



Heavily camouflaged M1A2 SEPv3 Abrams tanks from 1st Battalion, 8th Cavalry Regiment, 2nd Armored Brigade Combat Team, 1st Cavalry Division, move through a minefield on a cleared breach lane 27 May 2023 after being brought forward by dismounted scouts, infantry, and sappers in Vekaranjarvi, Finland, during Operation Lock. (Photo by 1st Lt. Raven Parker, 1-8 Cavalry Battalion Public Affairs Office)

# Task Organizing the Combined Arms Battalion for Success in Eastern Europe

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A column of tightly packed, destroyed Russian T-72 and BMP hulls line a Ukrainian road running through dense, forested terrain. Images from the scene confirm that scores of Russian infantry died inside the BMPs, killed by Ukrainian antitank guided missile (ATGM) ambushes and artillery before they could dismount. This is a familiar scene from Russia's ongoing invasion of Ukraine and indicative of Russia's systematic issues with mounted/dismounted integration, a critical aspect of combined arms maneuver. Analysts studying this war have noted that Russian battalion tactical groups (BTGs) uniformly lacked their authorized number of dismounts, leaving these units anchored to their vehicles.<sup>1</sup> Throughout the invasion's first year, Russian commanders did not adjust their task organization and routinely failed to clear restrictive terrain with dismounts, often leaving their armored vehicles vulnerable to concealed ambush positions.<sup>2</sup> While there is evidence that Russian ground forces are adapting, Oryx open-source reporting has independently verified 1,278 Russian tanks and 571 infantry fighting vehicles (IFVs) were destroyed in Ukraine as of 17 June 2023.<sup>3</sup>

Given these conventional trends with a near-peer competitor, would U.S. Army armored brigade combat teams (ABCT) be prepared to win in a large-scale combat operation (LSCO) in similarly restrictive terrain? This question is critical for the U.S. Army, considering

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the European Command (EUCOM) theater is the most likely location where ABCTs would be employed in a LSCO contingency.<sup>4</sup> When analyzing NATO's northeastern flank, Finland, the Baltics, and Poland are collectively covered by 47 percent forest or densely wooded areas, with a multitude of rivers, streams, and lakes.<sup>5</sup> Europe's profuse natural obstacles and canalizing avenues of approach become more dangerous for armored vehicles with the proliferation of dismounted ATGMs and precision indirect-fire munitions. Given these constraints, armor cannot safely maneuver in restrictive terrain without dismounted scouts, infantry, and sappers clearing forward. However, ABCTs organically lack the required dismounts needed to successfully conduct those clearance operations, hindering the ABCT's ability to maneuver in restrictive terrain.

The armor community has rebuilt its core competencies as the U.S. Army's striking force with the shift to LSCO.<sup>6</sup> Despite these advances, the ABCT's dismounts would struggle to achieve effective mounted/dismounted integration that is critical for combined arms maneuver in eastern Europe's restrictive terrain. To address these shortcomings, the U.S. Army should consider increasing the ABCT's authorized dismounts, more deliberately pursue creative task organization solutions, and increase the lethality of its dismounted elements. These changes will ensure the U.S. Army combined arms battalions (CABs) in EUCOM can operate as a combat credible force that can deter adversaries in competition, or decisively win in combat.

## **ABCT and CAB Force Structure: Where Are the Dismounts?**

Based on the 2015-2016 modified table of organization and equipment (MTOE) adjustments, the U.S. Army's eleven active-duty ABCTs each contain three CABs—two tank-heavy CABs and one infantry-heavy CAB.<sup>7</sup> The ABCT's two tank-heavy CABs each possess two tank companies with fourteen Abrams tanks each and one mechanized infantry company with fourteen Bradley IFVs and nine squads containing a total of eighty-one dismounted infantry soldiers. The ABCT's sole infantry CAB has two mechanized infantry companies and one tank company. Both CAB variants have a battalion scout platoon with six IFVs and eighteen dismounted scouts, a battalion mortar platoon with four M1064 mortar carriers, and a battalion sniper



**Table 1. U.S. Army Infantry and Armor Combined Arms Battalion/  
Russian Battalion Tactical Group Comparison**

Units	Tanks	IFVs	Dismounts	Dismount to Armor Ratio (# dismounts/armored vehicle)
U.S. Mechanized Infantry Combined Arms Battalion (CAB)	15	43	211	3.64
U.S. Armor CAB	29	29	130	2.24
Russian Mechanized Infantry Battalion Tactical Group	10	30	108	2.70

(Table by authors)

section with ten snipers. Beyond Abrams, Bradleys, and infantry, engineers are another critical element of the combined arms team, required for mobility and countermobility missions. The ABCT's brigade engineer battalion possesses three sapper platoons, designed for each of the ABCT's three CABs to receive one sapper platoon as an attachment.<sup>8</sup> Table 1 summarizes infantry and armor CABs' mounted and dismounted capabilities along with the aggregated totals for an entire ABCT.<sup>9</sup> Across the entire armored brigade, there are an average of 2.7 dismounts (infantry, snipers, scouts, or sappers) for every M1 Abrams tank and M2 Bradley IFV.

Based on current trends in Ukraine, it appears that the ABCT's current force structure does not provide the optimal number of dismounts to protect the brigade's armored vehicles. Recent analyses based on captured Russian order of battle documents in Ukraine suggest that Russian BTGs in Ukraine had a similar ratio of 2.7 dismounts per armored vehicle, the same as a U.S. Army ABCT.<sup>10</sup> Given multiple reports highlighting Russian BTGs' inability to use dismounted forces to clear restricted terrain and pull armor forward, the similarity between Russian BTG and U.S. ABCT dismount-to-armored-vehicle ratios is alarming.<sup>11</sup>

### **Doctrinal U.S. Armored Force Employment: Missing Mounted/Dismounted Integration?**

Beyond the ABCT's dismounted force structure shortcomings, current Army doctrine minimally provides how ABCTs and CABs must operate in Europe's restrictive terrain. U.S. Army doctrine recommends CABs close with and destroy enemy forces using fire, maneuver, and shock effect to overwhelm the enemy with audacity.<sup>12</sup> This

approach best maximizes the ABCT's armored platforms, which uniquely deliver a combination of firepower, protection, and mobility, also known as the "iron trinity." The U.S. armor community's primary testing ground, the National Training Center (NTC) at Fort Irwin, California, allows armored commanders large maneuver space to rapidly mass firepower in an open desert, further reinforcing this cultural preference for fast tempo and boldness. However, this mentality and the practices developed at NTC do not align with the time and patience required for methodical, dismounted clearance of restrictive terrain that is required to safely pull in armor.

Army Techniques Publication (ATP) 3-90.5, *Combined Arms Battalion*, and ATP 3-90.1, *Armor and Mechanized Infantry Company Team*, provide the U.S. Army's doctrinal foundation for armor tactics.<sup>13</sup> However, neither publication provides guidance on tactical employment in rough terrain. Looking at other foundational U.S. Army doctrinal publications, mounted/dismounted integration and armor maneuver in restrictive terrain is omitted or insufficiently covered.<sup>14</sup> Addressing this gap is important, because massing a combined arms team's assets at the decisive point is different in eastern European forests than in NTC's open desert. A skeptic of this analysis might suggest that senior commanders should simply not employ armored formations in restrictive terrain, instead limiting their use to terrain that is more favorable. However, this is not practical, given the realities of the fight in Ukraine and the potential for ABCT employment in Korea or eastern Europe.<sup>15</sup>

Given this doctrinal gap, ABCT mounted/dismounted integration is increasingly under analysis in professional writing. Heavily influenced by rotational experience at the NTC, maneuver professionals are

experimenting with creative task organization solutions that increase mounted/dismounted integration.<sup>16</sup> Several case studies examining infantry and Stryker integration with tanks during NTC rotations find dismounts are critical to deliberately clearing restrictive terrain and seizing high ground, setting conditions for subsequent tank attacks.<sup>17</sup> Recent analyses on Russian tactics in Ukraine confirm these findings in combat, and the essential role that dismounts have in enabling effective combined arms maneuver.<sup>18</sup>

We build on this existing research and address the doctrinal gap by considering unique task organization requirements imposed by Europe's canalizing terrain. Beyond the need for more dismounted scouts and infantry, the CAB's requirement for additional dismounted sappers is even more apparent when considering Europe's abundant natural obstacles, limited bypass options, and increased requirements for combined arms breaches. We proceed by reviewing the tactical experiences of the 1-8th Cavalry Battalion's tactical experiences during a recent EUCOM rotation and highlighting task-organization adjustments needed to make the CAB more prepared to fight and win in EUCOM.

## **Mounted/Dismounted Maneuver in EUCOM: TF Mustang in Finland and Lithuania**

TF Mustang learned the importance of mounted/dismounted integration in restrictive terrain during a recent EUCOM rotation. TF Mustang, 1-8th Cavalry Battalion, 2nd ABCT, 1st Cavalry Division deployed in support of Operation European, Assure, Deter, and Reinforce in January 2023 and initially conducted section-, platoon-, and company-level collective training at Camp Herkus in Pabrade, Lithuania. A tank-heavy CAB reinforced with an engineer company, TF Mustang was ordered to participate in the Finnish Army's Operations Arrow 23 and Lock 23, providing the Mustangs an opportunity to conduct combined arms maneuver in Finland's restrictive terrain from mid-April to mid-June 2023. Keeping one tank company and an engineer support platoon in Lithuania, TF Mustang deployed most of its force to Finland, to include four hundred U.S. personnel, with one tank company, one mechanized infantry company, one headquarters company (including mortars, medical,

and scout platoons), one forward support company, and one sapper platoon.

Operations Arrow 23 and Lock 23 both included instrumented, battalion-level force-on-force training, providing multiple repetitions at attacking, defending, and conducting movement to contact in Finland's restrictive terrain under LSCO conditions.<sup>19</sup> In Operation Arrow 23, TF Mustang maneuver companies were attached to opposing Finnish battlegroups during five days of force-on-force operations. U.S. task organization did not occur below the company-level, meaning that the U.S. tank company lacked dismounts and primarily fought with its organic M1A2 SepV3 Abrams tanks in the dense forests of Niinisalo, Finland. The lack of dismounts proved devastating to the tank company. Without dismounted elements to clear restrictive terrain and obstacles, U.S. tanks sustained significant losses during all eight force-on-force battle periods. Enemy ATGM ambushes, local obstacle belts, and mounted enemy battle positions with keyhole shots gradually attrited the tanks during their attacks. Conversely, the U.S. mechanized infantry company fared much better on the offense, using their dismounts to clear forward, then pull forward a partnered Finnish Leopard company for the final assault.

Two weeks later, Operation Lock 23 provided an opportunity to apply lessons learned from Arrow 23 and enhance mounted/dismounted integration. The Mustangs retained all U.S. forces and formed a multinational battlegroup, receiving four hundred Finnish attachments from the Finnish Army's Karelian Brigade. Finnish attachments included a mechanized infantry company (equipped with Combat Vehicle-90s), one mortar company (120 mm Advanced Mortar System), an engineer platoon (Assault Breacher Vehicles, Joint Assault Bridges, and sappers) and a combat support platoon. Table 2 depicts the joint U.S. and Finnish Mustang battlegroup's capabilities with a ratio of 5.6 dismounts for every armored vehicle, more than double the 1-8th Cavalry Battalion's organic dismount capabilities (depicted in table 1). The additional 120 dismounted infantry from the attached Finnish forces proved decisive in Operation Lock 23.

This stood in contrast to the opposing force, which consisted of a mechanized Finnish battlegroup with a Leopard tank company, a BMP-2 mechanized infantry

**Table 2. TF Mustang Task Organization during Operation Lock 23**

Units	Tanks	IFVs	Dismounts	Dismount to Armor Ratio (# Dismounts/armored vehicle)
1-8th Cavalry Battalion (-)*	15	37	250	4.81
Karelian Jaeger attachments	4	10	120	8.57
TF Mustangs (+)	19	47	370	5.61

\*TF Mustangs kept one tank company in Lithuania during Operation Lock 23, leading to a higher proportion of dismounts than its full MTOE (listed in table 1).

(Table by authors)

company, an antitank company, a mortar company, a combat engineer company, and a support company. With only one mechanized infantry company, the opposing force battlegroup had approximately three dismounts for every armored vehicle, a ratio close to U.S. tank-heavy CAB.

The key takeaway from Operation Arrow 23 was that you needed to initially “go slow with infantry to go fast with tanks.” Using older Army doctrine, the Mustangs hastily adopted standard operating procedures for Lock 23 to deliberately lead with a dismounted force, conducting defile drills to clear restrictive terrain before committing tanks to the attack.<sup>20</sup> Field Manual (FM) 71-1, *Tank and Mechanized Company Team*, last published in 1998, provided a useful foundation for mechanized maneuver in restrictive terrain.<sup>21</sup> 1-8th Cavalry Battalion used variations of the defile drill depicted in the figure to great effect throughout the Operation Lock 23.<sup>22</sup>

Dismounts were critical in this terrain during each phase of the operation. Starting with the reconnaissance fight, the U.S. scout platoon’s limited number of organic dismounts proved insufficient for accomplishing their reconnaissance tasks. In several instances, the U.S. scout platoon parked some or all their Bradleys in a lager site to conduct expanded dismounted infiltration through restrictive terrain behind enemy lines. With only a few roads supporting tracked vehicles, reconnaissance had to be dismounted to avoid detection. This came at the expense of time and tempo, and the scouts began their reconnaissance mission much earlier than normal to allow time for slow dismounted movement. However, in each battle period, dismounted reconnaissance efforts succeeded in identifying enemy

battle positions and obstacle belts and disrupting or destroying enemy positions with indirect fire.

With dismounted reconnaissance efforts setting conditions for the main body attack, infantry followed next. U.S. and Finnish mechanized infantry companies moved to the probable line of contact, conducted a battle handover with scouts, and initiated a long, slow, dismounted clearance of restrictive terrain around avenues of approach. Infantry platoons would use bounding overwatch on both sides of roads to destroy or displace enemy observation posts and ATGM ambushes postured to kill U.S. armored vehicles forced to attack on the road. When key terrain existed, dismounted infantry was tasked to seize it to prevent subsequent enemy infiltration. Maneuver company commanders ensured that infantry dismounts were supported by sappers with mechanical and explosive breach capabilities. When dismounted elements identified road obstacles, they would conduct platoon-level suppress, obscure, secure, reduce, and assault breaching fundamentals to open, proof, and mark the lanes.

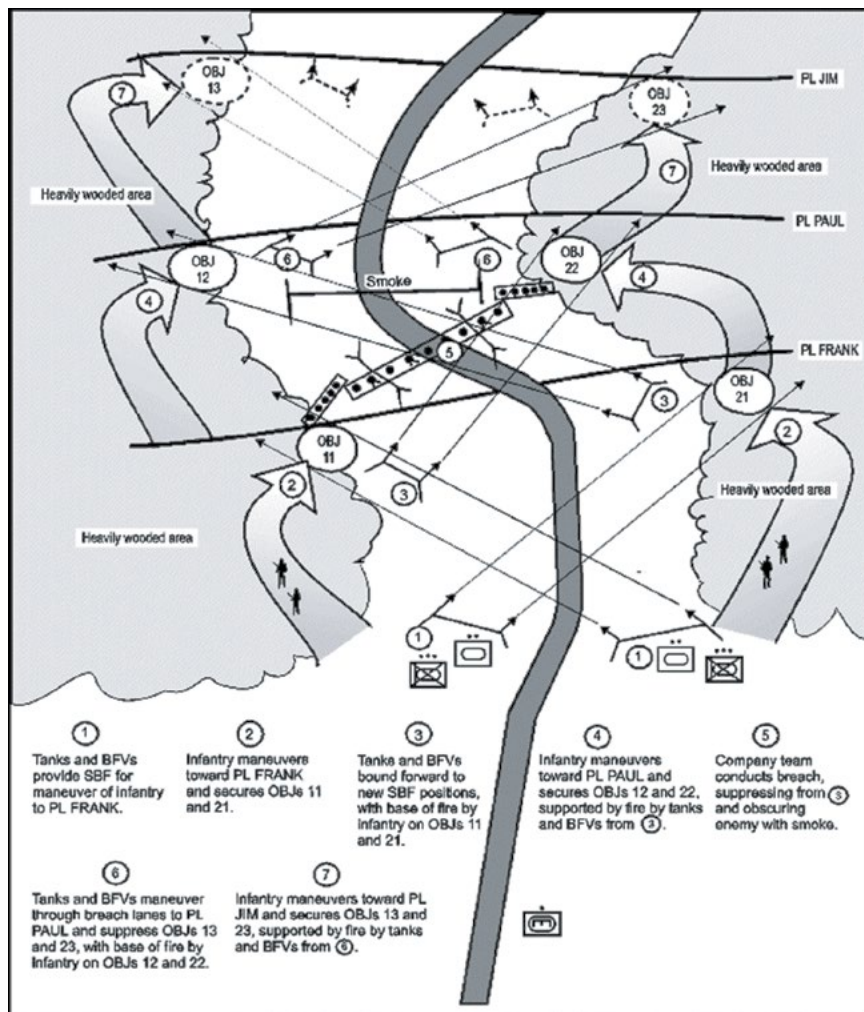
Ultimately, the dismounted clearances continued until platoons cleared restrictive terrain or encountered significant enemy armor, typically platoon-sized or greater. On every attack mission, U.S. and Finnish infantry platoons with attached sappers conducted multiple dismounted breaches and used ATGMs to kill enemy armor with keyhole shots looking to exploit overly aggressive U.S. tank maneuver. The concentrated presence of U.S. and Finnish dismounts, firing ATGMs and supported by accurate and timely indirect fire, created multiple problems for enemy defending from battle positions. As the enemy attempted to reposition,

these terrain and enemy-based triggers set conditions for a rapid and powerful armored assault. The U.S. commander then moved the tanks up to the U.S. dismounts, conducted a battle handover, and assaulted directly into an enemy that was in disarray. Assaults that attempted to attack well-positioned enemy armor without infantry shaping efforts invariably ended in failure.

To enable this mounted/dismounted integration, company teams were essential. Providing the tank company with at least one infantry platoon was key to ensure they were able to locally secure restrictive terrain and clear ahead of intervisibility lines. Even in static assembly areas, an organic tank company lacks the organic dismounts needed to emplace listening posts and observation posts.

Beyond tank and infantry pairing, engineering capabilities were critical to opening mobility corridors. Given the opposing force's prolific use of obstacles on roads, TF Mustang quickly learned that every maneuver company needed to be task organized to internally conduct an in-stride combined arms breach. Tank units without sappers or dismounted infantry were stopped dead by a handful of mines thrown by a withdrawing enemy traveling down a single road.

During two months in Finland, the unit found infantry leading tanks to be a prerequisite to mission success in Finland's restrictive terrain. Unfortunately, mission success was primarily enabled by an additional Finnish infantry company. Without the addition of 120 extra Finnish dismounts, TF Mustang would have suffered from the same dismount shortages plaguing its opposing force battlegroup, and Russian mechanized units in Ukraine. During after action reviews after each battle period, the opposing forces battlegroup



(Figure from Field Manual 71-1, *Tank and Mechanized Company Team* [1998])

## Figure. Defile Drill

commander routinely noted that his relatively limited infantry hindered him from defeating the Mustang battlegroup's aggressive reconnaissance efforts and deliberate dismounted clearance. Given the Russian armor pacing threat in Europe and the need to have infantry to succeed as described above, recommendations to address these shortcomings follow.

## Recommendations: Possibilities for Addressing the ABCT's Dismount Gap

The CAB's main challenge operating in EUCOM today is an insufficient dismount-to-armored-vehicle ratio to successfully operate in restrictive terrain. To alleviate this problem, the authors provide one





A TF Mustang sapper from Company A, 8th Brigade Engineer Battalion, 2nd Armored Brigade Combat Team, 1st Cavalry Division, uses a grapple hook to breach a wire obstacle 29 April 2023 in Finland. Dismounted breaches of profuse obstacles were common during force-on-force maneuver during Operations Arrow and Lock. (Photo by 1st Lt. Raven Parker, 1-8 Cavalry Battalion Public Affairs Office)

LSCO conditions. As the U.S. Army considers its future force structure for 2030 and beyond, we argue that these adjustments will ensure the CAB remains a versatile force that can independently deter, fight, and win in Europe's key terrain.<sup>23</sup>

The long-term solution to the CAB's force structure problem is to task organize all CABs with two mechanized infantry companies and two tank companies. This reform would ensure that sufficient dismounts are present in every company element when task-organizing tank and infantry platoons in company teams. The current imbalance inherent in CABs does not allow these formations to properly defeat an armored threat operating in severely restrictive terrain. The tank-heavy CABs lack the dismounted infantry to clear canalizing terrain, thus forcing overly slow-paced operations if the commander uses his limited infantry to clear across a narrower front. At the same time, the infantry heavy CAB lacks

the armor to exploit opportunities created by dismounted operations. The current CAB force structure works ideally in more permissible terrain with great standoff distance, thus negating the enemy's AT assets. In dense forests with canalizing lakes and rivers, tanks operating without dismounts will most assuredly result in unacceptable losses of heavy armor.

long-term and one short-term recommendation. In the long term, the U.S. Army can supplement the CAB's force structure to ensure each battalion includes two mechanized infantry companies, increasing the CAB's organic dismounts available to internally clear restrictive terrain. In the short term, the U.S. Army can experiment with creative, temporary task organization experiments during combat training center (CTC) rotations and multinational collective training exercises to provide CAB commanders the tools needed to practice mounted/dismounted integration. Beyond the broad force structure adjustments, U.S. Army armor doctrine does not sufficiently address operations in restrictive terrain, and the CAB's existing dismount equipment is insufficient for

the armor to exploit opportunities created by dismounted operations. The current CAB force structure works ideally in more permissible terrain with great standoff distance, thus negating the enemy's AT assets. In dense forests with canalizing lakes and rivers, tanks operating without dismounts will most assuredly result in unacceptable losses of heavy armor.

Given end-strength constraints, we acknowledge force structure and MTOE adjustments will take years to implement, if they are approved at all.<sup>24</sup> For a near-term solution, the U.S. Army can increase opportunities for Stryker and infantry BCT battalions and companies to temporarily task organize in ABCTs during CTC rotations and large-scale collective training. Recent successful examples of this practice include pairing a Stryker





TF Mustang infantrymen remount an M2A3 Bradley Fighting Vehicle 3 May 2023 following a dismounted clearance of restrictive terrain in Niinisalo, Finland, during Operation Arrow. (Photo by 1st Lt. Raven Parker, 1-8 Cavalry Battalion Public Affairs Office)

infantry battalion with an ABCT at NTC.<sup>25</sup> Additionally, the same effect could be achieved by adding NATO partner mechanized infantry companies to the CABs as well, much like what we did while in Finland.

In addition to increasing the number of dismounts, those same dismounts require better equipment to increase their lethality in restrictive terrain. A key lesson we learned from our attached Finnish infantry was the difference in lethality and capability with our U.S. infantry. The Finnish mechanized infantry possesses an array of AT assets to include the Next-Generation Light Antitank Weapon for longer distance tank targets but also shorter range AT options similar to the U.S. AT4, LAW, and Carl Gustav. Our dismounted infantry lacked intermediate AT options, which greatly inhibited the U.S. dismounts' ability to destroy tanks in densely wooded terrain without the necessary overhead clearance for the Javelin to fire.

In addition to light AT weapons, our dismounts were underequipped with modern dismounted radios and unmanned aircraft systems. The current MTOE

does not permit sufficient dismounted radios for infantry, scout, and sapper squads, impeding their ability to synchronize operations with armor in the heavily wooded terrain. Organic unmanned aircraft systems are similarly lacking, and the CAB's two Ravens were unreliable in Finland's weather and dense vegetation. To win the dismounted fight in dense vegetation, the CAB's dismounts need to be lethal enough to force the enemy commander to abandon his defensive positions. That armored assault will not be successful unless the dismounts have the necessary lethality required to both attrit enemy forces and cause him to decide about how to defend against our attack formation.

Beyond force structure, our final recommendation is to update both the doctrine and training associated with operating in severely restricted terrain. As we previously highlighted, ATP 3-90.5 and ATP 3-90.1 should at least include an appendix focused on fighting in restrictive terrain with forests, swamps, lakes, ponds, etc. The earlier FM 71-1 provides a helpful starting point, outlining how infantry can methodically pull tanks into the fight, as well



as the need for tactical patience to set conditions using dismounted clearance. Once updated, the manuals can assist CTC observer coach/trainer teams in evaluating mounted/dismounted training outcomes.

The argument that CTCs are meant to be a way to understand how to fight more generally as opposed to providing specific ways to fight specific scenarios is valid, but the tactical scenario we faced in Finland resulted in significant losses that would not be tenable in an actual conflict. It is imperative that this type of training occur before any unit goes to EUROM to provide a ready, combat-credible force. We acknowledge the size and resource constraints associated with the Joint Readiness Training Center, but there is value in using tank formations in the more wooded terrain of Fort Johnson in addition to the desert of the National Training Center of Fort Irwin. Ideally, the training would occur in a location that replicates the problem sets offered by the dense vegetation and swampy terrain of eastern Europe. If another training location is not feasible, it would be beneficial to have a training package to include instructional videos or tactical decision games that would push commanders to think outside of their comfort zones.

## Conclusion

The Mustangs' experience in Finland highlighted shortcomings in our understanding of how to operate in eastern Europe but, more importantly, provided challenges to the CAB's current force structure, doctrine, and training. Operating and winning in densely wooded terrain requires consistent and methodical usage of dismounted infantry to set the conditions for an armored assault. Using one without the other will most assuredly result in a disastrous outcome; a U.S. dismounted infantry attack into an enemy tank formation will eventually lead to a catastrophic counter-attack, and a U.S. tank assault without supporting U.S. infantry will lead to death by a thousand cuts from concealed dismounted AT ambushes, interspersed with mounted battle positions. For a U.S. Army CAB to succeed in restrictive terrain, the formation needs to include additional dismounts equipped with better equipment to properly set the conditions for an armored attack. With these reforms, the U.S. armor community can ensure it delivers CABs that are prepared to deter, and if necessary, fight and win a LSCO contingency in EUROM. ■

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