arrived Soldiers can learn the unit's SOPs and tactics, techniques, and procedures (TTPs). If the higher headquarters moves the formation to a rear area, leaders should prioritize training to allow the Soldiers to improve.

Conclusion

During LSCO, 1SGs are a combat multiplier if they are able to plan, synchronize, and efficiently conduct sustainment

operations. It is imperative 1SGs understand how the brigade arrays and fights the sustainment enterprise. This will allow them to identify and lubricate friction. By involving themselves early in the planning process, 1SGs can aid sustainment by phase, enabling movement, maneuver, and defensive tasks. Effective use of the company trains through load planning, packing list SOPs, and speedballs will preserve Soldiers' endurance and allow for the quick distribution of supplies. Carefully planning CASEVAC and MEDEVAC operations, as well as understanding the location of medical assets, will ensure timely treatment of injured Soldiers. The 1SG's management of sustainment operations through the company trains and the CTCP is a critical component of successful LSCO.

Notes

¹ Paul Scharre, "The U.S. Military Must Lighten Warfighters' Loads," *Defense One*, 30 September 2018. Accessed from <https://www.defenseone.com/ideas/2018/09/us-military-must-lighten-warfighters-loads/151673/>.

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An Introduction to China's High-Mobility Combined Arms Battalion Concept

JOSHUA AROSTEGUI

In 2013, the Chinese People's Liberation Army (PLA) Academy of Military Sciences released a new edition of its *Science of Military Strategy*, the first update since 2001. The text revealed how some of the PLA's top strategists assessed China's security environment, how military force should be used to secure China's interests, and what kinds of military capabilities the PLA should develop in the future. Serving to teach PLA officers how to think about strategy and strategic issues, the book was pivotal for Western audiences to understand how the PLA's various service arms would likely transform to accomplish Beijing's global ambitions.¹

Released the same year Beijing adopted the Belt Road Initiative global infrastructure project, the *Science of Military Strategy* noted that the PLA Army's (PLAA's) new strategic missions included multiple military operations other than war in addition to traditional warfighting and domestic security. These operations required flexible maneuver, rapid response, and seize and control capabilities to defend Chinese interests ranging from humanitarian assistance and disaster relief to international peacekeeping, as well as protecting overseas assets and strategic lines of communication.²

To accomplish these missions, the *Science of Military Strategy* proclaimed the necessity to reduce the number of heavy armored forces and make use of modern light and medium units capable of transitioning the PLAA from area defense to all-area maneuver and three-dimensional attack. The text also proclaimed that these light units should be capable of highway, rail, sea, and air transportation to provide the PLAA a rapid force projection capability that integrates digitized platforms and strong firepower.³

Although the 2013 text's mobility-focused light unit concept appeared novel for a PLAA heavily equipped with armor and motorized infantry, multiple infantry companies started testing new high-mobility (HIMOB) vehicles and tactics as early as 2011. By 2017, fully equipped HIMOB battalion testing was underway as the PLA services restructured to improve joint operations and force projection capabilities.

A Brief History of PLAA Light HIMOB Units

The U.S. military's effective use of net-centric operations during recent conflicts provided China the push it needed to move from an era of mechanization to developing a new "informationized" capability.⁴ (Informationized, also known as informatized, is a translation of *xinxihua* [信息化], a Chinese phrase that is roughly analogous to U.S. network-centric; however, informationization not only includes improvements in electronics and digital communications, but also elements of information operations like electronic warfare, cyber

warfare, and the Chinese "Three Warfares" [media warfare, legal warfare, and psychological warfare]). PLA leaders and Chinese weapons developers were determined to add the "ears, eyes, nerves, and brain" of informationized sensors and weapons to the "fist" mechanized equipment provided. Through informationization, PLA commanders could reduce the time between information collection and operational decision making, minimize a unit's battlefield signature while disrupting the enemy's use of its own information systems, and improve the accuracy of fires.⁵

Beginning in 2009, the PLAA started upgrading one of its mechanized infantry divisions into a new "digitized" unit consisting of both heavy tracked and medium-wheeled regiments. The introduction of digitized platforms like the Type-99A main battle tank (MBT), Type-04A infantry fighting vehicle (IFV), and the Type-09 8x8 wheeled vehicle chassis into the division, as well as some mechanized infantry brigades, demonstrated PLAA's commitment to heavy and medium force modernization; however, it appeared little attention was initially paid to modernizing light motorized and mountain infantry units.⁶

Chinese peer-review journal articles from the late 2000s bemoaned the lack of lighter informationized platforms that could support future "globally mobile" actions for dynamic "all-area operations." These articles recommended the establishment of lightly equipped infantry units that could carry out rapid response ground and air-mobile operations while also delivering effective firepower and ensuring survivability.⁷

In 2009, the PLA approached the Dongfeng Corporation with a request to develop a light armored wheeled vehicle that could equip weapons and perform in frontline combat operations. The vehicle needed to be capable of adapting to complex environments while integrating "high-mobility, protection, information, and firepower." Specific PLA requirements for the vehicle included sufficient protection from artillery shrapnel in rooftop armor, protection from grenades for the bottom plate armor, side and rear armor-plating equivalent to NATO Level 2, and frontal armor equivalent to NATO Level 3. Dongfeng used its widely fielded Mengshi 4x4 1.5-ton cross-country vehicle, a Chinese copy of the U.S. high-mobility multipurpose wheeled vehicle (HMMWV) as the base platform for this new system.⁸

The PLA selected a pilot unit to field the new systems in 2011, and the first platforms appeared in 2012 at an infantry company and a firepower company subordinate to a brigade of the corps-echelon 65th Group Army, Beijing Military Region.⁹⁻¹⁰

The six-person CSK131 4x4-assault vehicle equipped with a 12.7mm machine gun transported the infantry company's rifle squads.¹¹ The PCP001 self-propelled 81mm rapid-fire mortar system mounted on a Mengshi chassis, developed in 2008, provided battalion-echelon fire support.¹² Over the next two years, additional units fielded similar systems in the mountains of Tibet and in northeastern China near the North Korean border, with the latter becoming the first to test a full HIMOB combined arms battalion construct in 2014.¹³

By the time of the major PLAA restructure in 2017, all three of the known PLAA HIMOB units had transitioned beyond single company-level systems development and training. The battalion in northeastern China was the most well equipped, fielding newer platforms like the 10-person CSK141 armored vehicle (an extended chassis variant of the CSK131). Variants of the CSK-series and the MV3-series of armored 5-ton medium HIMOB trucks, called the CTM131, constituted the remainder of the battalion. This unit — 1st Battalion, 48th Combined Arms (CA) Brigade, 78th Group Army, Northern Theater Command — became a focal point for official PLA media throughout 2018 and 2019 as numerous articles and videos detailed the unit's capabilities as a new-type combat force.¹⁴⁻¹⁵

PLAA Light Combined Arms Brigade and HIMOB Battalion Organization

The PLA's force-wide April 2017 restructure dissolved five of the PLAA's 18 group armies, transformed most divisions into brigades, and largely disbanded regiments. The group army, roughly equivalent to a U.S. Army corps, standardized into a 12- to 13-brigade organization to "flatten" the command structure into a corps-brigade-battalion hierarchy that replaced the original corps-division-regiment construct. All infantry and armor brigades reorganized into permanent CA brigades, with each group army commanding six CA brigades and six or seven functional support brigades.

The U.S. Army brigade combat team heavily influenced the new PLAA CA brigades, leading to the establishment of heavy, medium, and light constructs that included four permanent CA battalions, a reconnaissance battalion, an artillery battalion, an air defense battalion, an operational support battalion, and a service support battalion. The CA brigades enabled a modular force that could pull in elements



Photo by Russian Military of Defense, attribution: mil.ru

A PLAA CSK131 high-mobility vehicle serves in a support role at the VOSTOK-2018 exercise in Russia. The CSK131 is a six-person chassis that can perform a variety of roles, including assault, command and control, reconnaissance, and troop transport. An extended chassis variant, the CSK141, can transport 10 personnel and is the primary maneuver vehicle in new PLAA HIMOB combined arms battalions.

from its parent group army as easily as they could push down their own brigade-echelon assets to CA battalions.

The CA battalion, now the PLAA's basic combat unit for joint operations, benefitted from the force reorganization as modern tanks, IFVs, wheeled assault guns, and self-propelled artillery systems transferred from dissolved divisions and brigades and replaced much of the obsolescent equipment in the newly established heavy and medium CA brigades. The legacy motorized infantry battalions in new light CA brigades, however, continued to transport personnel and tow heavy weapons with 2.5-ton diesel trucks just like their motorized infantry brigade predecessors. (PLAA motorized units refer to conventional light infantry transported in light-skinned trucks. They are not the same as Russian motorized units.) The additional loss of the motorized infantry brigade's organic tank battalion left the light CA brigades with minimal offensive maneuver capability. The few existing HIMOB CA battalions provide the exception to this rule.

The HIMOB CA battalion organization is similar to the other conventional motorized infantry battalions, but its equipment, level of informationization, and rapid mobility sets them apart. Figure 1 details the assessed organization of a HIMOB CA battalion organic to a PLAA light CA brigade.¹⁶

The PLAA HIMOB CA battalion operates under a shared command structure. A battalion commander and political instructor (PI) perform two different but complementary functions when leading the approximately 500-man battalion.¹⁷

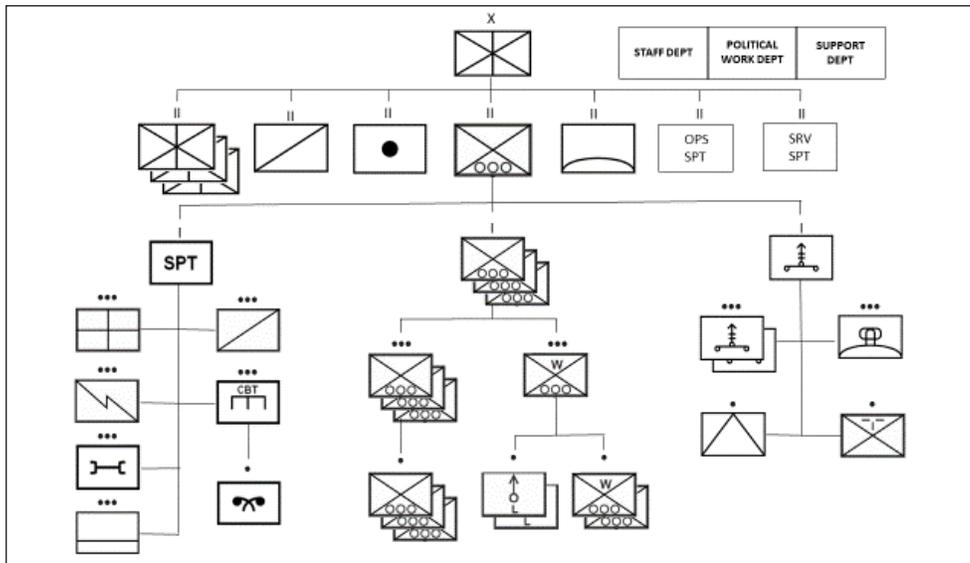


Figure 1 — The Assessed Organization of a PLAA HIMOB Combined Arms Battalion Subordinate to a Light Combined Arms Brigade (Information derived from multiple official PLA media videos and articles.)

Both have a deputy who can operate in their place in the event of a casualty or absence from the unit. The commander is primarily responsible for training, operational planning, and mission execution, while the PI oversees the mission's scope based on party instructions, political indoctrination, good order and discipline, and morale maintenance, though he can also lead combat elements as needed. A chief staff officer assists the command leadership, overseeing a small battalion staff responsible for coordinating operations, reconnaissance, fires, and combat support among the unit's five subordinate companies.¹⁸ A chief NCO assists with several command functions, but primarily focuses on unit training.¹⁹

The Rifle Companies

Three rifle companies make up the maneuver component of the HIMOB CA battalion. Each 120-man company contains three rifle platoons and one firepower platoon. A company commander and PI, along with their respective deputies, lead the company. The rest of the command element likely includes a company chief NCO, supply clerk, secretary and armorer, and two radio operators transported in three CSK141 armored vehicles. One CTM131 5-ton armored truck carries supplies for the company while likely also serving as the rear command post for the deputy commander to oversee combat support. Although not part of the command team,

combat medics are task-assigned to the company from the battalion's service support company.

A platoon leader, radio operator, and three squads constitute the three-vehicle PLAA HIMOB 30-man rifle platoon. There is no PI or deputy platoon leader; however, a senior NCO can serve as an assistant at the platoon level and take over in his absence.²⁰ An NCO squad leader and eight infantry NCOs and conscripts make up one rifle squad. In the 48th CA Brigade, the squads each ride in one CSK141. The platoon leadership likely uses the spare seat in the 10-person CSK141. In the other two CA brigades with HIMOB CA battalions, squads use two of the smaller CSK131 armored vehicles.²¹ Figure 2 details the makeup of a PLAA

HIMOB rifle squad.²²

The composition of the HIMOB rifle squad illustrates how the PLAA is attempting to push maximum combat power down to the lowest echelon. Equipping the squad with a vehicle-mounted 12.7mm heavy machine gun (HMG) or rapid-fire 35mm grenade launcher, a 120mm rocket launcher, and a squad automatic weapon (SAW) enables one PLAA HIMOB squad to combine the capabilities of a U.S. infantry squad with elements of a weapons squad. The PF98 120mm rocket launcher is particularly value-added for use in anti-armor and anti-fortification actions. Although it lacks the range and destructive capacity of the Javelin system, it is much lighter and less costly to fire.

The PLAA rifle company firepower platoon has a mortar

Figure 2 —Makeup of a PLAA HIMOB Rifle Squad

Member	Equipment
Squad Leader (NCO)	QBZ95 5.8mm Assault Rifle
Assistant Squad Leader (NCO)	QBZ95 5.8mm Assault Rifle
Driver/RWS Gunner	12.7mm Heavy Machine Gun or 35mm Rapid-Fire Grenade Launcher QBB95 5.8mm Assault Rifle
Gunner, AT Rocket Launcher	F98 120mm AT Rocket Launcher
Assistant Gunner, AT Rocket Launcher	QBZ95 5.8mm Assault Rifle 2 PF98 Rounds (HEAT and/or HE)
Gunner, Squad Automatic Weapon (SAW)	QBB95 5.8mm SAW
Assault Rifleman	QBZ95 5.8mm Assault Rifle
Assault Rifleman	QBZ95 5.8mm Assault Rifle
Assault Rifleman	QBZ95 5.8mm Assault Rifle

section with two three-man 60mm mortar squads, including a squad leader and driver. There is also a similarly organized grenade launcher section with two three-man 35mm automatic grenade launcher squads. The QLZ04 35mm grenade launcher equipped with these squads can accurately fire out to 1,750 meters.²³ The CSK141 that transports the sections can also be equipped with either the 12.7mm HMG or 35mm grenade launcher. These weapon systems provide the PLAA company commander with a unique combination of accurate direct and indirect fires.

The Firepower Company

In the HIMOB CA battalion, the main fire support comes from two three-vehicle platoons of PCP001 82mm rapid-fire mortar systems. The gun, mounted on a HIMOB chassis that does not require outriggers to fire, enables high-speed battlefield maneuver and emplacement. The PCP001s place indirect fires out to 8 kilometers but can also serve in a direct fire mode.²⁴

The firepower company also includes the battalion sniper squad equipped with the Type-10 12.7mm anti-materiel sniper rifle, a weapon that can range out to approximately 1,500 meters.²⁵ The company has additional direct fires capability with a platoon of vehicle-mounted HJ-73C anti-tank guided missiles (ATGMs) that can fire out to 3 kilometers.²⁶

To protect against airborne threats, PLAA HIMOB CA battalions have a platoon equipped with at least four QW-2 man-portable air-defense systems (MANPADS). These modern systems provide point air defense up to 6 kilometers and can hit targets at altitudes up to 4,000 meters.²⁷ Each vehicle-mounted squad with its two MANPADS can maneuver quickly around the battlefield to protect combat elements from enemy airborne threats.

The Service Support Company

Following the 2017 restructure, the PLAA created service support units at all echelons to sustain combat operations. From the group army down to the CA battalion, these new units provide transportation, supply, mess, medical, and other vital support services to PLAA forces. In addition to traditional sustainment elements, the HIMOB CA battalion service support company also incorporates more combat-oriented units that enable the battalion to conduct independent operations, including the transformation of a traditional repair company into a repair and rescue platoon.²⁸

The service support company's reconnaissance platoon contains conventional reconnaissance troops and a squad of unmanned aerial system (UAS) operators. The tactical UAS, similar to the Raven, provides real-time full motion video to the commander. The company includes an organic engineering squad and chemical defense squad to enable maneuver and unit protection. A signal platoon provides communications support for the command team, which includes a satellite communication (SATCOM) capability.²⁹

The PLAA HIMOB CA Battalion Missions

The PLAA HIMOB CA battalion provides the PLA with a

fully integrated combined arms unit that, in addition to the PLA Navy Marine Corps and PLA Air Force Airborne Corps, gives China another option for securing its national interests abroad. The PLAA claimed these units could perform several future combat missions, including key point raids, maneuver support and rescue, rapid penetration, and anti-enemy airborne operations.³⁰ However, according to a 2018 journal article from the PLA's University of Military Transportation, the HIMOB CA battalion is optimally equipped for three tactical missions:

- Breakthrough maneuvers. As a component of a larger maneuver unit, the HIMOB CA battalion can perform rapid breakthroughs to take advantage of rapid flanking and encirclement opportunities.
- Emergency rapid response. Capable of transportation by air, sea, rail, and highway, the HIMOB CA battalion can quickly deploy as an emergency response force for combat operations and military operations other than war.
- Key point assault. The lightweight and informationized characteristics of the HIMOB CA battalion enable the execution of precision coordinated assaults against important enemy targets such as command posts, rear support bases, and principal weapons systems.³¹

The light HIMOB CA battalion equipment enables the units to garrison in or rapidly deploy to mountain regions and small islands. Additionally, the HIMOB battalions frequently train in air assault operations with PLAA aviation brigades, demonstrating a capability to fight without their vehicles.³² This capability could lead to HIMOB CA battalions serving as small-unit replacements for PLAA special operations forces or permanent air assault units.

Future PLAA Light High-Mobility Battalion and Brigade Developments

The first HIMOB CA battalions appeared five to six years after the pilot HIMOB companies were established, demonstrating a quick but focused timeline for systems development. New HIMOB CA battalions will likely continue to stand up over the next few years. At least one new HIMOB CA battalion was established in July 2020 in the PLA's Southern Theater Command as part of a CA brigade subordinate to the 75th Group Army. That battalion is equipped with an even newer variant of the armored Mengshi HIMOB chassis.³³ The addition of this new unit means that four of the five PLA joint theater commands now have at least one HIMOB CA battalion (only the Eastern Theater Command appears to not have one). There is also a possibility that others exist that have not been publicly acknowledged in official PLA media.

Currently, the PLAA has only fielded integrated HIMOB CA battalions, not HIMOB CA brigades. Following the PLAA restructure, new HIMOB chassis variants appeared regularly, both inside HIMOB units and at military trade shows. This suggests the Chinese are capable of expanding the HIMOB concept to create entire HIMOB CA brigades. Additionally, Chinese Communist Party and Central Military Commission Chairman Xi Jinping's goal to "basically achieve force-wide mechanization by 2020" reinforces the idea that remaining

light CA brigades will transition into a similar construct over time.³⁴

The known HIMOB CSK-series variants already in existence can support a wide variety of roles in PLAA units. HIMOB platforms integrated with battlefield surveillance radars are already in some light CA brigade reconnaissance battalions; various PLAA brigades have organic satellite communications CSK-series variants; and new tactical HIMOB electronic warfare platforms marched in the 1 October 2019 military parade in Beijing.³⁵ Light CA brigade artillery battalions currently field truck-mounted 122mm howitzers and rocket artillery; however, Chinese defense industries market equivalent artillery systems and modern ATGM variants on HIMOB platforms. There are also HIMOB truck-mounted 120mm mortar-howitzer combination guns with a 13-kilometer range that could replace or supplement the PCP001 in HIMOB CA battalions.³⁶

Judging by the methodical development of new unit types in the PLAA over the past decade, fully HIMOB CA brigades would likely stand up around existing HIMOB CA battalions before upgrading other brigades; however, it remains unclear how many brigades the PLAA would transition into fully HIMOB CA brigades. Production costs could limit fielding to one or two HIMOB CA battalions in light CA brigades since it is unlikely that the PLAA will fully eliminate traditional truck-borne “leg infantry.” Cost concerns aside, Xi Jinping, in his 2017 speech to the 19th CCP National Congress, proclaimed the PLA would achieve full modernization by 2035.³⁷ With future force projection a noted necessity for Xi’s aspirations to protect strategic Chinese economic interests, light HIMOB units could likely be one of the major benefactors.

Conclusion

The PLAA HIMOB CA battalion concept provides China with a unit type that does not have an equal in construct. Its modularity and level of informationization enables it to move from being a unit that serves as part of a large formation to a combat unit capable of independent missions.³⁸ The universal CSK- and MV3-series chassis streamline maintenance, repair, and supply issues, while the heavy weapons equipped on those platforms create a powerful opponent for adversaries. Most importantly, their lightweight equipment turns these forces into a highly deployable, integrated combat team that can make full use of PLA transport aircraft and shipping.

In spite of its maneuverability, there are still multiple factors that will likely affect the HIMOB CA battalion’s combat capability. First is the PLA’s general lack of combat experience. Not having fought in large-scale conventional combat since 1979, the PLA lacks leaders accustomed to making battlefield decisions. China has attempted to reverse this through implementation of a professional opposing force (OPFOR) and the creation of a National Training Center equivalent, in addition to United Nations peacekeeping deployments and complex joint, combined arms exercises. The creation of a CA battalion staff to assist the command team is also an improvement in PLAA unit decision making, but the size of the CA battalion and variety of combat systems

will likely encumber the small number of inexperienced staff officers until adequate training and professional military education systems are in place.³⁹

The lack of an empowered NCO corps limits the functional capability of a light infantry force on the battlefield. According on PLA regulations, there is no clear decision-making authority at the squad level.⁴⁰ Without decentralized command and control, most PLAA tactical actions will likely remain limited to platoon-size. Although the PLAA is pushing combat power down to lower echelons than in previous decades, the lack of mission command experience will hamper tactical unit actions in complex and unfamiliar environments.

Finally, with no change likely in the near future, draftees will continue to fill PLAA ground units. Although the quality of conscripts has greatly improved based on advancements in Chinese education, health, and economic conditions, there will remain a lack of a strong NCO corps to train and lead incoming recruits. This is especially worrisome for China as more of its equipment becomes increasingly sophisticated, requiring lengthy periods of training and high levels of expertise to operate. HIMOB CA battalions, while still light infantry in nature, are not exempt from this. While the PLAA HIMOB CA battalion concept will struggle to overcome the above detractors, it illustrates a new Chinese focus on developing purpose-built units. Eventually these new-type forces will gain the experience they lack. It is just a matter of when and how far the PLA is willing to send them to protect their growing influence and strategic national economic interests.

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PLAA soldiers carry out an attack exercise in August 2017.

Photo by PO1 Dominique Pineiro, USN



Paratroopers assigned to the 2nd Battalion, 504th Parachute Infantry Regiment, 1st Brigade Combat Team, 82nd Airborne Division, deploy from Pope Army Airfield, NC, on 1 January 2020.

Photo by CPT Robyn J. Haake



Long-Term Efforts Required for Strategic Mobility

LTC MATT KUHN

On 31 December 2019, in response to recent events in Iraq, the National Command Authority (NCA) directed the deployment of the Immediate Response Force (IRF) from the 82nd Airborne Division to the U.S. Central Command (CENTCOM) area of operations. Secretary of Defense Mark Esper described this deployment as a precautionary action taken in response to increased threat levels against U.S. personnel and facilities in Iraq. Within 17 hours, the remainder of the brigade combat team (BCT) and an element from the division headquarters were directed to CENTCOM as well. After only 19 hours following notification, the initial battalion had departed Pope Army Airfield in North Carolina, and within 10 days all elements had deployed to their final locations. Incredibly, within 12 hours of arriving in Kuwait, the division tactical command post (TAC) transitioned from initial operating capability (IOC) to full operating capability (FOC) and began its CENTCOM-directed mission.

Long-term readiness and planning efforts are required to demonstrate such proficiency in strategic mobility. As an Army, we must look at how we rapidly execute joint strategic mobility in order to provide command and control of maneuver elements on the modern battlefield. This operation starts long

before the first call is received at a division operations center. In addition, adversarial contact can begin at any home duty station and continue all the way to a unit's initial assault objectives. Today's adversaries have the ability to conduct disruption and harassment operations from afar. U.S. Army divisions and corps must address the issues these enemy abilities cause in order to execute rapid deployments, just as their subordinate BCTs and battalions must do. Additionally, leadership, mission command, and command and control are vital to rapid execution of strategic mobility.

To highlight the ability of a division headquarters to deploy rapidly under less than ideal conditions, we examine how the 82nd Airborne Division executed this in early 2020. After the notification from the NCA, LTG Kurilla, the XVIII Airborne Corps commander, gave verbal guidance, including task, purpose, and his intent, to MG James J. Mingus, the 82nd Airborne Division commander. This rapid execution of mission command, built on trust, enabled the division to begin planning and execution quickly. It should also be noted that during this alert, two of the six senior key leaders on the division staff were on leave and not recalled. This speaks volumes of the trust that the division commander had in his subordinates and their ability to execute the "next-man-

up drill” to meet the commander’s intent. The deployment was successful, but we should examine what long-term preparations enabled this success.

The 82nd Airborne Division is a unit that embraces the long-term pursuit of mastery. The lessons here which are applicable to the Army are the development and consistent refinement of standard operating procedures (SOPs) related to readiness and the deployment of forces. This starts long before the first warning order (WARNORD) arrives. It begins first with the Soldier Readiness Program (SRP). Leaders must ensure units and individuals are ready, including having the right equipment from the Rapid Fielding Initiative (RFI), being medically cleared, as well as administratively and legally prepared. Individual Soldiers must be inspected and validated by leaders; this process will exponentially speed up the time between the WARNORD and when the last Soldier boards transportation to a distant location. It also enables the units to begin the alert, marshal, and deploy sequence with many deployment tasks already complete. Units must have a plan to outload their elements and rigorously drill this on a routine basis. The ideal way to test this system is through the execution of emergency deployment readiness exercises (EDREs). EDREs offer a unit the ability to see themselves, identify friction points within the process, and more importantly, refine and update unit SOPs. Additionally, they offer a joint opportunity to integrate multiple services in the planning and execution of complex scenarios. Only by executing these can role and friction points emerge within internal elements, on-post agencies, and Family Readiness Groups (FRGs). Throughout these exercises, often supported by external units, a large organization will build relationships and trust within the team and gain repetitive experience in exercising complex command and control. Additionally, you can augment these EDREs with recall alerts to execute local operations and training. This is a low-cost solution that allows testing of internal communications procedures and the ability of personnel to rapidly assemble during non-duty hours.

An additional factor, often not realized until arrival in theater, is the criticality of Secret Internet Protocol Router (SIPR) access. While units often can create and maintain SIPR tactical accounts, once they have to communicate outside of their own tactical network and join the Defense Information Systems Agency (DISA) network, Soldiers must have a SIPR token and an active account. While challenging to maintain in a non-deployable environment, the approval time for SIPR accounts is not quick. One way to address this issue is for units to execute a monthly battle rhythm event over SIPR that requires data input from the battalion and through the division to ensure key leaders have the required access. Additionally, intelligence personnel at the division level must train to communicate directly with Combatant Command Joint Intelligence Operations Centers (JIOC) and know how to access National Geospatial-Intelligence Agency (NGA), National Ground Intelligence Center (NGIC), National Security Agency (NSA), and Defense Intelligence Agency (DIA) products and key offices. In this case, prior

relationships between the 82nd Airborne Division Analysis and Control Element (ACE) and the Central Command (CENTCOM) JIC ensured that the division G2 team could brief leaders down to the battalion level on the most current, relevant intelligence, both prior to deployment and enroute to Kuwait through Enroute Mission Command (EMC) platforms. Direct access to agencies across the intelligence community (IC) provided useful background information on the situation as well as critical indications and warnings.

Preparing equipment for deployment is also a critical factor. While some dedicated alert units maintain a small portion of their equipment inspected, segregated, and prepared to deploy on minimal notice, most units cannot train effectively over time without accessibility to their complement of assigned equipment. A division or corps headquarters will likely determine early in the planning process what command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4SIR) equipment is necessary for mission accomplishment. However, segregated consumable supplies, pre-packed and ready for movement, along with detailed checklists, will be essential to outload and ultimately achieve rapid IOC and FOC once in theater. The planning and finalizing of unit deployment lists (UDLs) and the inclusion of subject matter expertise from mobility logisticians (MOS 90A88) will also pay dividends.

During strategic mobility operations, a division or corps headquarters will likely be deploying subordinate units along with themselves. Command and control from the arrival/ departure airfield control group; issue of class I, IV, V, VIII; airload planning; and the ability to execute contracting and purchasing once on ground are critical aspects that should not be overlooked. Additionally, the planning for liaison packages, including communication suites, both for partner forces and higher headquarters, will significantly help the unit integrate



Photo by CPT Robyn J. Haake

82nd Airborne Division equipment is loaded onto a C-17 Globemaster aircraft at Pope Army Airfield, NC, on 1 January 2020.

into combat operations more quickly once they reach their final destination. Individuals selected for these roles must know their duties and responsibilities and have the trust and empowerment of their senior leaders to the extent that the individuals can speak for the command and be a rapid conduit of decision points.

Another key element to strategic mobility is the relationships within the commander's mission command philosophy. These relationships extend beyond installation personnel critical to the outload process and the FRG. They include the U.S. Air Force for lift, weather teams, and the tactical air control party as well as various enabler units like the military police, explosive ordnance disposal, medical team augmentation, and logistical elements, to name just a few. Pre-established relationships, built on the repetition of training together, mutual trust, and clear communications, serve to flatten situational awareness and increase integration of these partners into a unit's planning and deployment SOPs. Inclusion in alert rosters and deliberate checklist steps within the alert-marshal-deploy operation can reduce the integration delay.

While assuming that limited access to military bases will delay an adversary from learning of our intentions, units must be prepared to be disrupted even before they depart their local base. Adversary use of intelligence-gathering, cyber attacks, small unmanned aircraft systems (sUAS) reconnaissance, and information warfare can disrupt outload procedures and must be accounted for. Physical force protection, operations security (OPSEC), and PACE (primary, alternate, contingency, emergency) plans start with units, but units should also include installation personnel and family members who must understand how to protect information during the process. The 82nd Airborne deliberately chose to deploy without personal cell phones to minimize the electronic signature of the unit and minimize the increased vulnerabilities, including adversarial targeting, that personal phones present. An additional disruption factor is that civilian agencies such as INTELsky track and publish the movement of all aircraft across the globe and must be mitigated in some cases; otherwise open-source media such as Twitter will broadcast troop and equipment movements.

Lastly, as an Army we must recognize that with the prevalence of social media, 24-hour news, and adversarial intelligence capabilities, achieving strategic or operational surprise will be difficult. As previously discussed, Soldier and family OPSEC are critical, but it is naïve to think that someone will not post to social media about something unusual happening during a no-notice deployment. Whether it's a civilian during port operations, a Soldier bragging to friends, a worried spouse, or a retiree visiting the base, shielding a no-notice deployment is a monumental task in an open



Photo by SPC Justin Stafford
U.S. Air Force personnel load 1st Brigade Combat Team, 82nd Airborne Division equipment on a C-17 Globemaster bound for the CENTCOM area of operations on 4 January 2020.

society. One way to lull our adversaries' senses is through consistent repetition of EDREs across the force. While costly, the constant execution of EDREs throughout the Army may dull news reporting and enemy interests while simultaneously allowing units to refine and increase their internal capabilities. Additionally, military deception (MILDEC) could be used. Imagine a light infantry element rapidly alerted, marshalled, and deployed from Fort Drum, NY, to Eglin Air Force Base, FL, under the auspices of an EDRE and deployed to an overseas theater from there. Other than fuel costs and a few hours diversion, a higher probability of strategic surprise may be achieved. On the opposite spectrum, there may be times where it is to the U.S.' advantage to conduct deliberate information operations about a strategic deployment. During the discussed 82nd Airborne deployment to the CENTCOM theater, there were deliberate decisions made to highlight the operation to influence enemy forces. Public affairs officers (PAOs) conducted round-the-clock information operations that were nested within the commander's intent.

Achieving strategic mobility proficiency is a long-term task that requires a number of factors, including individual and collective readiness, deliberate planning efforts, and rehearsals that refine SOPs. Additionally, leadership, mission command, and adversarial mitigation efforts are critical to success in defeating our adversaries, protecting the homeland, and supporting our allies.

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Multinational TF Command — *Interoperability Lessons Learned*

CPT BRANDON SHORTER

During the Saber Junction 18 exercise at the Joint Multinational Readiness Center (JMRC) in Germany in September 2018, I had the privilege to command a multinational opposing force (OPFOR) task force made up of 350 U.S. active Army, U.S. Army National Guard (ARNG), Ukrainian, and Bulgarian Soldiers with more than 40 combat vehicles. In a matter of five days, our formation — Task Force (TF) Blackfoot — faced the formidable task of forging four separate company-sized organizations from three different countries, with three different languages, into an effective fighting force. NATO doctrine defines interoperability as the ability to form an effective fighting force in a multinational environment. NATO doctrine also states that the effectiveness of allied forces in peace, crisis, or in conflict depends on the ability of those forces to operate together coherently, effectively, and efficiently.¹ TF Blackfoot successfully built an effective multinational team by leveraging three critical interoperability best practices:

1) Establish liaison teams with your attachments and be selective in whom you choose; they will directly impact the effectiveness of that organization, for better or worse.

2) Assess and evaluate the experience of the attached organizations, their capabilities and limitations, as well as their esprit de corps and professionalism — use that understanding to inform their employment.

3) Conduct combined arms rehearsals to ensure all subordinates understand the concept of the operation.

NATO doctrine further delineates interoperability as consisting of three dimensions: technical (e.g., hardware or systems); procedural (e.g., doctrines or procedures); and human (e.g., language, terminology and training).² At the battalion level and below, units cannot always solve the technical or procedural friction when integrating multinational partners. We mitigated some of the friction through an increased emphasis on activities influencing the human dimension, which these lessons learned emphasize.³

The scope of our interoperability challenge

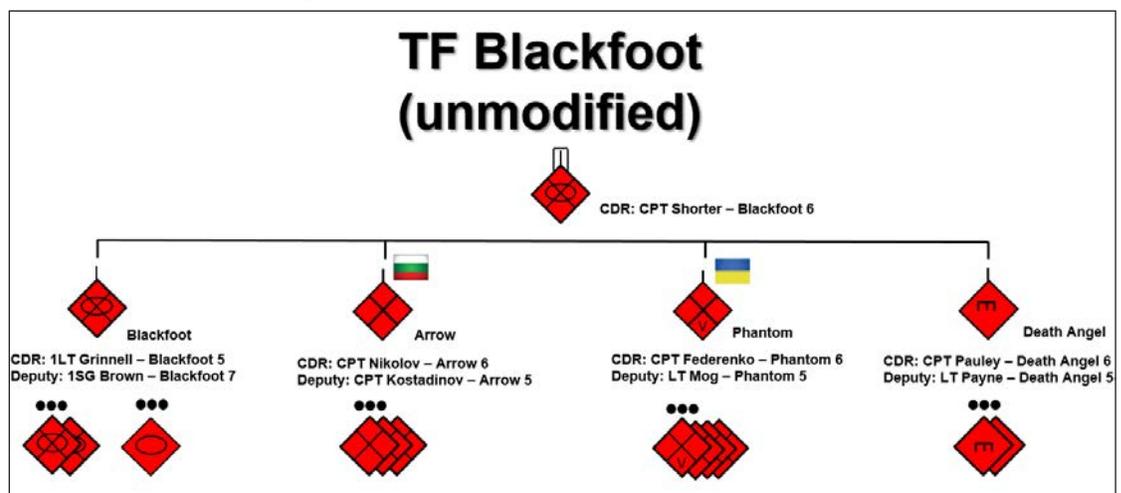
is immediately apparent given our task organization (see Figure 1). TF Blackfoot consisted of one U.S. OPFOR mechanized company with 17 BMPs and an attached tank platoon with three T72s and a ZSU 23-4 (all visually modified from U.S. vehicles). Our attachments included one U.S. ARNG sapper company with two sapper platoons possessing a total of three M1151s high-mobility multipurpose wheeled vehicles (HMMWVs), five light medium tactical vehicles (LMTVs) and one D7 dozer with prime mover; a Ukrainian air assault company with 13 M1151s and four LMTVs; and a Bulgarian light infantry company with two M1151s.

Several challenges immediately presented themselves given the forces available. How would we communicate as a TF given that the Ukrainian and Bulgarian companies are unable to utilize Type-1 radios with NATO communication security (COMSEC) keys? Further, how would we address the language barrier in light of the Ukrainian and Bulgarian company commanders' limited English language proficiency and our own lack of Ukrainian and Bulgarian skills? In addition, how would we move as a TF when half the formation did not possess transportation assets to facilitate mounted movement?

Liaison Teams

To address the biggest issue — communication — we established liaison teams to work with the Ukrainian and Bulgarian companies (which represented half of our TF strength). It was critical that we select the right individuals to fill the liaison role for they would significantly affect the employment of the multinational companies in the TF's

Figure 1 — Forces Available for Task Force Blackfoot



fight. First, we determined it was necessary to select U.S. Soldiers as liaisons, since they are able to operate U.S. radios with NATO COMSEC, our primary means of communication. From there we prioritized experience, maturity, personality, rank, and foreign language skills in selecting our liaisons. Additionally, we looked for individuals familiar with U.S. and OPFOR doctrine to ensure they were able to understand and communicate the TF commander's intent to the attached multinational company commanders during the operation as well as mentor the attached company in the procedural domain of operations. Finally, we assessed the capability and competency of the company commanders and their units to determine the best liaisons for each company. Redundancy was key in terms of personnel and

equipment; thus, the liaison teams consisted of two Soldiers, each with their own radio. For the Ukrainian company, we selected an experienced and mature squad leader and paired him with one of our rifleman, a specialist, who happened to be fluent in Ukrainian. For the Bulgarian company, we assessed the need for a more experienced team. The ARNG sapper company had brought along an additional captain to assist our battalion for the exercise. This captain had previous assignments as a leader in both infantry and cavalry organizations. We determined his best role was in support of the TF as a liaison. We paired him with a capable and highly motivated team leader with more than two years of OPFOR experience. As a U.S. formation, familiar with U.S. doctrine and possessing the necessary equipment and capability to communicate with the TF headquarters, we did not assess the need for a liaison team to accompany the ARNG sapper company.

The liaison teams greatly benefited the entire planning, preparation, and execution process. They facilitated the completion of reception, staging, onward movement, and integration (RSOI) tasks; coordination with the TF headquarters for sustainment; and transportation to and from appointments. They also ensured the attachments met inspection times. The liaisons shared their experience with the multinational partner leadership when the TF commander was not present. Whether sharing information on U.S. and OPFOR doctrinal concepts and techniques, OPFOR conduct and exercise guidelines during execution, or familiarity of the terrain to guide the attachments in the right direction, the liaisons kept our attachments on track. Their actions helped maintain our shared understanding throughout the course



Photos courtesy of author

During Saber Junction 18, commanders discuss the effects of the terrain on the upcoming operation. Collaborative planning amongst the task force leadership is essential.

of the operation, especially when the plan changed upon contact with the enemy.

Establishing and leveraging liaisons was the single biggest factor in setting the conditions for successful interoperability. The criticality of establishing and leveraging capable liaisons became clear over the course of the operation. What we lost internally at the squad and team level by assigning key people to liaison duty was more than made up for by setting the conditions to fight with our attached companies effectively. Remember to consider a third language linguist if Ukrainian or Bulgarian linguists are unavailable; German, French, or Italian-proficient Soldiers are not uncommon in most of Europe.

Assess & Evaluate

During preparation for force-on-force operations, we deliberately assessed each company's capabilities and limitations. It was important to understand in order to anticipate friction whilst employing them. Two events — mission planning collaboratively as a group and an inspection of each attached company's equipment — provided valuable insight for later.

The condensed timeline for preparation, planning, and team building necessitated a simple plan. Four days before execution, we met and discussed several ways to accomplish our mission, with each command team asking questions and providing input. We used this time to ask questions about each company to best understand their capabilities and equipment in order to gain the necessary information to command them in the fight, as well as make changes to the task organization, determine how we would

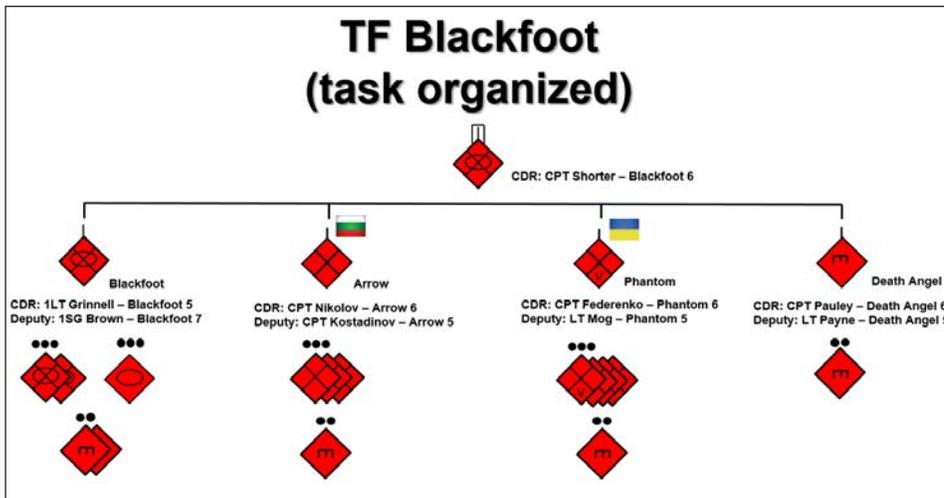


Figure 2 — Task Organization for Task Force Blackfoot

communicate, ensure transportation, and gather other important details. While it was cumbersome to have so many people in the same meeting, it was valuable in gaining a shared understanding of the plan and served as a team-building event. Additionally, it provided the TF commander an opportunity to assess the tactical acumen of the attached company commanders and formulate the tasks for each subordinate company.

During this meeting, we tackled the transportation challenges within the combined arms TF. We decided to task organize sapper sections into the three maneuver companies (see Figure 2). This added mobility to each company through the addition of the sapper's vehicles as well as their breaching capability. Further, the addition of the U.S. sapper elements within the multinational companies provided additional communication ability through the sapper's organic radios. By discussing and planning these changes collaboratively, the subordinate commanders were able to address friction points face-to-face and enhance shared understanding across the TF.

Following our planning session, we carved out time during our mission preparation to conduct a simple inspection of the subordinate company's equipment. The TF headquarters directed each company to provide one Soldier arrayed in full kit, with weapon and company leadership present, in each company's respective administrative areas. Two of the companies fulfilled the request to the letter. We

inspected the individual equipment of each Soldier from those companies and asked questions of the leadership about weapon capabilities and the ability to sustain in the field. Without this inspection, we would not have realized that one of the attached companies had not brought sufficient field gear and would have required the TF to address that challenge after our departure, not an ideal time for that kind of friction. The third company went above and beyond; it had a whole platoon arrayed in full kit with full field pack and additional weapons. This small act by the commander further impressed upon us his unit's professionalism and esprit

de corps, further boosting our confidence in that unit and its ability to carry out the task assigned.

Rehearsals

After our planning session we invested several hours in a combined arms rehearsal with the company command teams and their platoon leadership. As we began the rehearsal, it became clear that not everyone fully understood the plan. Further, one of the companies had only an outline of their plan, lacking the detail appropriate for a combined arms rehearsal. We used the opportunity to finalize the



The Bulgarian company commander and his platoon leaders brief their scheme of maneuver during the task force rehearsal. Standing over the Bulgarians is the liaison officer from the attached ARNG sapper company who oversaw the Bulgarian company operations.

plan as a group and then conduct a walk-through of the overall scheme of maneuver and discuss potential friction points. After our initial walk-through, we reset and discussed contingencies, such as an alternate breach location and an attack along a separate axis if the battalion recon pull efforts indicated it was warranted. Although the rehearsal ran longer than anticipated, we were all on the same page by the time it concluded.

Our rehearsals created a shared understanding of the plan across the TF. Discussion of several contingencies during the rehearsals built flexibility into the plan. During our attack, it became evident that the two hours we spent during the rehearsals set us up for success. Reconnaissance elements from our battalion determined several hours prior to our attack that our objective needed to shift 1.5 kilometers beyond our initial objective location. We had rehearsed a similar contingency and so were able to adjust our plan rapidly without losing the shared understanding we had developed. As a result, TF Blackfoot achieved its mission by breaching the enemy's main defensive line and passing the battalion's decisive operation through the breach with its full combat power intact.

After transitioning to the defense and occupying our area of operations (AO), we again held a collaborative planning meeting. Following the meeting, we walked each company's AO with the company commander and made small refinements to the plan. After each company had been able to conduct engagement area development and initiate preparations, we met to conduct a terrain model rehearsal. At the rehearsal, we discussed triggers for the commitment of the reserve, the synchronization and priorities of our fires, as well as concepts for reinforcing one position from another.

These efforts again proved their value and further reinforced the importance of rehearsals. Two events during the defense are notable and likely would not have occurred had we not conducted detailed rehearsals and taken the other previously described actions. First, a U.S. mechanized platoon was able to leave its strongpoint position, link-up with and reinforce the Bulgarian company and ARNG sapper company at their positions around the airfield, and inflict tremendous casualties on the now off-balanced attacker before they were finally overwhelmed and the airfield lost. Second, a Bulgarian platoon, cut off from its company and without communication with a higher HQ, demonstrated its understanding of the TF commander's intent. We had determined during the rehearsal that it was more important to retain the town than the airfield. The platoon, still undetected by our opponent, took disciplined initiative and made its way over a mile on foot to reinforce the Ukrainian company in the town.

Conclusion

Reflecting on the outcome of our operations, the efforts we made to address our interoperability challenges set the conditions for success. During the offense, we were able to exploit the opportunity created by our reconnaissance

elements' seizure of our assigned objective. The TF commander was able to call an "audible" — in other words, quickly adjust the scheme of maneuver for the new objective location, communicate the adjustment through the liaisons just prior to departure from the assembly area, and maintain shared understanding due to the previously rehearsed contingency. As a result, we rapidly exploited an opportunity before our opponent could adjust to the new conditions. Without our preparatory efforts, this would not have been possible; we would have spent more time in the assembly area distributing a new plan and then commenced a hasty attack without the benefit of a rehearsal, risking the success of the operation.

Regarding the defense, we were able to maintain a common operating picture across the TF while under simultaneous attack by three opposing battalions from multiple directions. Our rehearsals set the conditions to effectively shift combat power within our AO to meet these attacks. As our formation was degraded and key leaders incapacitated, subordinate elements were able to exercise disciplined initiative and effectively continue the fight in line with the TF commander's intent.

Incorporating multinational attachments in a fast-paced decisive action training environment (DATE) scenario at JMRC is a challenging endeavor. It is further complicated by the language and cultural barrier, as well as by the limited amount of time available during the RSOI period to solve issues that arise in the technical, procedural, and human dimensions of interoperability. During Saber Junction 18, we focused on solving procedural and human challenges in order to posture ourselves for successful operations. These efforts took the form of carefully selected liaison teams; a deliberate assessment of the capabilities, limitations, personalities, and proficiency of our attachments; and thorough map and terrain model rehearsals to achieve shared understanding of the plan and contingencies. These activities are crucial to mission success for anyone operating in a similar environment under similar conditions.

Notes

¹ Allied Joint Publication (AJP)-01, Edition E, Version 1 dated February 2017. Refer to section 1.4.

² Ibid; see also the Center for Army Lessons Learned (CALL) *Multinational Interoperability Reference Guide* (Handbook No. 16-18) published in July 2016.

³ This article is intended as a vignette. Many of the lessons learned were a direct result of the experience and were not viewed through the interoperability dimensions as they occurred. Therefore, this article does not further discuss the dimensions of interoperability.

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Combined Arms in Urban Operations: *Failure and Success in One Infantry Company*

CPT PATRICK K. O'KEEFE

The world is increasingly trending towards urbanization. In North America, South America, and Europe, between 75-82 percent of the population lives in urban areas; the United Nations predicts that 68 percent of the world's total population will live in urban environments by 2050.¹ Nearly every major conflict in the past 80 years proves the enduring strategic importance of urban areas, from battles such as Aachen and Stalingrad in the Second World War to battles over Raqqa and Mosul in the past several years. As our military continues to transition from conducting counterinsurgency to focusing on large-scale combat operations, we face a new set of challenges inherent in urban operations. In its report on urban warfare, the U.S. Army Asymmetric Warfare Group states its number one tactical lesson learned: "Combined arms warfare is essential in urban operations, with armor supporting infantry, infantry supporting armor."² It is imperative that infantry companies understand the advantages of true combined arms fighting and work to achieve combined arms synchronization in urban combat; this article presents vignettes from a rifle

company's actions at the National Training Center (NTC), Fort Irwin, CA.

The complexity of urban combat is well-documented. Fighting in cities stresses units with "high military casualty rates and the need to guard continuously virtually every building taken from enemy forces."³ Units must deal with "the challenge of communications, the vulnerability of... armor to individual weapons, and the lack of tactical mobility ordinarily available to dismounted infantry."⁴ Urban terrain is naturally advantageous to the defender, and with U.S. national force-projection capabilities, Army forces will normally find themselves as the attacker during urban operations. Mounted infantry companies have unique characteristics that enable them to fight more effectively in urban areas when compared with dismounted infantry companies.

Army Techniques Publication (ATP) 3-90.1, *Armor and Mechanized Infantry Company Team*, describes the

Soldiers from the 2nd Stryker Brigade Combat Team, 2nd Infantry Division leave the fictional city of Ujen, Atropia, during training at the National Training Center, Fort Irwin, CA, on 8 September 2019.

Photo by SGT Ryan Barwick



capabilities of mechanized infantry formations: They “take advantage of the Infantry unit’s ability to operate in severely restricted terrain, such as urban areas, forests, and mountains, combined with the mobility and firepower inherent in armor units.”⁵ ATP 3-21.11, *SBCT (Stryker Brigade Combat Team) Infantry Rifle Company*, similarly describes a Stryker infantry company’s capabilities: It can “place Infantry squads into an urban area that can maneuver, communicate, and interact in close contact with the local population, and search... suppress or destroy significant fortified emplacements with the use of .50 cal, MK-19s, or the MGS (mobile gun system)... The vehicles themselves provide protection with their armor and can engage enemy safely and accurately with the use of the remote weapon station.”⁶ Doctrine delineates the advantages inherent in mounted infantry companies utilizing combined arms in urban operations, but it does not provide details on specific tactics, techniques, and procedures (TTPs).

Armored brigade combat team (ABCT) and SBCT infantry companies often struggle to fully utilize the capabilities of both their dismounted and vehicular elements and thus fail to fight effectively using combined arms. At NTC, infantry companies trend towards two edges of a spectrum: They either rarely use their dismounts and focus on the vehicular fight, or they focus almost entirely on the dismount fight to the exclusion of their vehicles. Specifically, infantry companies

at NTC struggle with integrating their mounted platforms into the urban fight; often, they utilize only unsupported dismounts to clear complex urban objectives or inadequately plan for effective vehicle integration.

During a recent NTC rotation, a mounted rifle company demonstrated varying levels of success in urban operations. The company’s combat power comprised 13 combat platforms, six rifle squads, and three weapons squads. Its training strategy had focused heavily on dismounted operations. Company leaders admitted they had neglected vehicular training, mostly relegating vehicle involvement in training exercises to transport and limited support by fire during squad and platoon live-fire exercises (LFXs). Their early tactical plans for NTC reflected this training focus and consisted of long dismounted movements often under cover of darkness with the vehicles remaining at the dismount point until the mission was complete. When approaching their first urban objective, they planned to conduct a covert dismounted breach through a wire obstacle surrounding the city, followed by a dismounted clearance of the objective. There was no deliberate plan to integrate vehicles, and the company left them at the dismount point four kilometers away. During the clearance operation, they sustained heavy casualties after seizing the foothold and additional casualties when they encountered an enemy strongpoint that they



could not effectively suppress or destroy. The company was able to take a tactical pause, reorganize, and bring its vehicles forward to complete its mission but had 39 wounded in action (WIA), 37 of whom died of wounds (DOW) as compared to 15 enemy killed.

This company's challenges in its first urban objective were not due to its proficiency at executing squad-level battle drills; the squads and platoons were among the best trained in dismounted operations that we have seen. Its struggles primarily rested on the inability to defeat strongpoint positions and to conduct effective medical evacuation (MEDEVAC) or casualty evacuation (CASEVAC) from its casualty collection point (CCP). Both of these shortcomings could have been addressed by having a deliberate plan to integrate the company's vehicles. Company leaders realized this and conducted more extensive planning that incorporated their vehicles for the next urban objective. Once they seized a foothold and eliminated any anti-tank weapons from the initial area, the vehicles would move up and support one-to-two blocks behind the lead infantry squads. The squads would then clear forward and eliminate anti-tank threats while the vehicles were available to support the advancing infantry with heavy firepower.

	Friendly WIA	Friendly DOW	Enemy KIA from Dismounts	Enemy KIA from Vehicles	Total Enemy KIA
Without Vehicle Support in City	39	37	15	0	15
With Vehicle Support in City	32	6	12	13	25

Comparison of Friendly and Enemy BDA

In execution, the company's plan to secure the second urban objective was far more successful. The company called forward its vehicles multiple times to destroy enemy whom Soldiers could not effectively engage with their small arms. In comparison to their first objective, the company suffered 32 WIA, of whom only six DOW, while killing 25 enemy fighters. Vehicle-mounted heavy weapons accounted for half the enemy killed, and no vehicles were destroyed by anti-tank weapons once the company had secured a foothold. The deliberate plan to integrate the vehicles, and their utilization in accordance with that plan, enabled the company to destroy enemy strongpoints and rapidly evacuate casualties back to the next level of care. The figure above shows the comparison at a glance.

Soldiers assigned to the 3rd Cavalry Regiment move their position forward during Decisive Action Rotation 20-02 at the National Training Center on 31 October 2019.

Photo by SPC Brooke Davis

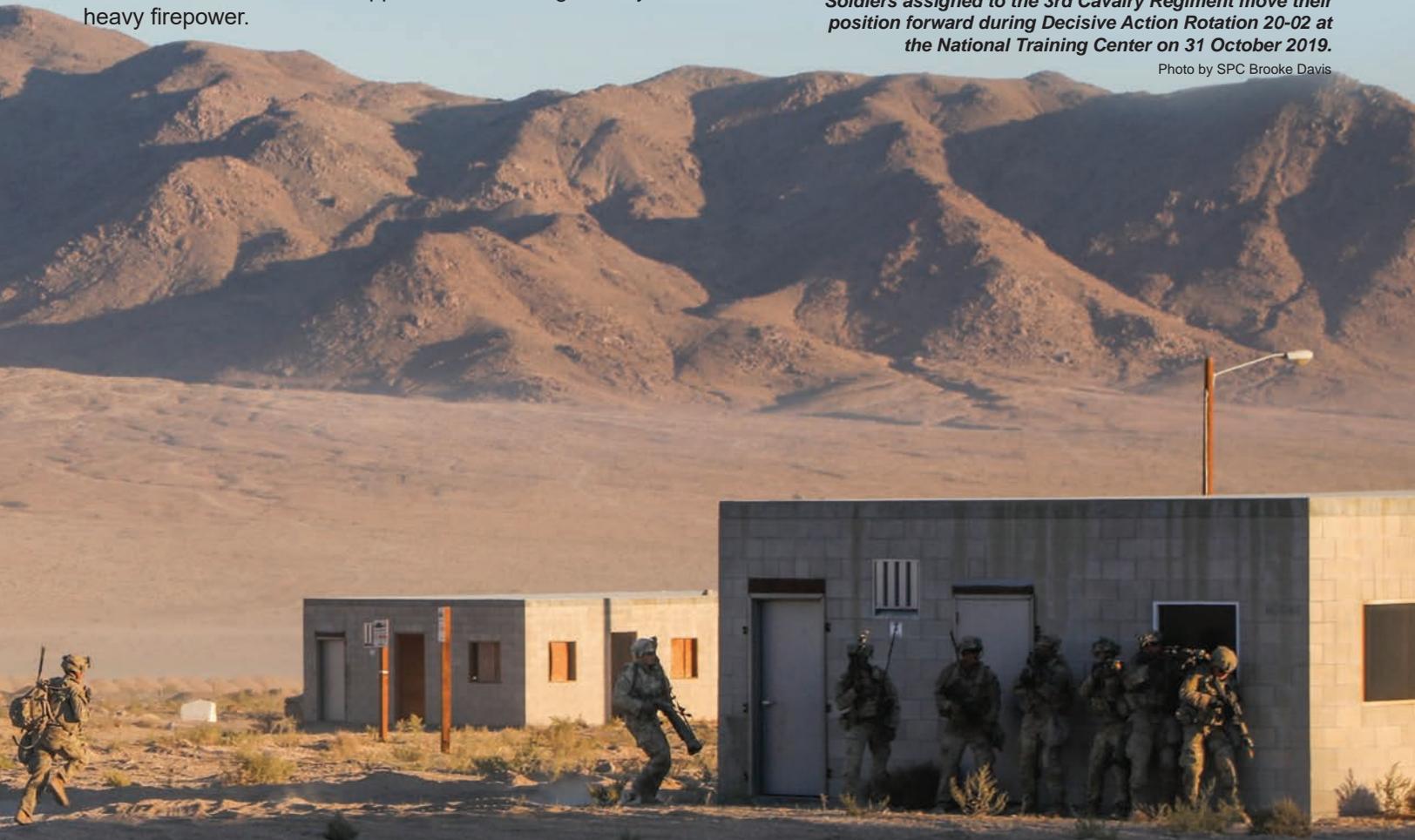




Photo by SPC Brooke Davis

Soldiers assigned to Alpha Company, 5th Battalion, 20th Infantry Regiment, 1st Stryker Brigade Combat Team, 2nd Infantry Division, bound towards an objective during Decisive Action Rotation 20-05 at the National Training Center on 18 March 2020.

Leaders often cite the risk of losing vehicles as a reason for not bringing them forward to urban objectives, but the risk to dismounted squads operating without their vehicles is rarely considered. As we can see from the previous vignettes, the risk to dismounted squads, both during initial contact and in terms of survivability after Soldiers are wounded, is much higher when unsupported by their vehicles. The dismounted and vehicular elements of the company should remain within supporting range and distance during all phases of the operation, thereby maximizing the advantages of each and mitigating the risks to each element individually.

The specific tactical plans of each urban objective described above do not necessarily provide the correct or incorrect answer for any given tactical scenario; rather, the two vignettes together highlight the increased risk associated with failing to conduct combined arms operations at the company level and demonstrate how one company was able to achieve success after applying lessons learned from its mistakes. It is important to remember to integrate both elements of a

mounted infantry company in the tactical plan when conducting urban operations. Dismounted infantry can eliminate anti-tank weapons, prevent near ambushes, and effectively clear buildings and city blocks. These tasks secure terrain, provide security for vehicles, and help maintain momentum. The vehicles can provide overwatch with superior range and optics; engage and destroy hard targets; act as a survivable support-by-fire element; and provide rapid CASEVAC and MEDEVAC. These tasks enable the infantry to continue to advance while ensuring momentum is not lost when they encounter enemy strongpoints. It is imperative commanders understand the full capabilities provided by each element of the combined arms team and utilize the full advantages of both to close with and destroy the enemy.

Notes

¹ United Nations World Urbanization Prospects 2018, United Nations Department of Economic and Social Affairs, 16 May 2018, accessed from <https://population.un.org/wup/>.

² "Modern Urban Operations: Lessons Learned from Urban Operations from 1980 to the Present," U.S. Army Asymmetric Warfare Group, November 2016.

³ Dr. Margarita Konaev and MAJ John Spencer, "The Era of Urban Warfare is Already Here," Foreign Policy Research Institute, 21 March 2018.

⁴ Robert F. Hahn II and Bonnie Jezior, "Urban Warfare and the Urban Warfighter of 2025," *Parameters*, Summer 1999.

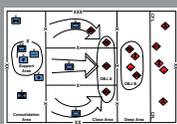
⁵ Army Techniques Publication (ATP) 3-90.1, *Armor and Mechanized Infantry Company Team*, January 2016, 1-5.

⁶ ATP 3-21.11, *SBCT Infantry Company*, February 2016, 2-23.

CPT Patrick O'Keefe is an Armor officer serving as an infantry company trainer on Scorpion Team at the National Training Center, Fort Irwin, CA. His most recent assignment was as a tank company commander with the 1st Battalion, 12th Cavalry Regiment, 3rd Armored Brigade Combat Team, 1st Cavalry Division. His other previous assignments include serving as a troop executive officer and reconnaissance platoon leader in the 6th Squadron, 1st Cavalry Regiment, 1st Stryker Brigade Combat Team, 1st Armored Division.

Large-Scale Combat Operations

The Division Fight



Edited by Dennis S. Burket

The Art of Tactics Series



New from Army University Press

Large-Scale Combat Operations: The Division Fight

By Dennis S. Burket

This new compendium is the first volume in the Art of Tactics series, sponsored by the Department of Army Tactics, U.S. Army Command and General Staff College. This collection examines various aspects of division-level operations, to include fires, wet-gap crossings, and consolidating gains, as part of the Army's effort to refocus the force on large-scale combat against near-peer and peer adversaries.

<https://www.armyupress.army.mil/Portals/7/combat-studies-institute/csi-books/lSCO-the-division-fight.pdf>

MK22: The Army Sniper's Solution to a 21st Century Threat

CHRISTOPHER ROBERTS

The sniper's ability to strike fear into the hearts of the enemy has long been documented. It is a history laden with stories of near-impossible shots and stealth akin to an apex predator. The sniper's ability to change the tempo of a fight is nearly unquestioned. When employed correctly, they provide commanders with overmatch and increased mission success. However, our snipers are facing a capability gap with their current weapon systems that is jeopardizing our battlefield advantage. Our sniper weapons and technology are now overmatched by our peer competitors.

Capabilities assessments and numerous after action reports from the Global War on Terrorism identify critical capacity and sufficiency gaps in a sniper's ability to engage targets at extreme long range with precision rifle fire. So what equipment will give our snipers the advantage over our adversaries? What does that overmatch look like in today's operating environment? How does a sniper fit into joint all-domain operations (JADO)?

The sniper's role to collect battlefield information and provide precision fires on key targets has not changed. As stated in a *Small Arms Defense Journal* article titled, "Government Acquisitions," "The sniper's ability to engage point targets with accuracy at long range with minimal risk of collateral damage makes them useful in all levels of conflict." What differentiates today's snipers from those of past is how they have adapted to the modern battlefield.

Today's sniper teams are deploying with a different approach to team layout in order to conduct complex engagements and effectively cover urban environments. Legacy sniper teams were broken down into two-man teams (a shooter and a spotter). In order to keep up with ever-changing threats and operating environments, sniper teams needed to have more than one barrel aimed at the objective. This meant that spotters began carrying an accurized weapon and had to spot with their weapons optic instead of a stand-alone

spotting system. Additionally, range estimation practices had to change and rapid target engagement techniques became common place. These techniques allowed snipers to give up the MIL-Relation Formula for quick "snap" measurements, thus relying on the danger zone created by the trajectory of the bullet to ensure an impact on intermediate targets (0-600 meters). The reliance on precise measurements and laser rangefinders (i.e., STORM) is still necessary for extended range targets.

These changes among other tactics, techniques, and procedures (TTPs) and program-of-instruction updates to the U.S. Army Sniper Course have made our snipers more capable than ever before. However, they are still left with the equipment shortcomings of years past. The Maneuver Capabilities Development and Integration Directorate (MCDID) at Fort Benning, GA, has assessed an inability of current M110 sniper rifles using 7.62x51mm ammunition and M2010 .300 Winchester Magnum ammunition to provide precision fire beyond 800 and 1,200 meters respectively. This has limited the sniper's ability to perform sniper and counter-sniper operations across the required range of military operations. Another tool in the sniper's kit, the M107, with .50 cal ammunition (MK21 mod 0), did extend the reach of the sniper team against anti-materiel targets. Its 2-3 minute of angle accuracy capability made engaging anti-personnel targets less than predictable.

Enter the MK22 Precision Sniper Rifle (PSR). Recognizing current shortfalls, MCDID is working to stop the "one-size-fits-all" approach to arming the sniper community. It identified that each unit has a different mission and may require different equipment and ammunition. This puts the Army on a path to adopt a modular weapon system, the MK22 PSR, which allows the commander and his sniper team to change calibers dependent on the mission set. An additional benefit to this modular weapon system would be to streamline the inventory of weapon systems.

This rifle provides a weapon system that exceeds the performance of current sniper rifles. The MK22 is superior to



The MK22 Precision Sniper Rifle

the current inventory through increased accuracy, portability, versatility, munitions, and both day and night target acquisition. The MK22 increases a sniper's combat effectiveness and survivability through superior precision fire and greater stand-off distances. The MK22 also increases hit probability at all intermediate ranges over current systems and is capable of completing all current sniper tasks to a higher degree of probability.

How will the MK22 accomplish these goals? First, it is prudent to know what the MK22 is. The MK22 is a modified version of the market ready Barrett Multi-Role Adaptive Design. Capable of caliber change at the user level allowing for a dual purpose (anti-personnel and anti-materiel) capability up to 1,500 meters. Proposed calibers for this sniper weapon system are 7.62mm NATO, .300 Norma Magnum, and .338 Norma Magnum. The rifle comes with a Nightforce ATACR (USSOCOM) and a Leupold MK5hd (U.S. Army) outfitted with the Army's Mil-grid reticle. The MK22 will replace the M2010 and M107 and their respective families of ammunition. The M110 Semi-Automatic Sniper System will remain as the secondary (spotter's) weapon.

The U.S. military has been considered the largest, best equipped, and most technologically advanced military in the world for the past 60-70 years. Many would question whether solutions like the MK22 are necessary. Unfortunately, these are not assumptions we can continue to safely make for our Soldiers in preparing for future conflicts. Our adversaries watched the transformation of the U.S. military during our conflicts in Iraq and Afghanistan. Near peers like Russia and China now wield a sophisticated blend of drones, jammers, and long-range artillery. Additionally, their use of proxies, irregular soldiers, and special forces snipers to fight in depth has limited the advantage that our snipers have grown to expect.

With these weapon systems in place, the sniper team is better equipped than ever before. Incorporating updated TTPs and technology, the team will be able to conduct operations in all environments and against varying enemies. While snipers' role in JADO is ever-changing, they will be prepared to adapt to that change and destroy the enemy with overmatching capabilities.

Christopher Roberts serves as a precision effects capability developer with the Soldier Requirements Division, Maneuver Capabilities Development and Integration Directorate (MCDID) at Fort Benning, GA.



Photos courtesy of the Maneuver Capabilities Development and Integration Directorate

The MK22 is a modified version of the market ready Barrett Multi-Role Adaptive Design. It increases a sniper's combat effectiveness and survivability through superior precision fire and greater stand-off distances.

Supporting the Future Close Combat Force at Night

MAJ DAN VARLEY

As the Army begins to modernize its "tip of the spear" focused on the close combat force made up primarily of infantry, cavalry scouts, and combat engineers, it can't afford to lose focus on others who make the fight possible. Critical enablers to the close combat force are those in the combat support branches who ensure that Soldiers closing with and destroying the enemy have the ammunition, food, water, and fuel to sustain long duration combat. To ensure sustainment, those combat support forces must keep up with the close combat force and move to them when support is needed.

The Army is modernizing with the goal in mind of being able to defeat a near-peer adversary in direct conflict. What that doesn't necessarily mean is counterinsurgency fights like the U.S. has been involved in over the last nearly two decades. It also does not mean proxy state conflicts, such as that which we have seen in Syria over the last nine years. The fight the Army is preparing for is direct conflict with another global military power, where dominance in any of the domains of warfare (land, sea, air, space, or cyber) is not guaranteed and can change at any moment. For most American service members, it is a daunting thought to imagine a battlefield where they are not assured that enemy aircraft, maybe even drones, will not be flying over at any time with a precision strike capability.

How does a night-vision or low-visibility capability fix these strategic challenges the U.S. is preparing to face? Holistically, it doesn't, but it is a key piece of the puzzle to ensure mobility on the battlefield. The Army is focusing its resources to modernize its close combat force so it can operate semi-autonomously, in highly contested domains,



and in a very fast-paced and constantly changing environment. The mobility of those formations that are in the thick of the fight is instrumental to maintaining the initiative. However, that initiative can only remain as long as those formations have the ammunition, food, water, and fuel to fight.

To ensure that close combat forces are resourced to continue the fight beyond short durations, they need assured access to combat support elements. This happens largely in two ways: Close combat forces move back to a major base of operations for resupply and refit, or combat support elements move to them. In the next conflict, we could face a near-peer professional adversary, lack our accustomed air dominance, and face the challenge of enemy extended-range artillery. In this type of fight, our major bases of operations become prime targets to cripple the force. That's when mobility becomes essential among combat support elements and more specifically the capability to keep pace with the close combat forces.

The Army is laying out the plan to ensure that those forces in direct support of close combat forces can keep pace with the elements they are supporting through an Army Night-Vision Goggle Modernization Strategy. The Army identified those roles that are directly responsible for the successful sustainment of the close combat force. By considering the required capability of these roles rather than broad formations, the Army can ensure those who require particular capabilities have them and additionally reduce cost by leveraging legacy capabilities across the remainder of the force.

Some may argue that giving support elements increased capability for night vision is wasteful considering that these

elements have been operating for decades with their current level of capability. Night vision is never mentioned as a stumbling block of the last 20 years of war in Iraq and Afghanistan, so why do we suddenly need to change our way of business? The answer lies in projecting an operational environment where the U.S. Army faces a threat we haven't seen in nearly 80 years, a threat that is our peer or comparable in defense spending and capability across all potential domains of warfare. We can no longer place combat support elements in large-scale footprints scattered throughout the battlefield. The adversaries we are modernizing to fight against have extended range indirect fires, unmanned aerial vehicles (UAVs) for reconnaissance and direct-strike capability, and perhaps the scariest thought of all for ground forces — loss of air superiority.

Combat support elements directly supporting those who close with and destroy the enemy need to maintain flexibility and mobility to ensure support; the ability to move at night is critical to that goal. Without that support, all of the modernization focus on close combat forces becomes relatively inert after about 72 hours, when they run out of ammunition, food, water, and fuel. To ensure sustainment, those combat support forces have to be able to keep up with the close combat forces and move to them when support is needed. Legacy night-vision capabilities just won't cut it anymore to support the close fight, but — good news — there are other options on the horizon.

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Digital Job Book and Small Unit Leader Tool Now Available via PCs and Handheld Devices

<https://atn.army.mil/digital-job-book>

Every Soldier and small unit leader in the Army now has the power to view key training information in their personal or small team's individual Soldier training records whenever and wherever they have the need. Small unit leaders also have the additional ability to manage and update this information in their Soldier's records from these same devices. Read more at <https://www.army.mil/article/237068>.



Maintain the Fire:

Enabling Transitions and Mitigating Seams for Fire Support in the BCT Construct

1LT FLEM WALKER
CPT KIERNAN KANE

Under the current alignment of field artillery battalions in direct support of brigade combat teams (BCTs) and current doctrine, fire-support equipment is unable to maintain Army maintenance and equipment standards. This article discusses a fire support equipment transition that was conducted prior to the Department of the Army-dictated Defender 2020 exercise, which was the first expeditionary power projection of multiple BCTs converging on and through Europe to display combat credibility and assure NATO allies and partners in more than 30 years, and the lessons learned as a result of circumstances that followed.

Furthermore, rooted in personal experience, the lessons stand as recommendations to adjust Army materiel, equipment, and supply doctrine to set conditions and establish

appropriate responsibilities for greater fire-support equipment readiness as the Field Artillery community continues to shift command/support relationships and equipment alignments in the future.

The digital fires sensor-to-shooter process relies on the equipment and supply policies and directed responsibilities at echelon. The foundation is rooted where equipment assigned to the fire support team (FiST) is analogous to the platform the FiST employs in operations. For example, within the higher system of the Global Combat Support System-Army (GCSS-A), communications equipment within the M7A2 Bradley Fire Support Vehicle (BFiST) platform must be assigned to that vehicle as a system of systems to ensure proper readiness reporting and maintenance priorities to validate digital fire support sensor-to-shooter capabilities. Albeit, this system of systems is lost in the transition of fire support equipment to the FiSTs' associated maneuver company, yet it underscores the importance on the transition of fire support equipment and the critical capability within the fires common operating picture of the BCT.

Prior to deployment operations in support of Defender 2020, Headquarters and Headquarters Battery (HHB), 1st Battalion, 9th Field Artillery Regiment, 2nd Armored Brigade Combat Team (ABCT), 3rd Infantry Division, made necessary plans to facilitate the attachment of fire support personnel and equipment to its associated maneuver units. Due to operational constraints, a temporary loan of equipment was dictated due to the short duration of the deployment, modified table of organization and equipment (MTOE) considerations, nonexistent derivative unit inventory code architecture, and the necessity to begin divestiture of equipment upon redeployment to set conditions for modernization and fielding around 2nd Quarter of Fiscal Year 2021. Fire support personnel and their equipment attached across five separate battalion headquarters throughout the ABCT, highlighting the largest property movement across the brigade since its conversion to an ABCT just two years prior.

For those not previously exposed, a temporary loan

Fire support Soldiers assigned to Headquarters and Headquarters Battery, 1st Battalion, 9th Field Artillery Regiment, employ a Lightweight Laser Designator Rangefinder utilizing a remote heads-up display for artillery observation spottings and corrections.

Photo courtesy of authors



agreement is a supply action that exercises the ability of one unit to lend equipment to another unit for a time period of more than 30 days, but not to exceed six months.¹ In addition to this, it remains on the owning unit's primary hand receipt (PHR) thus not counting against the gaining unit's authorized equipment totals, but it is moved to the gaining unit work center to enable routine maintenance/supply action, in contrast to a more traditional lateral transfer. Due to traditional maneuver units not being authorized fire support equipment under the BCT construct, the temporary loan agreement has potential to be an optimal solution to the assignment of the equipment consistent with maneuver battalion operational requirements.

In spite of this, only four of the five types of supply responsibility are bestowed upon the gaining unit: supervisory, direct, custodial, and personal; command responsibility cannot be delegated from the PHR holder.² These four types of responsibility hold the gaining unit responsible for the majority of actions concerning the equipment such as proper custody, routine/scheduled maintenance, security, disposition, and formal accounting requirements. It is imperative to note that authorization of a temporary loan agreement between PHR holders within a component is the property book officer (PBO), implying that the BCT PBO

Fire support specialists utilize the M7 Bradley Fire Support Team (BFiST) vehicle and the Fire Support Sensor System (FS3) to identify targets and call for fire (CFF).

Photo by SPC Marcus Floyd

outlines all circumstances of the temporary loan agreement leaving as little to interpretation as possible.

This is worthy to note because information regarding loan agreements is scarcely available in circulated regulation and official publication. Army Regulation (AR) 735-5, *Property Accountability*; AR 710-2, *Supply Policy Below the National Level*; AR 700-131, *Loan, Lease, and Donation of Army Materiel*; and Department of the Army (DA) Pamphlet (PAM) 720-2-1, *Using Unit Supply System*, only briefly mention temporary loan agreements of this nature.³ This highlights a systemic deficiency of organizational knowledge in regard to the circumstances surrounding temporary loan agreements, which in turn has created steady educated guesswork at the user level.

In order to rectify the ambiguity that encompasses the temporary loan process, there needs to be clearly defined transitions of command-level responsibility and merges between Army doctrine in AR 735-5, AR 710-2, and AR 750-1. The Army supply, property accountability, and maintenance standards must merge in order to specify that command-level responsibility can be transitioned between the battery/company/troop headquarters in order to achieve requirements referenced in AR 735-5, section II, paragraph 2-8.⁴ The HHB commander cannot achieve and maintain the property accountability and maintenance standards dictated by AR 735-5 and AR 710-2. Furthermore, due to the span

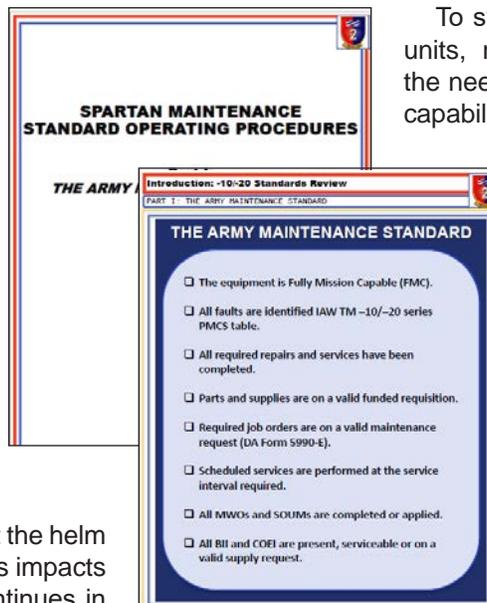


across five separate headquarters and the volume of equipment the temporary loan encompasses, the ability to exercise acceptable command responsibility diminishes in an operational context. Once forward in Europe, the BCT disaggregated and began operating with separate and unique battalion mission sets, making the ability to exercise appropriate responsibility negligible. The equipment responsibility must doctrinally align to the associated maneuver echelon in order to maintain the digital fires sensor-to-shooter system of systems.

The lack of regulation and authority at the helm of the temporary loan agreement creates impacts to the field artillery community as it continues in what seems to be a perpetual keel in direct support of the BCT or the division artillery (DIVARTY) headquarters. By regulation, the PBO is the only authorization for loans between units in a like component and in all likelihood is the subject matter expert on the process at the organizational level. Unfortunately, there is a significant educational seam between units ranging from company-level supply clerks to battalion headquarters teams. The blind spots that were not specified in the temporary loan of equipment were what exacerbated the seams within the system of systems. Routine and scheduled services, dispositions, repairs, sustainment, oil analysis, modified work orders, and dispatches are all accompanying responsibilities that are inherent with a piece of equipment.

However, these were not always inferred. In order to rectify for future transitions, a doctrinal framework to specify transition of command responsibility between adjacent units will provide necessary oversight once the brigade's fires capability at the user level is transitioned to separate headquarters.

In addition to the doctrinal changes in supply and maintenance policies, there must be a deliberate education of maneuver commanders originating from the field artillery battalion headquarters executed by the respective battalion fire support officers (FSOs). Executed through the respective battalion FSOs, the gaining units will gain an appreciation and ownership of the system of systems inherent in digital fire support equipment. Ultimately, the maneuver commander maintains training responsibility authority and is responsible for the integration of fires within the area of operations (AO).⁵ The credibility of the fires warfighting function begins long before the call for fire, the combined arms rehearsal, or even the fires rehearsal. Trust between maneuver and the fires community is built upon a foundation of credibility. Accepting absolute responsibility of these gains is in fact contrary to AR 710-2, but it is requisite to incorporate the fires warfighting function successfully.



To synchronize fire support with their organic units, maneuver commanders must anticipate the needs of their FISTs to properly employ their capabilities and plan with known assets as opposed to taking unscheduled requests in a dynamic situation.⁶ To properly employ capabilities, maneuver commanders must be educated on the fire support platform's M7A2 capabilities to include the Fire Support Sensor System (FS3) and all ancillary equipment that becomes analogous with the fire support digital sensor-to-shooter system. Most important, the HHB commander must diminish the seam between maneuver units and fire support equipment capabilities by executing a deliberate transition of the GCSS-A system built having an M7A2 with ancillary equipment

assigned to the corresponding platform. Furthermore, the system of systems must be transitioned giving that maneuver commander routine/scheduled maintenance plans, calendars for planned Army oil analysis program (AOAP) sampling with appointed FSO/fire support NCO representatives, and proper driver's training and licensing packets. Executing the transition of fire support equipment by handing off a system of systems and knitting the seam of command responsibility for that system between inherently similar units will prove advantageous to posture the fire support community for increased equipment readiness during periods of transition under the BCT or DIVARTY construct.

Notes

¹ Department of the Army (DA) Pamphlet (PAM) 720-2-1, *Using Unit Supply System*, 2016, 4-31.

² Army Regulation (AR) 735-5, *Property Accountability*, 2016, 2-8.

³ DA PAM 720-2-1, 4-31, 5-4.

⁴ AR 735-5, 2-8.

⁵ Army Doctrine Publication (ADP) 3-19, *Fires*, 2019, 2-6.

⁶ *Ibid*, 3-4.

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Fire and Maneuver in the Cyberspace Domain

COL MICHAEL D. SCHOENFELDT
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The armored brigade combat team (ABCT) is the most lethal formation the world has ever seen; no other force can match the firepower and maneuverability an ABCT can bring to bear on the decisive action battlefield. However, where our adversaries lack in attributes inherent to an ABCT, they are gaining the edge in areas that include cyber, signals intelligence (SIGINT), and electronic warfare (EW). A dynamic strike by our adversaries to our communications and intelligence systems, digital and frequency modulation (FM), can be a catastrophic blow to ABCT operations. Protecting

our communications, exploiting those of our adversaries, and supplying maneuver commanders with real-time and actionable intelligence will determine the difference between victory and defeat.

Army EW and tactical SIGINT are progressing through significant updates and restructuring in an effort to meet

A Bradley Fire Support Team Vehicle provides security for the Electronic Warfare Tactical Vehicle.

Photos courtesy of authors



this threat. In the past, troop and company commanders had been assigned Prophet (a 24-hour, all-weather, near real-time, ground-based, tactical SIGINT/ EW capability organic to the BCT) and EW teams that, due to lack of necessity, planning, or understanding, had been a shackle rather than an enabler to their operations. The Army had all but abandoned EW in 1993 after the end of the Cold War. During the height of counterinsurgency (COIN) operations in 2009, the EW branch was finally reinstated for counter-improvised explosive device jamming. The only contact many maneuver leaders had with EW during that time was with the bulky “dukes” that sat in the back of their vehicles.

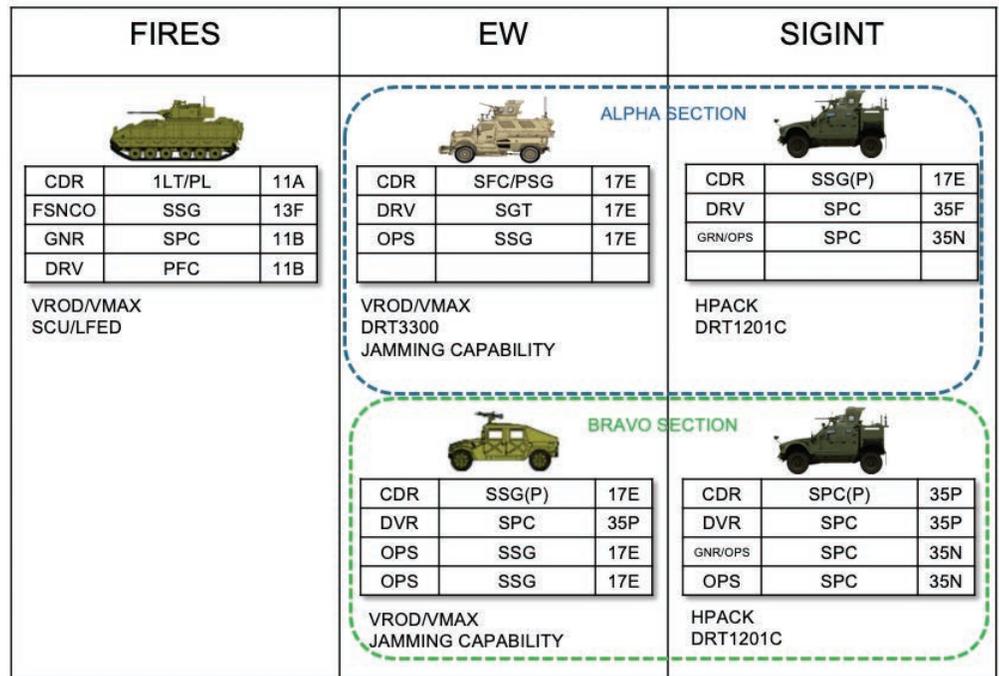


Figure 1 — Current Manning

Current global events have shown an emergence of both state and non-state actors who are not only capable of waging war on land but also of competing in the electromagnetic spectrum (EMS). To meet these new and complex threats, the Army is rapidly replicating the same environments to test leaders at the Combat Training Centers (CTCs). Every echelon of our Army must be ready to meet the rapidly changing world and be confident in their ability to “fire and maneuver” in the EMS.

‘A Way’ to Compete in EMS

During the past year, the 1st ABCT (Ironhorse), 1st Cavalry Division has recalled forgotten skills of the pre-Gulf War years, including a platoon called combat EW and intelligence (CEWI). CEWI was once one answer to competing in and gaining an advantage in the EMS of the Cold War. Some in SIGINT and EW circles will tell you the two capabilities are like oil and water. Ironhorse views the two as sides of the same coin called information.

Information is the medium that links the purpose and direction of leaders to maximize the warfighting functions’ capabilities. Information is a living environment, and it needs to be analyzed much the same way as the physical one we are used to maneuvering in. There is key terrain in this environment such as radios and computer systems, as well as obstacles and avenues of approach that allow or prohibit access into the network. By fully accessing the information landscape, maneuver units can find new ways to exploit our adversaries to mass and concentrate informational fires.

To gain the edge in the information battlefield and show that EW and SIGINT are better together than apart, Ironhorse founded the “Wild Bill” CEWI platoon to be a true organic fire-and-maneuver unit in the cyberspace domain. Since its inception, Wild Bill has sensed, collected, found, jammed,

destroyed, and disrupted enemy information networks in tough and realistic environments. The line of effort that Wild Bill has created is now tied to cyber-electromagnetic activities (CEMA), which is in turn tied to the intelligence section (S2) collection assets. This chain of information will leave our adversaries exposed and helpless in the EMS. Wild Bill is not a one-size-fits-all solution to mastering the cyberspace domain, but it does provide Ironhorse the ability to shape it.

Creating Wild Bill

Wild Bill was not created overnight, nor is it complete. The platoon has grown through trial and error during complex training events. It was decided early on that Wild Bill would primarily serve as the electronic reconnaissance platoon and the commander’s eyes and ears in the EMS. It was tasked with sensing and direction finding (DF) enemy communications, answering priority intelligence requirements (PIRs), and when able, destroying or degrading enemy emitters with either lethal or non-lethal fires.

An experienced infantry lieutenant was chosen and instructed to lead, equip, and train the organization. Wild Bill was provided a Bradley Fire Support Team (BFiST) Fighting Vehicle to allow the platoon to rapidly prosecute unobserved fire missions. This distinct inclusion is what makes the Ironhorse CEWI platoon different from other EW or CEWI platoons of the past. It is organically able of gathering targeting information from its sensors, rapidly clearing ground, and digitally processing fire missions. The fires section makes Wild Bill a true fire-and-maneuver element rather than a simple collection asset.

To cover the electronics side of the formation, Ironhorse funneled all available military occupational specialty (MOS) 17Es (EW specialists) and MOS 35P/Ns (cryptologic linguists/

SIGINT analysts) to fill the ranks. These troopers operate host EW and SIGINT systems ranging from legacy and developing Army technologies to commercial-off-the-shelf (COTS) systems. The current arsenal includes Prophet, Sabre Fury (a modified version of the Duke V4/V5 EW system), EW Tactical Vehicle (EWTV), Versatile Radio Observation and Direction (VROD) system, and the Herrick Pack. With the combination of systems and personnel from EW and SIGINT, the platoon also needs to delineate the legal and specialty differences between its troopers and equipment.

Wild Bill was initially assigned to the Ironhorse Military Intelligence Company, where a dedicated and informed SIGINT technician provided oversight and ensured the platoon remained in compliance with National Security Agency directives and procedures.

With an organizational structure and equipment assigned, Wild Bill's next task was to establish a modified table of organization and equipment (MTOE) and mission-essential task list (METL) to carry its troopers through individual,

section, and platoon training to meet their unique task and purpose. While training with a common understanding and nested purpose, the EW and SIGINT troopers began to integrate. Before long they were able to sense, find, and report as a single unit.

The platoon applied these skills during the Wild Bill Gunnery Table XII platoon live-fire exercise and added the ability to shoot, move, communicate, and accurately call for indirect fire. Following successful completion of their platoon-level gates, Ironhorse felt confident that Wild Bill could operate on the forward line of own troops (FLOT) and enable maneuver, intelligence, and targeting.

Integrating Wild Bill with ABCT Operations

With the concept proofed, Wild Bill was ready to operate with maneuver units, but it was not yet fully understood how much the platoon could provide to commanders and the brigade. Due to its nature as electronic reconnaissance, Wild Bill was naturally attached to support the Ironhorse Reconnaissance Squadron — the 1st Squadron, 7th Cavalry Regiment. Therefore, Wild Bill was tested during both the Ironhorse company-level combined arms live-fire exercise (CALFEX) operations and the brigade-level home-station decisive action validation, Pegasus Forge V. During these complex operations, Wild Bill troopers revealed their unique capabilities and limitations as they were tasked to find, fix, and destroy multiple emitters in the form of live and static opposing forces (OPFORs).

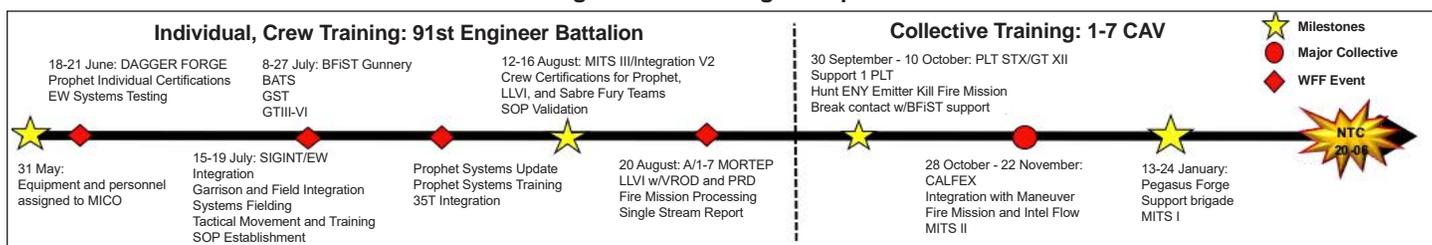
The Wild Bill leadership assisted maneuver commanders in planning during the orders process and during execution. The platoon semi-independently operated no more than one phase line behind the FLOT. The mission during these exercises was to provide the maneuver units with overwatch as they executed combat tasks; relay important combat information; and ultimately enable targeting and intelligence for leaders at echelon. During the training events, the platoon proved its ability to integrate with maneuver units while also revealing its unique capabilities and limitations.

Wild Bill's main combat multiplier is its ability to conduct electronic support (ES) operations, namely DF. Though this ability is limited on the move, the platoon is able to sense, fix, and destroy the enemy with speed and accuracy when established in tactically and technically sound collection sites (hasty

Figure 2 — Wild Bill Mission-Essential Task List

Mission: Integrate and synchronize EW and SIGINT capabilities to maximize intelligence collection and enable the targeting of enemy emitters.	
Name	Number
34-CO-3004	Conduct SIGINT collection
34-TM-0700	Conduct voice communications intercept or radio DF at a collection site
34-TM-0701	Conduct voice communications intercept during movement
34-TM-0702	Process incoming SIGINT information
34-TM-0713	Conduct a SIGINT survey
34-TM-0724	Coordinate in determining tactical SIGINT taskings
34-TM-0800	Establish an ES collection site
34-TM-0820	Manage Prophet sensor missions
13-CO-2019	Conduct EW
13-TE-2012	Conduct EA
13-TE-2013	Conduct electronic protection
13-TE-2014	Provide EW support (ES)
13-TE-6019	Establish an EW site
07-PLT-1342	Conduct tactical movement — platoon
07-PLT-3036	Integrate indirect fire support — platoon
06-SEC-5086	Observe friendly indirect fires

Figure 3 — Training Glidepath



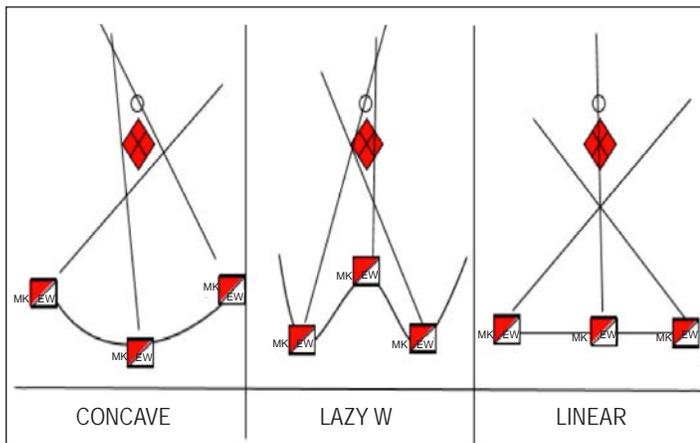


Figure 4 — Collection Site Formations

or deliberate). Conducting CEWI requires understanding of how sensors receive signals from the EMS and how each sensor can mutually support the others through proper geometry. Much like an ambush, there are different formations that can be used to achieve the greatest geometry for an electromagnetic kill zone. In general, a concave shape yields the greatest chance to fix a target, while a linear or convex shape yields a greater area to detect but limits the chance to establish a fix.

With a proper collection site set, the sensors of Wild Bill received specific EMS bands to observe known as “spectrum sectors of fire.” These sectors of fire were prepared in advance and coincided with the enemy electronic order of battle the S2 prepares that lays out both the enemy equipment and frequency sets that may appear to Wild Bill operators.

Once an enemy emitter is detected, the operator develops the echelon, potential location, and activity of the source. Throughout six weeks of CALFEX iterations, Wild Bill sensed more than 50 emitters. These emitters are a combination of OPFOR push-to-talk radios and Stratomists. The Stratomist is a signal emitter that is capable of replicating a myriad of single-channel plain text (SC/PT) and frequency-agile (such as frequency hop) communications. Also sensed and reported were helicopter navigation systems and dozens of other “out of play” frequencies.

Active emitters present a general azimuth to their location, known as a line of bearing (LoB). Just like a resection in land navigation, multiple LoBs from multiple sensors will achieve a cut or a triangulated fix on an emitter. These cuts and fixes are then reported and actioned by the platoon or other echelons. Wild Bill developed a

reporting scheme that allowed free passage of both time-sensitive combat intelligence and detailed intelligence that directly supported targeting. Many found emitters answered PIRs such as the location of high-value targets; chemical, biological, radiological, nuclear, and high-yield explosives (CBRNE) targeting; and obstacles.

Once the maneuver commander had this intel in hand, Wild Bill’s troopers would action their modified size, activity, location, time (SALT) report, which detailed the information gathered and the way ahead to leaders at echelon.

Fires: Lethal and Non-lethal

Wild Bill is free to prosecute the emitters with the lethal and non-lethal means available to it. Out of more than 15 digitally processed fire missions (both live and simulated), only one landed more than 100 meters from the target. Wild Bill even sensed and destroyed a live emitter with 120mm mortars from more than two kilometers away. While not as accurate as observed fires, Wild Bill was still able to achieve effects on the enemy and disrupt their operations.

Also available to Wild Bill is its non-lethal fires asset — electronic attack (EA). EA or “jamming” against an adversary’s communications comes with an inherent risk to the jammer because of its EMS signature; essentially, it becomes like a flashlight in the dark to enemy sensors. Wild Bill had limited practice jamming, but when it did go “buzzer on,” it achieved effects on Stratomist and live targets during the CALFEX.

Due to the risk to the force, Ironhorse uses this capability deliberately and in conjunction with other CEMA effects at a decisive point. Stacking effects like these on top of one another creates an electromagnetic dilemma. During one portion of Exercise Pegasus Forge, after the enemy tactical operations center was destroyed, Wild Bill conducted EA

Figure 5 — Size, Activity, Location, Time (SALT) Report

Wild Bill SALT Report	
Explanation	Example
S: Enemy size	S: Enemy observation post.
A: Activities of enemy reported by sensors. Frequency of enemy emission.	A: Observing downed vehicle, preparing to call chemical munitions. Frequency ### ##, 10 watts.
L: 8-digit grid or high confidence line of bearing to specific named area of interest (NAI)/key terrain.	L: PV 1234 5678
T: DTG (local)	T: 1525L
PIR: PIR answered	PIR: #5, enemy preparing to use chemical munitions in NAI 1.
WB: Actions taken by Wild Bill Platoon a. Call for fire b. Electronic attack c. UAS d. Maneuver unit assistance e. Continue to observe	WB: a — BN mortars



An M-ATV Prophet establishes a collection site.

against enemy FM communications, furthering the OPFOR's confusion and achieving dominance in the EMS.

Capabilities and Limitations

Wild Bill has carved a niche for itself by being able to search, find, and destroy emitters in parts of the EMS. Overall, the platoon can see almost every signal in the very high frequency and ultra high frequency ranges. Within these frequency ranges, Wild Bill is very capable of searching, finding, and destroying SC/PT emitters at ranges up to 10 kilometers. With more open terrain than the Fort Hood Training Area, it is expected that the platoon can see and affect results much further.

For signals that Wild Bill is unable to prosecute directly, it has been able to "tip" to more Ironhorse assets such as the Shadow unmanned aerial system (UAS) platoon or the brigade intelligence support element. Wild Bill's greatest strength is its ability to use these skills while operating on the FLOT. Unlike other EW and CEWI platoons, Wild Bill can conduct CEWI that directly enables maneuver, intelligence, and targeting.

However, Wild Bill still remains limited in its ability to find and fix frequency agile communications, Joint Capabilities Release's (JCR's) signatures and emitters in the super-high-frequency range. While Wild Bill and its assets are not wholly at fault, it should be noted that their Darkhorse and foreign-adversary counterparts can do this with lethal accuracy.

Jamming communications is as much a capability as it is a limitation because it is largely untested at the BCT level. As stated, it comes with a risk to the force that would need

to be mitigated. Wild Bill will strive to find innovative ways around these complicated problems because its troopers understand that the lives of all Ironhorse troopers could depend on their ability to see and shoot first in EMS.

Improving Wild Bill

As stated, Wild Bill is not a complete product yet, and Ironhorse will continue to seek upgrades to its equipment, manning, and vehicles to give it the edge in the electromagnetic and on the real-world battlefield. The current arsenal of sensing and jamming equipment is plagued with three major issues that need to be addressed if other CEWI or EW platoons are to be successful.

The first issue are the antennas attached to the Wild Bill sensors. The sensors housed in Wild Bill are some of the best available to any BCT. However, the antennas lack the sensitivity to detect emitters at ranges necessary to support large-scale combat operations (LSCO). An ABCT like Ironhorse is capable of

affecting up to 30 kilometers with both organic and attached fires assets, and it has a line-of-sight of 20 kilometers with a BFIST's Fire Support Sensor System A3. With more sensitive antennas and systems, Wild Bill will be able to sense enemy reconnaissance and main body elements up to 30 kilometers and to provide early warning before the enemy moves into line-of-sight.

The second issue is the limited jamming capability of the jammers Wild Bill has at its disposal. The EWTV and Sabre Fury jammers are the very same bulky ducks used during COIN operations that were not meant to defeat near-peer communications. Fielding new equipment with more sensitive receivers and stronger power outputs will be crucial in providing BCTs with a reliable system.

The third issue is the lack of a common graphical user interface (GUI). The multiple Wild Bill sensors do not have the ability to digitally share found frequencies, LoBs, or enemy intelligence. To do this, operators must use another method, FM or JCR, to share information and fix the emitter with a map and protractor. With a common GUI and a meshed network, operators can put the protractors aside and more accurately fix a hostile emitter. Wild Bill and CEMA have access to the EW Planning Management Tool (EWPMT), which is capable of linking the Defense Digital Service and sharing information with other battle command common-services systems. However, many of the Wild Bill sensors use COTS systems that are not compatible with EWPMT. To be successful with future equipment fielding, the Army must adopt a common planning tool and GUI for all equipment before becoming a program of record.

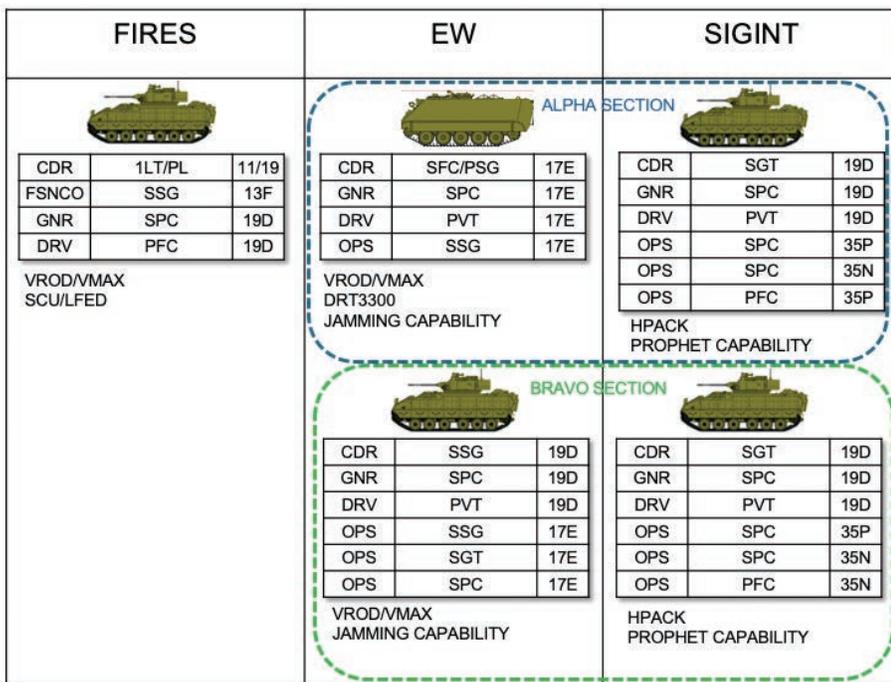


Figure 6 — “A Way” to Update Wild Bill

As maneuver begins to adapt EW and SIGINT, EW and SIGINT must adapt to maneuver. The current platforms that Wild Bill is assigned — mine-resistant ambush-protected (MRAP) all-terrain vehicles and MaxxPro MRAPs — are not capable of maintaining the rapid and forceful nature of an ABCT. CEWI platoons of the future need to reflect the mobility of the unit they support, and in the case of Ironhorse, they will need tracks.

As it stands now, Wild Bill is 18 troopers strong, with only 14 of them EW or SIGINT MOSs. Combine that with the dozen sensors and five vehicles they operate, and one can picture the physical problems that can arise while operating in a contested and continuous operations environment. Updating the MTOE to task-organize cavalry-scout Bradley Fighting Vehicles and crews will allow the platoon to be self-sufficient at both security and maneuver while also operating continuously. These vehicles, both Bradley and Armored Multi-Purpose Vehicle variants, will need to be outfitted with EW and SIGINT equipment and systems to ensure that CEWI remains fully mission-capable.

Answer to Dilemma

Platoons like Wild Bill are combat multipliers, shaping efforts within the cyberspace domain. As with any other shaping operation, their task and purpose must be nested to support the main effort. This begins with planning, in depth and in advance.

Wild Bill cannot be the only EW and SIGINT asset out there. By stacking the knowledge and effects that CEMA and the S2 can bring to bear, we can undoubtedly create an inescapable electromagnetic

dilemma for our adversaries. For example, an ABCT can better ensure the success of a combined-arms breach or the seizure of a city if it is able to simultaneously deny enemy air-defense artillery with an EA-18G Growler (jamming-capable aircraft), deny FM signals with an EC-130H Compass call, deny JCR with a cyberattack, and deny recon or third-party communications with Wild Bill.

If a BCT like Ironhorse is the primary battlespace owner in an LSCO environment, it must also extend its influence throughout the cyberspace domain on a scale greater than Wild Bill. Ironhorse foresees the creation of an entire EW company to better shape cyberspace at the BCT level. Under the command of a cyber and EW officer (Functional Area 17B), this company will be tasked to conduct information dominance within its brigade’s area of operations (AO). Its primary tasks would include mapping the electromagnetic environment; locating key command-and-control (C2) nodes; and denying, degrading, or deceiving enemy tactical information systems. The company would be fully nested with CEMA and the S2 to accomplish cyberspace echelons of fire that are desperately needed in the decisive-action environments of the future.

Accomplishing these tasks would require expansion of the current CEWI structure into three platoons as well as more capabilities task-organized to the company. The primary



A VROD mounted on the Wild Bill BFV in a collection site.

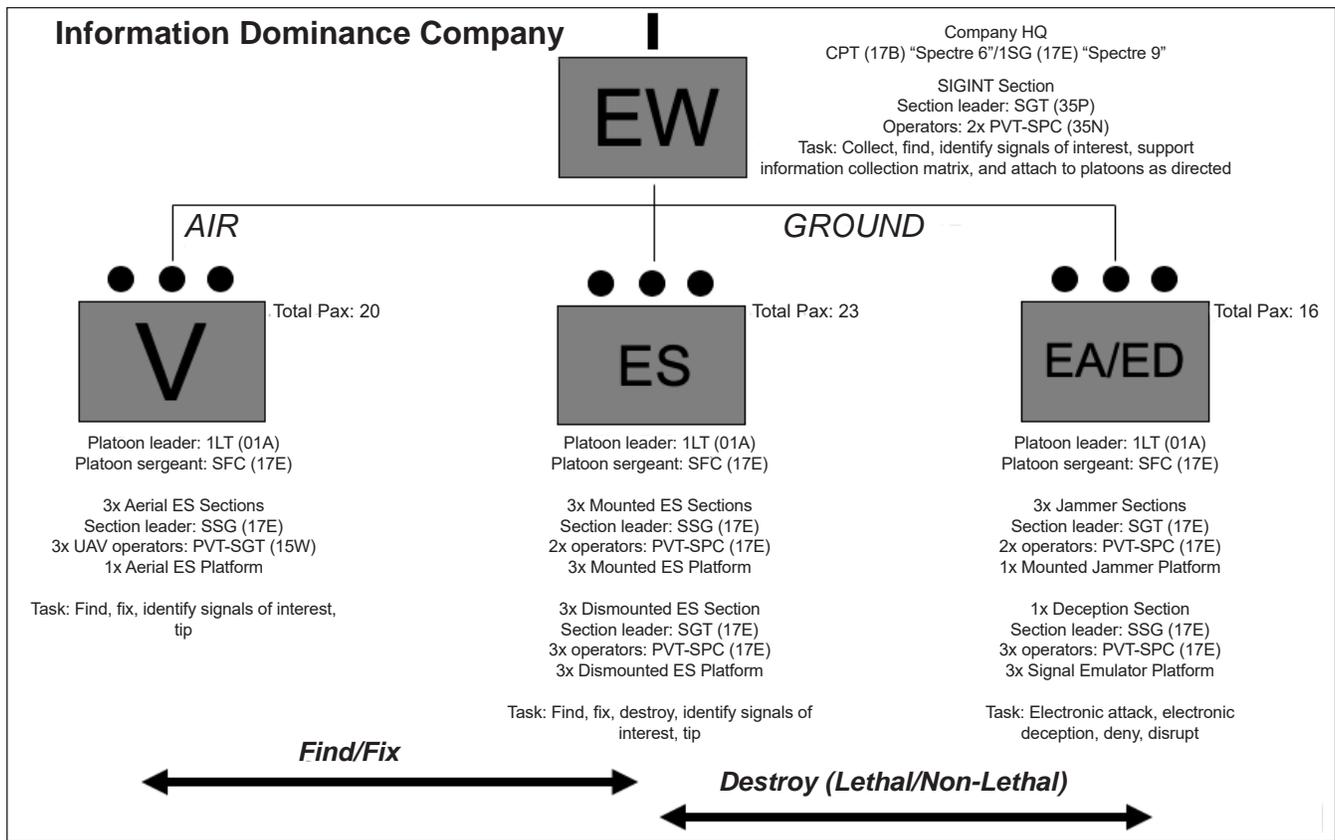


Figure 7 — Projected Information Dominance Company

ES platoon would operate in tandem with a SIGINT section much like the current Wild Bill structure. It would be tasked to conduct ES to find, fix, and destroy enemy emitters and C2 nodes through DF. The second platoon would focus on conducting EA to degrade and deceive enemy information systems. Finally, the third platoon would conduct ES with organic unmanned aerial vehicles (UAVs) armed with EMS sensors.

The two ground platoons can be fielded by acquiring more program-of-record systems to the BCTs, with the addition of more EW personnel who are projected in the current force-design update. The third aviation platoon will require fielding an ES-capable UAV platform and more operators. Fielding this third platoon would be decisive in shaping the cyberspace domain within a BCT's AO. This platoon will allow the sensors to get above terrain and see the EMS past the close fight and into the deep zone.

The late LTG Hal Moore said, "There is always one more thing you can do to increase your odds of success;" the Ironhorse ABCT is investing time and energy into one of those things. The progress accomplished in the Ironhorse ABCT is a step in the right direction toward competing in an increasingly disconnected, intermittent and limited environment. With initiatives like the Wild Bill CEWI platoon, Ironhorse will continue to fire and maneuver in the cyberspace domain.

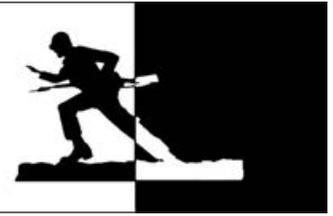
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Training Notes



Maintenance — People Readiness

GEN PAUL E. FUNK II

While I was growing up in armored cavalry units, maintenance was always at the forefront of my mind. A good maintenance program generates combat power, gives the commander options, and provides units the tools to win. As a young officer, I viewed maintenance as a function of applying people, parts, petroleum, tools, and time (P3T2) to bring equipment up to “10/20” standards. As I matured in the Army, I learned successful units and maintenance programs depend on a culture of maintenance — a pervasive attitude and focus on building and maintaining readiness by setting priorities, exercising leadership and ruthless execution. It has been a winning formula. It is this culture, or way of doing business, we must now employ to turn on a persistent challenge regarding our #1 pacing item — our Soldiers. We need to apply the culture of maintenance to our people to build our overall readiness and health of the force.

At any given time, 6 percent of our force is non-deployable. Of these, the majority are unavailable due to medical reasons. This number does not include Soldiers who are also not fully mission capable (FMC) due to failure of Army Body Composition Program or Army Physical Fitness Test (APFT) standards. This personnel non-mission capable (NMC) rate also does not include Soldiers unable to perform to their full potential due to temporary injuries and profiles. While we can accept the bare minimum of 90-percent operational readiness for most of our fleets, this is not something we can long tolerate for our people. We cannot accept a loss of combat power of 6 percent or more before we even cross the line of departure. This is leader business. Leaders need to focus on building “people readiness,” and it starts by changing the culture of fitness. We must adopt a culture of Holistic Health and Fitness (H2F).

Changing culture is hard but necessary. Many will argue that we have always valued fitness, but our pursuit of physical fitness has been unevenly applied and has not incorporated all components of fitness. In our current and future fights, every part of our force — every occupational specialty and every unit — must value and adopt a culture of fitness. We will win on the battlefield by embracing a culture of comprehensive fitness. We are starting this change by replacing the APFT with the Army Combat Fitness Test (ACFT). For the first time in our history, we have developed a scientifically validated fitness assessment based on the physical demands of combat. Critically, the ACFT also drives balanced and appropriate physical training that will reduce overuse injuries and unplanned attrition, and, like combat, the test standards are age- and gender-neutral. We will measure all Soldiers against common Soldier and Military Occupational Specialty (MOS) tasks using the physical demands we expect Soldiers to face in combat. But physical fitness is just the beginning.



Photo by Mark C. Olsen

A New Jersey Army National Guard Soldier carries two 40-pound kettlebells during the Army Combat Fitness Test (ACFT) at Joint Base McGuire-Dix-Lakehurst, NJ, on 19 December 2018.



Photo by SGT Casey Hustin

A Soldier does a hanging leg tuck with support from a fellow Soldier during a lunch and lift hosted by a Holistic Health and Fitness team at Joint Base Lewis-McChord, WA, on 25 February 2020.

The U.S. Army Training and Doctrine Command (TRADOC), through the Center for Initial Military Training (CIMT), is leading the effort to implement the H2F system. H2F is the foundation of the entire fitness enterprise. H2F provides the commander all the tools required to maximize the physical and non-physical components of health and fitness. H2F is the Army's primary investment in increased Soldier readiness and lethality, optimized physical and non-physical performance, reduced injury rates, improved rehabilitation after injury, and increased overall effectiveness of the Total Army.

In the H2F system, dietitians, physical therapists, occupational therapists, athletic trainers, and strength and conditioning coaches will provide relevant and ready subject matter expertise. Just as important are resilience, mental readiness, and spiritual health to address the inter-relationship between physical and mental well-being. Commanders and leaders take heed — H2F is not designed to be the “valet service” option. Do not expect to hand them the keys when they show up to your unit and stand back and watch them do their thing. H2F provides the mechanism, but your engaged leadership will make it happen.

Leaders must do three things: understand the system, trust

the system, and dedicate the time to make it work. Creating a shared understanding is the basis for successful mission command. It starts with my headquarters and team. As we move to broader adoption of the program and resourcing across the force, we will use every available means to expose leaders to the concepts and techniques. While we are pushing, you need to pull; educate and arm yourselves with the knowledge, skills, and proven science our teams have utilized to get us this far. Only you can take us to the next level. When you see the results with your own eyes, I have no doubt you will trust the system. Results will not come fast or easy. We will see some short-term positive results, but the ultimate prize is increased readiness and reduced musculoskeletal injuries over the long term. True success will only come through a long-term commitment to regularity and progression. You will see results.

Finally, units will embrace what the commander values and resources. The most precious of these resources is time. Make H2F a priority. Nothing demonstrates a commander's priority like dedicated time on the training schedule, and to optimize use of the H2F system, you will have to commit training time throughout the day. H2F is an example of the Army's commitment to its people. Commanders' successful H2F administration makes that commitment real. Our obligation to our Soldiers is to provide them with an immersive, integrative, and comprehensive training system to ensure their success on the ACFT, reduce injuries, and build individual and unit readiness. Most importantly, Soldiers watch what the commander does and where the commander chooses to spend his or her time, so my advice is to lead by example. We lead the way.

Generating combat power or building readiness does not just “happen.” Just like returning a tank to the fight, preserving the health and physical fitness of a Soldier to withstand the rigor of combat is the product of planning, hard work, and leadership. We will need generous quantities of all three if we truly want to change the culture of fitness. It all starts with leadership. This is a priority. Our Army is in the midst of building a multi-domain operations enabled force and modernizing equipment across all warfighting functions to meet the ever present requirement to fight and win in large-scale combat. Our efforts to improve the most essential component — the individual Soldier — is not a separate endeavor but the true cornerstone of building a more capable Army. As GEN George Patton observed, “Wars may be fought with weapons, but they are won by men.” Today's men and women in our great Army will win our wars of today and tomorrow. It is up to us to prepare them to win. Victory starts here!

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The ETHICAL Warrior

CHAPLAIN (MAJ) JARED L. VINEYARD

Is one immoral act or one immoral Soldier able to change the perception of an entire unit or organization? The seemingly obvious answer is yes. Nationally, ethics is a hot topic these days. When to use force, how to use force, whom to use force on, and systematic fairness are all a part of the national discussion. These are not only valid topics of discussion but topics that a functional society needs to be able to answer. And while these and related discussions continue nationally, they are not new concepts to the military professional. Ethics are embedded into the foundation of the Army profession. When one looks at the definition of the Army profession, it is immediately clear that ethicality is essential...

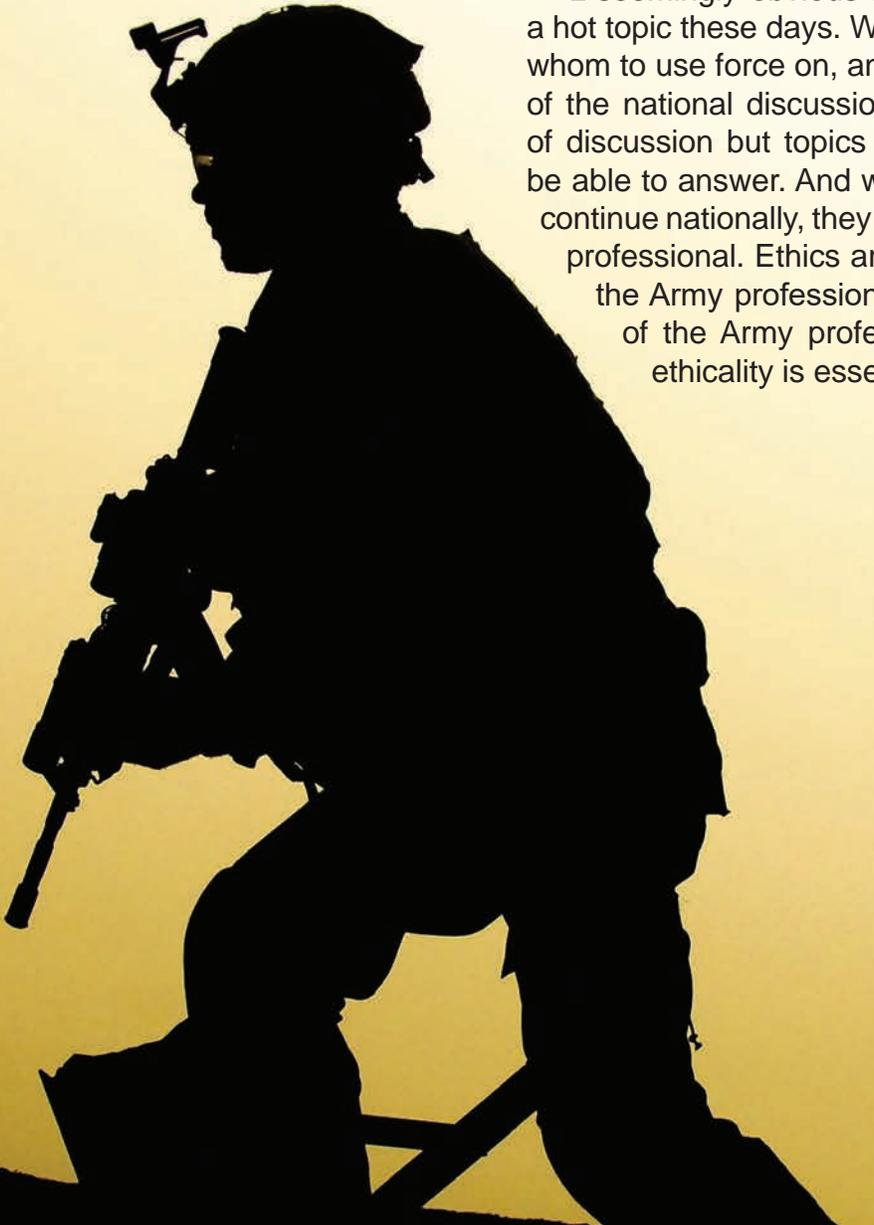


Photo by SSgt Samuel Bendet, USAF

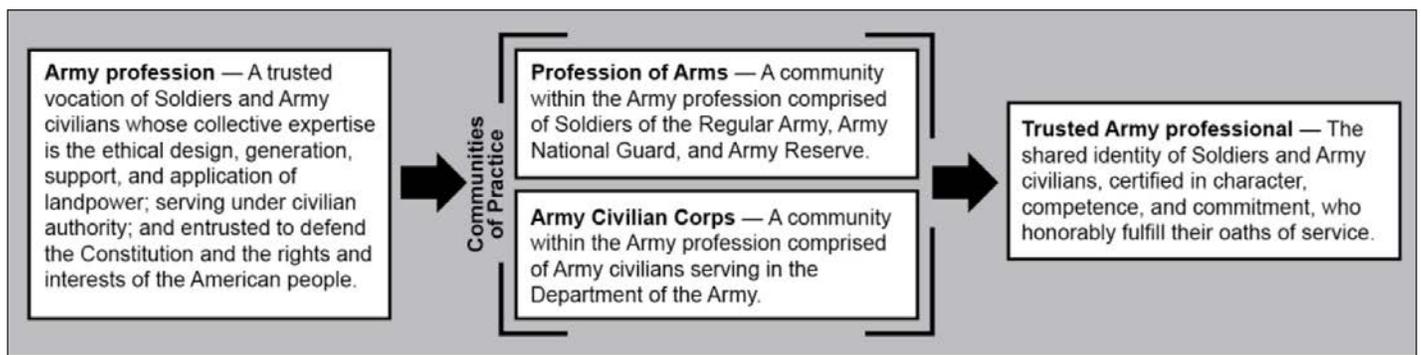


Figure 1 — The Army Profession

Figures from ADP 6-22

While not necessarily intuitive to an outside observer, part of being an Army professional by definition is an expertise focused on “the ethical design, generation, support, and application of landpower.”¹ What this means is that to be a part of the Army profession one must not simply be technically and tactically proficient, that is solely able to design, generate, support, and apply landpower. One must also be able to do it ethically. Army leaders have long agreed with this. A more recent example came from GEN Stanley McChrystal, who wrote that “maintaining our force’s moral compass was not a difficult concept to understand. Armies without discipline are mobs; killing without legal and moral grounds is murder.”² Based on our own definition, if one is not ethical, then one cannot be a professional. This is an idea that all Army leaders need to think long and hard about. Just like the idea of being an Army professional is 24 hours a day, seven days a week, the idea of being ethical is the same. Ethics are not just for downtown Kabul but are also for downtown Columbus, GA, or wherever a Soldier finds him or herself.

But what does it mean to be ethical? The Army is in the business of training Soldiers which implies that there is a standard to be trained to. Thus, when discussing ethicality, what is the standard for Army professionals? While a perusal through doctrine will show the need to be ethical, a challenge comes when one actually tries to define what that means. In Army Doctrine Publication (ADP) 6-22, *Army Leadership and the Profession*, ethics or a variant of it is discussed 94 times in its 132 pages, but in almost every case, no explanation or definition is given. And if a leader is challenged to define a concept personally, then that leader will be challenged to teach or train it to Soldiers generally.

Therefore, a standard is needed. Fortunately, the Army has such a standard which is known as the Army ethic. “The Army ethic is

the set of enduring moral principles, values, beliefs, and laws that guide the Army profession and create the culture of trust essential to Army professionals in the conduct of missions, performance of duty, and all aspects of life.”³ And while this is the standard for all Army professionals to know and follow, this ethic is a bit vague. It might be hard to teach and train in practical situations. So how does an Army leader do the right thing based on doctrine both personally and professionally? How is this leader to train his or her formation in what is right?

To answer this question practically, ADP 6-22 contains two specific sections which assist leaders and Soldiers in living the Army ethic while teaching explicit principles for doctrinally based ethical living. The first is a matrix that provides the moral and legal foundations for the Army ethic (see Figure 2).

This matrix provides 19 legal and moral documents or concepts that the Army looks to in order to make decisions. These specific ideals allow an Army leader to make the right and therefore ethical decision in any situation. For instance, if a Soldier is unsure how to act toward another Soldier in a tense moment, the concept of the Golden Rule or “treating someone like you would want to be treated” in conjunction with the Army Value of respect would both apply. These two

Figure 2 — The Framework for the Army Ethic

Foundations of the Army Ethic		
Applicable to:	Legal Motivation of Compliance	Moral Motivation of Aspiration
Army profession <i>Trust</i> <i>Honorable service</i> <i>Military expertise</i> <i>Stewardship</i> <i>Esprit de corps</i>	United States Constitution United States Code Uniform Code of Military Justice Executive Orders Treaties, Law of Land Warfare	Declaration of Independence Universal Declaration of Human Rights Just War Tradition (Jus ad Bellum) Army culture of trust Professional organizational climate
Trusted Army professionals <i>Honorable servants</i> <i>Army experts</i> <i>Stewards</i>	Oaths of Service Standards of conduct Directives and policies The Soldier’s Rules Rules of engagement	Natural moral reason – Golden Rule Army Values Soldier’s and Army Civilian Corps creeds Justice in War (Jus in Bello)
The <i>Army ethic</i> , our professional ethic, is the set of enduring moral principles, values, beliefs, and applicable laws embedded within the <i>Army culture of trust</i> that motivates and guides the Army profession and <i>trusted Army professionals</i> in conduct of the mission, performance of duty, and all aspects of life.		

ideals, the Golden Rule and Army Values, are both specific and specified moral principles that Soldiers should aspire to follow. When it comes to this matrix, the implied task is that all Army leaders have a working understanding and knowledge of each of these documents or concepts in order to live them out. This idea is reinforced in ADP 6-22 which says that Army “professionals perform their duty every day in a manner that the American people judge to be ethical according to the beliefs and values enshrined in the Nation’s founding documents.”⁴ These pertinent documents, as well as others are found in this matrix.

But this is not the only place in doctrine which helps an Army leader to practically answer how to live out what is ethical. The other piece of practical help comes from a section entitled “Ethical Reasoning.” This paragraph states:

“Ethical choices may not always be obvious decisions between right and wrong. Leaders use multiple perspectives to think about ethical concerns, applying them to determine the most ethical choice. One perspective comes from a view that desirable virtues such as courage, justice, and benevolence define ethical outcomes. A second perspective comes from a set of agreed-upon values or rules, such as the Army Values or Constitutional rights. A third perspective bases the consequences of the decision on whatever produces the greatest good for the greatest number as most favorable. Leaders able to consider all perspectives applicable to a particular situation are more likely to be ethically astute. When time is available, consulting peers and seniors is often helpful. Chaplains can provide confidential advice to leaders about difficult personal and professional ethical issues to encourage moral decisions in accord with personal conscience and the Army Values.”⁵

After reading through this paragraph, one might ask where did this come from and how does this practically apply? To answer the first question about where these three perspectives come from, one has to look toward the western philosophy of Aristotle for virtues, Immanuel Kant for rules, and John Stuart Mill for consequences. The Army is open about the sources of its values when it says that “the Army ethic has its origins in the philosophical heritage, theological and cultural traditions, and the historical legacy that frame our Nation.”⁶ While these three philosophers clearly view the world from differing perspectives, Soldiers could ask themselves a basic question from each.

The question based on virtues that a Soldier might ask is: “Would a virtuous person do it?” Aristotle taught:

“There are three kinds of disposition, then two of them vices, involving excess and deficiency respectively, and one a virtue, namely the mean, and all are in a sense opposed to all... That moral virtue is a mean, then and in what sense it is so, and that it is a mean between two vices, the one involving excess, the other deficiency.”⁷

Without getting too in-depth in his philosophy, it is enough to understand that Aristotle believed that virtue resides within

“Ethical choices may not always be obvious decisions between right and wrong. Leaders use multiple perspectives to think about ethical concerns, applying them to determine the most ethical choice...”

the mean of a man’s character, not within his extremes. An example can be seen in how someone deals with dangerous situations. On one extreme a person who doesn’t have any fear might be considered reckless or rash, while on the other end of the spectrum a person who never wants to deal with danger might be considered a coward, according to Aristotle. For an Army leader, neither position is particularly suited or desired. Thus, a virtuous person, or a person of the mean, would be a person of courage. Courage is a specific example given by the Army in the paragraph on ethical decision making. Thus, asking if a virtuous person would do it and then thinking through a response based on the mean helps a Soldier know what to do in certain situations.

This is not the only question that the Army suggests asking; the next might be: “Would I want all military professionals to do it?” This is based on rules by Immanuel Kant. Kant taught that “there is only one categorical imperative and it is this: Act only on that maxim by which you can at the same time will that it should become a universal law.”⁸ It is enough to generalize that Kant believed that if a maxim, or rule, could be universalized, then it might be ethical for all. Therefore, Soldier might ask themselves if they would want all Soldiers, NCOs, or officers to do what they were about to do? Or could they make a universal law for everyone in the same position or situation to follow?

The third and final question that the Army suggests a Soldier ask is: “What are the consequences of this decision?” The consequences should focus on the unit, the mission, or the Soldier’s surroundings. This idea comes from the philosophy of utilitarianism by John Stuart Mill. Mill wrote that “actions are right in proportion as they tend to promote happiness, wrong as they tend to produce the reverse of happiness. By happiness is intended pleasure, and the absence of pain.”⁹ Once again, not diving into Mill’s philosophy too deeply, this happiness is a not about a person’s individual happiness but aggregate or collective happiness. Thus, for an Army leader, it would be appropriate to think about the unit, the mission, and the surrounding area of operations when thinking through consequences. If the consequences of a decision are positive, then it may be a right decision. It is important to note that all three of the questions need to be asked for each and every decision a Soldier makes.

At this point, defining what is ethical according to Army doctrine is basically complete. The Army has an ethical standard — the Army ethic. It is rooted in the philosophical, theological, cultural, and historical legacy and tradition of our

nation which has legal and moral implications today. The problem is that these principles from the previously discussed matrix as well as the three perspectives can be very difficult to remember, let alone train the force on. Therefore, one of my tasks when taking a year to study ethics in preparation for my current teaching assignment was to create something easier to remember but rooted in the above doctrine. It was to design an ethical decision-making framework that could act as a standard for both Soldiers and leaders to know and implement. From my own experience, it is always easier to remember a concept that can be made into an acronym. So, the goal was to take all of the principles found in the two previously discussed sources of information and place them in an easily remembered format.

The acronym that eventually came out of this experiment was the exact word that I wanted Soldiers to remember — ETHICAL. Each letter of the word stands for a doctrinal concept. Each concept in turn would be asked as a question, a question in deciding whether a decision or action might be ethical. This acronym thereby became an “ethical checklist” for a Soldier:

E — Is this decision equitable? (With emphasis on the Golden Rule, Army Value of respect, and the virtue of justice)

T — Is this decision true? (With emphasis on facts and the Soldier’s moral compass/virtues)

H — Is this decision helpful? (With emphasis on basic human rights, consequences, and rules)

I — Is this decision institutionally appropriate? (With emphasis on Army Values, Soldier’s Creed/Warrior Ethos, and Soldier’s Oath)

C — Is this decision culturally appropriate? (With emphasis on treaties, standards of conduct, policies, and directives)

A — Is this decision’s application just? (With emphasis on Just War Theory and the Law of Land Warfare)

L — Is this decision legal? (With emphasis on U.S. and military law including specific rules of engagement)¹⁰

Briefly, let’s look at each letter to ensure that there is a proper understanding of each concept.

The first category is equitable. In order to be ethical, all military personnel should ask themselves the question: “Is this decision equitable?” Equitable means “having or exhibiting equity; dealing fairly and equally with all concerned.”¹¹ It has fairness at its essence. Standards in the Army should be tough and the bar for leaders should be high, but they must also be fair. This gets at the principle discussed earlier — the Golden Rule. This is codified very clearly in the Army Value of respect which says that Army professionals “treat people as they should be treated.”¹² Additionally, Aristotle’s virtue of justice might also fall under this category. Justice deals ultimately with the issue of fairness. Thus, if a Soldier is going to be ethical, he or she should ask: “Is this decision equitable or fair?”

The next category is true. In order to be ethical, all military personnel should ask themselves the question: “Is this decision true?” This question needs to be answered in two

senses based on doctrine. The first sense is objective truth or facts. ADP 6-0, *Mission Command*, states that “ideally, true understanding should be the basis for decisions.”¹³ In his book *The Soldier and the State*, Samuel Huntington writes that “the ‘military opinion’ must never be colored by wishful thinking... the military man will be dealing with military fact, hard figures, and grim realities of time, space, and resources.”¹⁴ While Army professionals recognize that complete understanding in every situation is never possible, ethical decisions must be rooted in reality.

But it is not only facts that the Army leader needs to consider when thinking through decisions; moral truth needs to be consulted as well. This truth is guided by each leader’s conscience. Doctrine tells us that “a leader’s character consists of their true nature guided by their conscience...”¹⁵ Many may call this the moral compass of a leader. This compass informs a leader’s conscience which is formed and developed over time by a number of sources. For instance, “influences such as background, beliefs, education, and experiences affect all Soldiers and DA Civilians.”¹⁶ How does a leader know if something is immoral? A decision or act might be judged immoral if it goes against the dictates of their conscience. Doctrine also tells leaders what to do when given an order that is immoral. “Army forces reject and report illegal, unethical, or immoral orders or actions... Soldiers are bound to obey the legal and moral orders of their superiors; but they must disobey an unlawful or immoral order.”¹⁷ Therefore, a Soldier must ask him or herself: “Is what I’m about to do morally true according to the dictates of my conscience?” If this is disregarded, moral injury is likely to occur.

The next category is helpful. In order to be ethical, all military personnel should ask themselves the question: “Is this decision helpful?” This is meant in two senses, both previously discussed in rules and consequences. One way this question could be asked is: “Is this helpful to my profession?” Or, worded differently: “Would I want all military professionals to make this decision?” Next, based on consequences: “Is this decision helpful to my unit, to the mission, or my surroundings?” It is interesting to note that doctrine states that part of our moral motivation for service are basic rights. These can be found both in the Declaration of Independence as well as in the Universal Declaration of Human Rights. An example of asking the “helpful” question using these documents might be: “Is this decision helpful to those around me?” According to our Declaration of Independence, some truths are “self-evident” such as “all men are created equal” and have “certain unalienable rights, that among these are life, liberty, and the pursuit of happiness.”¹⁸ Therefore, a Soldier on patrol cannot simply impede on someone’s basic rights just because he or she feels like it — that would be unethical.

The next category is institutionally appropriate. In order to be ethical, all military personnel should ask themselves the question: “Is this decision institutionally appropriate?” What this question is pointing to is that there are many Army-specific institutional norms and values that should be

followed. The classic example of this is Army Values.

These values are what we as the Army have said are important to us as an institution. In fact, the Army has gone so far to say that “the Army Values embody the practical application of the Army Ethic.”¹⁹ What this means in a sense is that if one wants to see the Army ethic in practice, one only needs to look as far as the Army Values.

Another institutionally appropriate concept is the Soldier’s Creed, with its associated Warrior Ethos and Army Civilian Corps Creed. These creeds personify what it is to be an Army professional. And while these institutionally appropriate values might be good for all people to know and live out, they are at the same time very institutional. This means that they are institutionally agreed upon values and norms that guide the conduct of all personnel within the Army institution. Other institutions such as the Navy or Air Force have different, although similar, values. Army personnel must live these agreed upon values and principles if they are going to be ethical.

The next category is culturally appropriate. In order to be ethical, all military personnel should ask themselves the question: “Is this decision culturally appropriate?” As everyone who is familiar with the U.S. Army knows, the “sun never sets on the U.S. Army.” Therefore, Army leaders understand:

“Army organizations operate around the world in a wide variety of environments with different unified action partners representing many different cultures. Leaders should acquire cultural and geopolitical knowledge about the areas in which they expect to accomplish the mission... Leaders require cultural and geopolitical awareness to properly prepare subordinates for the places they will work, the people with whom they will operate, and the adversaries or enemies they will face. The Army requires leaders who are geopolitically aware and can explain how their unit mission fits into the broader scheme of operations. These are important factors when Army leaders attempt to extend influence beyond the chain of command.”²⁰

LOYALTY DUTY RESPECT SELFLESS SERVICE

HONOR PERSONAL COURAGE INTEGRITY

ARMY VALUES
WWW.ARMY.MIL/VALUES

THE ARMY VALUES

1-70. The Army Values embody the practical application of the Army Ethic. They encompass the enduring moral principles, beliefs, and laws that guide Army professionals in accomplishing the mission as well as their conduct in all aspects of life.

1-71. The Army Values are—

- Loyalty: bear true faith and allegiance to the Constitution of the United States, the Army, your unit and other Soldiers.
- Duty: fulfill your obligations.
- Respect: treat people as they should be treated.
- Selfless service: put the welfare of the nation, the Army, and your subordinates before your own.
- Honor: live up to the Army Values.
- Integrity: do what is right, legally and morally.
- Personal courage: face fear, danger, or adversity.

Figure 3 — The Army Values

When it comes to understanding different cultures, leaders need to have an understanding of treaties, standards of conduct, as well as different policies and directives such as status of forces agreements. When Soldiers and leaders understand the context of where they serve, they will be much more likely to not offend our foreign partners and be able to extend respect with dignity to those with whom we serve. Dignity and respect are most definitely a two-way process and helps leaders from different cultures build rapport and trust, which is the bedrock of the Army profession. Being culturally aware and appropriate helps ensure Army leaders make ethical decisions.

The next category is just application. In order to be ethical, all military personnel should ask themselves the question: “Is this decision’s application just?” The focus of this concept is combat and specifically looking through the lens of Just War Theory and its related Law of Land Warfare. All Soldiers and leaders must understand that there is a proper way to apply land power, that is to fight and win our nation’s wars. Discussions on the proper use, allocation, and timing of force have been a part of Western armies as long as there have

been armies. A brief summary of key principles from the Law of Armed Conflict (LOAC) can be found in Figure 4. In order for Soldiers to be ethical, they must honor the Law of Land Warfare and ensure that their application of landpower is just.

The final category is legal. In order to be ethical, all military personnel should ask themselves the question: “Is this decision legal?” While this might seem obvious, all Soldiers and leaders need to ensure the legality of the decisions that they make. Some might add that this should be the first question that is asked when making a decision, and while that may be true it is surely not the only question that should be asked. The military works under the legal framework where the U.S. Constitution is the foundation followed by laws, Uniformed Code of Military Justice, Executive Orders, etc. In order for a decision to be ethical, it should be legal.

Ethics is an area that every Soldier and leader must think through whether training during peacetime or fighting during war. The Army’s job is to win. This is can be seen in its mission statement:

The Army mission — our purpose — remains constant: to deploy, fight, and win our nation’s wars by providing ready, prompt, and sustained land dominance by Army forces across the full spectrum of conflict as part of the joint force.²¹

But in winning there is a tension. This tension is summed up by Michael Walzer with the dilemma of winning and fighting well.²² While the Army is tasked to win, we must win the right way, the ethical way. Walzer goes on to say that “war is the hardest place; if comprehensive and consistent moral judgements are possible there, they are possible everywhere.”²³ What is he saying? War is hard and if you can be moral in war you can be moral anywhere. But I think all Soldiers and leaders need to be challenged with the other side of that comment: If you can’t be moral anywhere, when

it is “easy,” then you won’t be moral in war. Being moral implies a standard; the acronym ETHICAL is a doctrinally based standard to help leaders and Soldiers make the right decisions — to be ETHICAL warriors. We as an Army must be ethical, not just to be perceived as right but because our profession demands that we be right.

Notes

- ¹ ADP 6-22, *Army Leadership and the Profession*, July 2019, 1-2.
- ² Stanley McChrystal, *My Share of the Task* (NY: Penguin Group, 2013), 135.
- ³ ADP 6-22, 1-6.
- ⁴ *Ibid*, 1-3.
- ⁵ *Ibid*, 2-7.
- ⁶ *Ibid*, 1-7.
- ⁷ Aristotle, *The Nicomachean Ethics*, trans. David Ross (Oxford: Oxford University Press, 2009), 34-35.
- ⁸ Immanuel Kant, *Groundwork for the Metaphysics of Morals*, trans. Arnulf Zweig, ed. Thomas Hill and Arnulf Zweig (Oxford: Oxford University Press, 2002), 222.
- ⁹ John Stuart Mill, *Utilitarianism*, ed. Roger Crisp (Oxford: Oxford University Press, 2004), 55.
- ¹⁰ Jared Vineyard, “Operationalizing the Army Ethic: An Army Decision-Making Model,” (STM Paper, Yale Divinity School, 2019), 12.
- ¹¹ “Equitable,” in Merriam-Webster Dictionary, accessed on 16 June 2020 from <https://www.merriam-webster.com/dictionary/equitable>.
- ¹² ADP 6-22, 1-12.
- ¹³ ADP 6-0, *Mission Command: Command and Control of Army Forces*, July 2019, 2-4.
- ¹⁴ Samuel Huntington, *The Soldier and the State: The Theory and Politics of Civil-Military Relations* (Cambridge: The Belknap Press of Harvard University Press, 1985), 67.
- ¹⁵ ADP 6-22, 2-1.
- ¹⁶ *Ibid*.

¹⁷ *Ibid*, 1-3, 1-4.

¹⁸ Declaration of Independence,” in *The Constitution of the United States with Index, and Declaration of Independence* (Malta: National Center for Constitutional Studies, 2015), 35.

¹⁹ ADP 6-22, 1-12.

²⁰ *Ibid*, 4-4.

²¹ ADP 1, *The Army*, 2019, 3-1.

²² Michael Walzer, *Just and Unjust Wars: A Moral Argument with Historical Illustrations* 4th ed. (NY: Basic Books, 2006), xxiv.

²³ *Ibid*, xxv.

Figure 4 — Application of Basic LOAC Principles

Principle	Alternate Names	Paragraphs	Summary
Military Necessity		1-23 to 1-27	Justifies the use of all measures required to defeat the enemy as quickly and efficiently as possible that are not prohibited by the law of armed conflict.
Humanity	Humanitarian Principle; Unnecessary Suffering; Superfluous Injury	1-28 to 1-30	Basis of protection for civilians; forbids inflicting suffering, injury, damage, or destruction unnecessary to accomplish a legitimate military purpose.
Honor	Chivalry	1-31 to 1-33	Demands a certain amount of fairness and a certain mutual respect between opposing forces.
Distinction	Discrimination	1-34 to 1-43	Distinguishing between combatants and military objectives on the one hand and civilians and civilian objects on the other in offense and defense.
Proportionality		1-44 to 1-48	Requires commanders to refrain from attacks in which the expected loss or injury to civilians and damage to civilian objects incidental to such attacks would be excessive in relation to the concrete and direct military advantage expected to be gained. It also underlies the requirement to take feasible precautions to reduce the risk of harm to civilians, other protected persons and civilian objects.

Field Manual 6-27, *The Commander’s Handbook on the Law of Land Warfare*

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The Army National Guard Light Infantry Battalion at xCTC

MAJ ALEXI D. FRANKLIN

During the summer of 2019, the 2nd Infantry Brigade Combat Team (IBCT), 28th Infantry Division participated in Exportable Combat Training Capability (xCTC) rotation 19-02 from 7-29 June at Fort Pickett, VA. While the 1st Battalion, 175th Infantry Regiment gleaned a great amount of value from this valuable developmental training rotation, gaining the full training value was somewhat hampered due to a lack of understanding of what an xCTC rotation entailed.

According to the xCTC website (www.xctc.org), the Army National Guard's xCTC program "is an instrumented brigade field training exercise designed to certify platoon proficiency in coordination with First Army. xCTC provides an experience similar to a Combat Training Center to Guard Soldiers at home station or at a regional training center, minimizing cost and time away from home and jobs. The program brings full training resource packages to National Guard and active-duty bases around the country, allowing units to train on their schedule, close to home."

With externally resourced lanes and evaluators from First Army and an externally resourced active-duty opposing force (OPFOR), xCTC simultaneously frees units from the significant burden of resourcing their own training while providing neutral, third-party observation from both the OPFOR and observer-coach-trainer (OCT) perspective.

While xCTC offers some aspects of what a CTC rotation presents, xCTC is not a CTC rotation. It is undoubtedly a valuable training experience, but it does not provide the same level of sustained, whole-formation, broad-spectrum operations that CTC rotations are notorious for. In practical terms, xCTC is a platoon-centric training exercise with a small amount of company-level lanes, culminating in (at least for rotation 19-02) a brigade-level exercise.

For purposes of illustration, during 19 training days, a given line infantry platoon spent two days on squad live fire, four days on situational training exercise (STX) lanes, four days on platoon live-fire exercise (LFX) lanes, four days on troop leading procedures (TLPs), two days on a company defense, and three days as part of a brigade defense. The TLP days were evenly spread out during the rotation, providing the Soldiers the opportunity to return to the cantonment area every three to five days to refit. Within the tactical training scenarios, each lane had specified start and end times, enabling units to shuttle Soldiers between an administrative field sleeping area and their tactical lanes. While challenging, the xCTC rotation was not the sustained CTC-like rotation the unit had prepared for. At no time were the companies

Soldiers from B Company, 1st Battalion, 175th Infantry Regiment, assault the objective through obscuration smoke during Exportable Combat Training Capability rotation 19-02 at Fort Pickett, VA.

Photos courtesy of author



	5-Jun-19	6-Jun-19	7-Jun-19	8-Jun-19	9-Jun-19	10-Jun-19	11-Jun-19	12-Jun-19	13-Jun-19	14-Jun-19	15-Jun-19	16-Jun-19	17-Jun-19	18-Jun-19	19-Jun-19	20-Jun-19	21-Jun-19	22-Jun-19	23-Jun-19	24-Jun-19	25-Jun-19	26-Jun-19	27-Jun-19	28-Jun-19	29-Jun-19	30-Jun-19
	D-5	D-4	D-3	D-2	D-1	D Day	D+1	D+2	D+3	D+4	D+5	D+6	D+7	D+8	D+9	D+10	D+11	D+12	D+13	D+14	D+15	D+16	D+17	D+18	D+19	D+20
1-175 IN																										
HHQ/1-175																										
Command Group																										
Current OPS																										
Sustainment																										
Fires DET																										
Mortars																										
Scouts																										
Sniper Sqd																										
Medical Platoon																										
AV1-175																										
1/A																										
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CV1-175																										
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3/D																										
H/128 BSB																										
CO HQ																										
MAINT																										
DISTRO																										

1-175th Infantry Execution Matrix

or battalion probed, attacked, or otherwise harassed outside of these explicit lanes. The battalion headquarters had to displace only once during the transition from the platoon and company lanes into the brigade defense.

Challenges at XCTC

While at xCTC the majority of the battalion staff's workload was largely administrative, not tactical. The battalion operations and sustainment staff primarily deconflicted range times, coordinated troop movement requests, and remained on top of home-station administrative responsibilities. The most significant exercise-related, staff-centric work came in the form of managing ammunition draw and delivery and troop movement requests.

For staff training purposes, the rotation did not incorporate a dynamic, live intelligence and orders process. While the staff eventually conducted two abridged, ad hoc iterations of military decision-making process (MDMP) familiarization, that training was not prepared beforehand due to the belief that the unit would be decisively engaged in a CTC-like fight. Overall, xCTC offered little in the way of staff training and development and, at a length of several weeks, represented a missed opportunity for the battalion.

Another issue for the battalion in the lead-up to xCTC and during execution was a capability gap in the battalion's ability to operate as a synchronizing tactical headquarters. Unfortunately, due to its platoon-centric focus, xCTC did not place particular emphasis on these capabilities, and in key areas (such as S6 and enabler synchronization) the exercise

did not serve as a forcing function for the battalion staff to improve in those areas.

Similar to the issues experienced by the battalion staff, the battalion's forward support company (FSC) operated exclusively out of a "forward logistics element" that had an administrative, not tactical, footprint and security posture. Due to a directed support course of action, the battalion was unable to gain the training value of executing the echeloned "battalion concept of support" as detailed in ATP 3-21.20, *Infantry Battalion*, exercising the challenges of moving supplies by echelon from a brigade support area to a battalion combat trains command post to a company-level logistics release point. As a result, the battalion did not have the opportunity to exercise and practice a doctrinal logistical flow. Units preparing for their own xCTC rotations should be aware of this dynamic and either embrace it in the name of expediency or push against it to provide additional training value for the tactical integration of FSC operations with the battalion's staff. This is not a light consideration; units will be adding artificial, self-imposed friction to gain training value for the battalion staff with the potential to have negative impacts on company-level training lanes.

Due to low manning, the lack of a comprehensive and over-arching scenario, and conflicting lanes-based training while at xCTC, the battalion's medics, fire supporters, snipers, scouts, and Raven small unmanned aircraft system (SUAS) operators were never fully integrated into the battalion's operations or actively employed by the companies and platoons. Here as well, home-station decisions fed in-exercise

outcomes: Fire supporters, medics, and scout/snipers had not been integrated into home-station weekend drill training periods. That freedom provided to these sections enabled them to easily satisfy their specialized training goals and mandatory certifications, but it had done so at the expense of true integration with line units. The challenge of employing SUAS in the highly restricted airspace surrounding the unit's stationing in the national capital region meant that SUAS operators had been trained across the battalion, but as siloed efforts apart from the companies and with no clear means of integration in the battalion's intelligence, surveillance, and reconnaissance (ISR) flow.

Overall, while the battalion staff did not accomplish all planned objectives and gain significant development, unit leaders and staff actively conducted after action reviews (AARs), solicited feedback, and quickly set about developing materiel and standard operating procedure (SOP) solutions to remediate identified shortfalls for the next training year.

While the companies performed superbly at xCTC, they acutely felt the repercussions of many of the previously mentioned staff-level shortfalls. The gulf between what the battalion expected at xCTC and what the unit experienced was wildly different, and the battalion inadvertently promised a training event that differed significantly than what the

unit encountered at Fort Pickett. While at xCTC, the units conducted a multi-day company defense followed by a multi-day battalion defense. While the effective conduct of the defense is a core mission essential task (MET) of an infantry battalion, it lacks the "wow" factor that makes an extended annual training period memorable. The practical implication of the previously mentioned high-quality defensive posture meant that most Soldiers never engaged the OPFOR for multiple days. The battalion could, and should, have programmed more stimulating training, such as air assault operations or military operations on urban terrain (MOUT) training during the ample white space that xCTC contained.

From a tactical standpoint, insufficient weapons qualifications and LFXs were conducted in the months prior to the rotation, decisions that would directly impact unit operations while at xCTC. From an operations perspective, the unit did not aggressively pursue the administrative and tactical xCTC orders, resulting in incomplete and immature battalion-level products with which the companies were forced to contend. Insufficient numbers of trained drivers and a lack of deliberate advanced echelon (ADVON) manning resulted in the need to shuttle personnel back and forth from xCTC just to move all of the unit's equipment. The ammunition forecasting, drawing, and delivery woes meant that companies went on lanes with insufficient ammunition. A lack of clarity on the amount of downtime the units would have during the TLP days while at xCTC prevented their ability to plan additional training or even well-resourced morale, welfare, and recreation (MWR) events. A lack of a cohesive intelligence picture degraded the immersive nature of lanes, inhibiting the ability of companies to both use and train their subordinate leaders on integrating intelligence and sustainment considerations into their the TLPs.

Successes at XCTC

At the platoon- and company-level, the subordinate units of 1-175th performed magnificently. First Army evaluators provided two MET ratings for units — one with respect to manning and one taking manning into account. The unit's manning mathematically prevented the unit from receiving above a "P" on any MET. However, with the "weighted" evaluations, all but one platoon in the battalion achieved a "T" on all of their tactical tasks. After the culminating brigade defense, the OPFOR commander and First Army evaluators specifically highlighted the competence and professionalism of the 1-175th's line units. Specifically, the commander of the OPFOR from 2nd Battalion, 22nd Infantry Regiment of the 10th Mountain Division, stated during the brigade AAR that the OPFOR could not effectively find 1-175th positions. He said when they could, they were effectively engaged by indirect fires; and that they ultimately made the decision to bypass the 1-175th and engage other formations. In doing so, they ultimately penetrated an adjacent battalion's defenses and were able to



A Soldier assigned to A Company, 1st Battalion, 175th Infantry Regiment, engages a target during Exportable Combat Training Capability rotation 19-02.

nearly overrun the brigade headquarters. One First Army evaluator stated that his screening criteria for a quality unit were to assess the “give a --- factor” and “willingness to learn,” with neither being an issue with the 1-175th. Another quipped that the unit had the “uniform discipline of a unit on its second tour in Vietnam but with the fieldcraft of a unit on its second tour in Vietnam” — unit leaders actually walked dead space with Soldiers and gun teams and created accurate sector sketches.

At the brigade level, the brigade S6 section’s foresight in requesting multiple field service representatives to support the critical mass of communications equipment across multiple C4 platforms present at the rotation; as a result, the battalion was able to make leaps and bounds of progress in updating radios, computers, and receive subject-matter-expert training to help troubleshoot and repair equipment.

Finally, to highlight one tactical innovation, the unit’s SUAS operators, S2 section, S3 section, and fire supporters developed an impromptu battle drill in which the unit’s Raven operators would actively search for enemy patrols under the direction of the S2, report through S3 to confirm friendly positions, and rapidly push targets to the fire supporters, resulting in multiple OPFOR kills.

Lessons Learned

A fully functional, operational battle staff was not truly necessary at xCTC, and the companies had tactical-level mastery that helped supplant the battalion’s shortfalls. A lack of understanding of what xCTC entailed resulted in an unfocused training plan leading up to the rotation. However, this did not inhibit the companies from drilling the fundamentals, and that focus on fundamentals led to small-unit success. The missed opportunity was failing to develop our battalion-level staff and our company and battalion leaders on their individual competencies to knit lethal companies together into a cohesive battalion. We owe our staff and leaders enough “sets and reps” to enable tactical and intellectual mastery when we need them to leverage and synchronize all of the battalion’s internal and external enablers, systems, technology, and other resources. Once “decisively engaged” in the administrative rhythm of xCTC, the battalion staff lacked the ability to develop and implement deliberate staff training and operations. Engaging with your local Mission Command Training Support Program (MCTSP) prior to an xCTC rotation is a potential solution for additional staff training. MCTSP mobile training teams can come to your location during xCTC and provide training on mission command systems or processes, be it a full cycle of MDMP to engage the entire staff, or Command Post of the Future (CPOF) or Joint Capabilities Release (JCR) operator training for specific staff members.



A Soldier assigned to C Company, 1st Battalion, 175th Infantry Regiment, fires a star cluster, signaling a shift fire during training as part of xCTC rotation 19-02 at Fort Pickett.

In tangible terms, along with the standard friction and confusion inherent in every operation, the companies were unable to maximize all of their white space at xCTC and endured several long days in a well-executed defensive posture with little respite. The battalion was unable to exercise doctrinal sustainment, communication, or operational planning functions to their utmost. For units embarking on their own xCTC rotation, an xCTC rotation will only test your companies and platoons in a regimented manner. Make sure you understand the training calendar, what your Soldiers will be tested on and then prepare and resource them well, and have a plan to supplant what xCTC provides. Your sustainers and staff will be engaged sparingly; have a deliberate plan to test and develop them with an operational on-ramp similar to that of which you insist the companies engage. At the company level, train on the fundamentals of platoon tactics and have a plan to supplant xCTC with additional training — not generic hip-pocket training but running additional lanes and ranges at whichever location you attend your xCTC rotation. For the battalion staff, both in the lead-up to xCTC and during the rotation, force the deliberate integration of enablers down to the companies and have a deliberate “plan to plan” for the staff. Ensure you make the most of your rotation!

MAJ Alexi D. Franklin currently serves as the executive officer of the 1st Battalion, 175th Infantry Regiment, 2nd Infantry Brigade Combat Team, 28th Infantry Division. MAJ Franklin’s previous Infantry assignments include serving as commander of C Company (LRS), 158th Cavalry Squadron, Maryland Army National Guard, and prior to that, a variety of company-grade assignments with the 173rd Airborne Brigade. Commissioned through ROTC in 2005 from Johns Hopkins University (JHU), he holds a bachelor’s degree in political science and master’s degree in government from JHU, a master’s in business administration from Mount St. Mary’s University, and a master’s degree in defense and strategic studies as a National Defense University CWMD graduate fellow. This article could not have been possible without the generous assistance and input from the Soldiers, NCOs, and officers of 1-175th Infantry.

