



Red Diamond Threats Newsletter



TRADOC G-2 Operational Environment Enterprise
ACE Threats Integration

Fort Leavenworth, KS

Volume 7, Issue 07

JUL 2016

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OEE *Red Diamond* published
by TRADOC G-2 OEE
ACE Threats Integration

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DATE SUPPLEMENT PROVIDES MORE OPTIONS

by [Angela M. Wilkins](#), TRADOC G-2 ACE Threats Integration (DAC)

TRADOC G-2 Analysis and Control Element Threats Integration (ACE-TI) is developing a supplement for the [Decisive Action Training Environment \(DATE\)](#) in support of a future exercise at the Mission Command Training Program (MCTP). This supplement comprises an operational environment assessment (OEA) of a country named Pirtuni, which will be overlaid on the real-world terrain of Ukraine, along with a strategic setting section that will provide trainers and scenario developers a regional context for the country.

OEA: An OEA is an analytical framework used to explain an operational environment (OE) in the context of eight variables known as PMESII-PT: political, military, economic, social, infrastructure, information, physical environment, and time. In this case, the OE is the fictional country of Pirtuni. Like all DATE countries, the conditions applied to the Pirtuni OE reflect a composite of the real world, and naming conventions follow [AR 350-2, Operational Environment and Opposing Force Program](#).

This DATE OEA will be produced as a supplement for two reasons—(1) As a supplement, Pirtuni will not disturb the integrity of the baseline DATE product, currently DATE 2.2. (2) Using Pirtuni will be completely optional. It will be written in a way to allow trainers, scenario developers, and exercise planners to either incorporate this additional OE into DATE training, or completely leave it out. This aligns with the intent of DATE by providing commanders a tool they can use to tailor the DATE to meet unit training objectives. DATE inherently allows for freedom and creativity in scenario design, and an additional OE provides even more options.

The DATE OE Supplement—Pirtuni is scheduled for publication at the end of calendar year 2016. DATE 3.0 is still in production with a scheduled release in late spring 2017. Please direct your questions and comments about DATE products to [Angela M. Wilkins](#).

RED DIAMOND TOPICS OF INTEREST

by [Jon H. Moilanen](#), TRADOC G-2 ACE Threats Integration, Operations, *Red Diamond* Newsletter (DAC)

This issue of *Red Diamond* opens with an article on Blueprint Two of the Threat 2025+ project, an ACE-TI initiative to produce a blueprint series capturing future threat tactics from a threat perspective for training. The blueprints are rooted in [Training Circular \(TC\) 7-100.2, *Opposing Force Tactics*](#), and represent projected threat capabilities. The intent of the blueprints is to validate the current hybrid threat (HT) requirements for training and the current HT force structure at training centers Army-wide. This article discusses one blueprint in detail, Irregular Force Attacks in Urban Terrain, and explains the conditions for its use in training.

An article on maneuver defense describes significant actions portrayed as conducted by an opposing force (OPFOR) brigade tactical group (BTG) in US Army training events. A vignette describes an OPFOR BTG conducting a maneuver defense to defeat an attack in zone by a US Army armor brigade combat team. Aspects of threat brigade-echelon capabilities observed in recent and current tactical real-world operations, such as substantial air defense, indirect fires, electronic warfare capabilities, and other combat power enablers, are present in the BTG task organization.

The upcoming Threat Tactics Report (TTR) on militant groups operating in Pakistan contains information such as a strategic overview of the country, threat actors operating within its borders, and common tactics used by such groups. An article derived from this TTR includes discussion of the operational environment and a snapshot of two tactical actions.

While the Russian BTR-80 armored personnel carrier has been around since 1984, the BTR-82A that came out in 2009 doubled its combat effectiveness. BTR-82A origins date to the late 1990s, when the Russians decided their ground forces needed a better interim vehicle until a replacement could be fielded. Due to the major changes in capabilities, the 2016 Worldwide Equipment Guide will contain a separate sheet dedicated to this new vehicle.

The ongoing conflict between Ukraine and Russia has renewed interest in Russian techniques and procedures. The hybrid warfare in this conflict includes the use of irregular militias on both sides with training from special purpose forces. This article focuses on militia battalions supporting Ukraine, while one in a later edition of *Red Diamond* will focus on pro-separatist groups.

In the world of military armaments, there are two iconic heavy machine guns (HMGs): the Browning M2 .50 caliber and the DShK. The final article addresses the latter, along with two later variants—the NSV and the KORD. A discussion of how the threat employs HMGs and the ammunition types typically available is also included.

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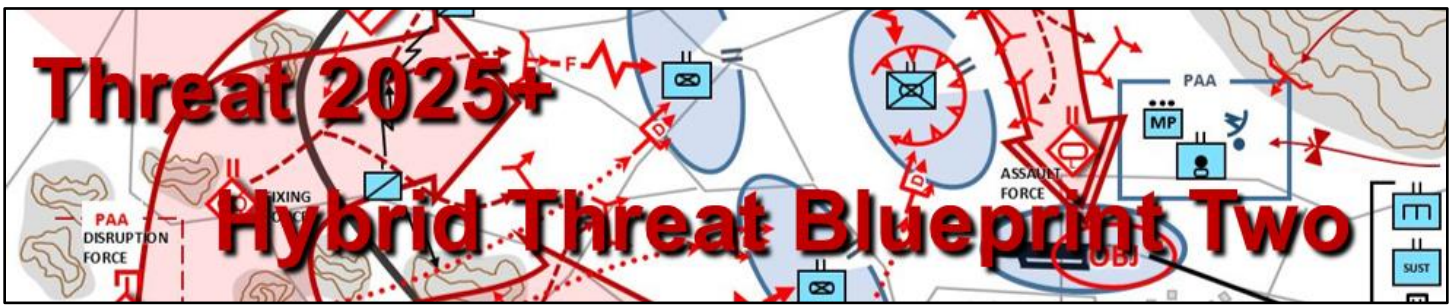
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Red Diamond Disclaimer

The *Red Diamond* newsletter presents professional information but the views expressed herein are those of the authors, not the Department of Defense or its elements. The content does not necessarily reflect the official US Army position and does not change or supersede any information in other official US Army publications. Authors are responsible for the accuracy and source documentation of material that they reference. The *Red Diamond* staff reserves the right to edit material. Appearance of external hyperlinks does not constitute endorsement by the US Army for information contained therein.



by [MAJ Jay Hunt](#) and [Jerry England](#) (DAC), TRADOC G-2 ACE Threats Integration

Threat 2025+ is a TRADOC G-2 ACE Threats Integration initiative to produce a blueprint series that captures future threat tactics from a threat perspective for training. The blueprints are rooted in [Training Circular \(TC\) 7-100.2, *Opposing Force Tactics*](#), and represent projected threat capabilities. The intent of the blueprints is to validate the current hybrid threat (HT) requirements for training and the current HT force structure at training centers Army-wide. This article will discuss one blueprint in detail, Irregular Force Attacks in Urban Terrain, and explain the conditions for its use in training. It will also highlight the threat tactics that are most relevant when given a set of combat conditions.

Threat Blueprint Two: Irregular Force Attacks in Urban Terrain

Blueprint two will illustrate how an opposing force (OPFOR) brigade tactical group (BTG) task-organized with significant irregular elements could conceptually attack an armored brigade combat team (ABCT) in an urban environment using combined lethal and non-lethal capabilities, such as deception and dispersed offensive actions, to create windows of opportunity that will lead to a decisive victory. This article will describe the threat force structure and the techniques the threat could use to accomplish this task.

The HT fully recognizes the capabilities of the ABCT and understands that if the BTG openly appears in direct combat it will be defeated; for this reason the HT commander must adapt his tactics from regular to irregular to win on his terms. These circumstances force the HT to order the heavy forces' withdrawal to complex battle positions outside the city. Although this is seen as conceding to the attacking force, the HT commander will leave a stay-behind force of guerrilla and insurgent enablers to conduct adaptive operations in an effort to expel the enemy at a later date.¹ Once the ABCT occupies the city with sufficient combat power, the HT's regular forces will establish their support zone in order to retain combat power and support the irregulars that remained behind in the city. The HT transitions to a decentralized command and control structure using a combination of military and civilian communications to coordinate disruptive attacks throughout the city.

The BTG uses information warfare (INFOWAR) activities to mask its true capabilities and intentions. Using a combination of deception jamming and harassment fires, the regular force executes a feint against ABCT security positions on the edge of the city. This activity can preoccupy the ABCT as enemy reconnaissance elements try to determine the nature of the threat. The deception plan fixes the ABCT forces and enables the guerrilla battalion and the large local insurgent organization to create conditions for a dispersed attack in the ABCT's support zone. The HT leverages the mobility and stealth of guerrillas and insurgents to isolate and destroy enemy elements on patrol within the urban zone. Guerrilla hunter-killer teams use improvised explosive devices (IEDs) and small arms to ambush ABCT patrols while leveraging local criminal gangs to disrupt enemy freedom of movement and conduct harassing attacks throughout the disruption zone surrounding the main objective.

The assault element, along with guerrilla and insurgent elements, attempts to culminate the operation through a dispersed attack against the ABCT support area in order to prevent resupply and ongoing lodgment of the ABCT within the city. The disruption force uses a relatively small regular force that executes counterreconnaissance activities like spoiling attacks against enemy intelligence, surveillance, and reconnaissance (ISR) assets to disable the enemy's ability to gain situational awareness. Meanwhile, mixed irregular, regular, and criminal elements conduct targeted attacks within the city against city leaders, infrastructure, and civilians.

Functional Tactics: Fixing

An important element of the operation is the disruption force's ability to fix large portions of the ABCT. If the ABCT perceives the main threat as the regular force to the west of the city and commits significant resources in battle positions oriented along the main avenues of approach, the HT can degrade the ABCT's area defense and isolate soft targets in the city. The disruption force's intent is to fix these forces through combined lethal and non-lethal actions that include but are not limited to deception, indirect fires, and ambushes. INFOWAR elements will conduct electronic deception to portray a larger regular force than is actually present. Other activities will control information and give indications that the motorized brigade is preparing an assault from the west. The HT's motorized brigade will also conduct counterreconnaissance through localized raids and ambushes to minimize detection and keep the enemy focused on the perceived attack. Indirect fires are used to fix the enemy task force through suppression. A security element consisting of a company detachment with reconnaissance, antitank, and anti-aircraft assets acts as armored hunter-killer teams designed to engage enemy armor and enemy reconnaissance capabilities. Unmanned aerial vehicles provide situational awareness and can provide early warning if and when the ABCT's forward elements decide to withdraw. These conventional forces do not have to be decisive, but must attack with sufficient combat power to maintain the deception.

If the ABCT attempts to reposition or withdraw under pressure, the irregular forces will shift on order to disrupt and block the enemy withdrawal by conducting ambushes along likely movement routes using antitank missiles and IEDs. The HT can modify operations by placing emphasis on countermobility once the enemy decides to withdraw from defensive positions.

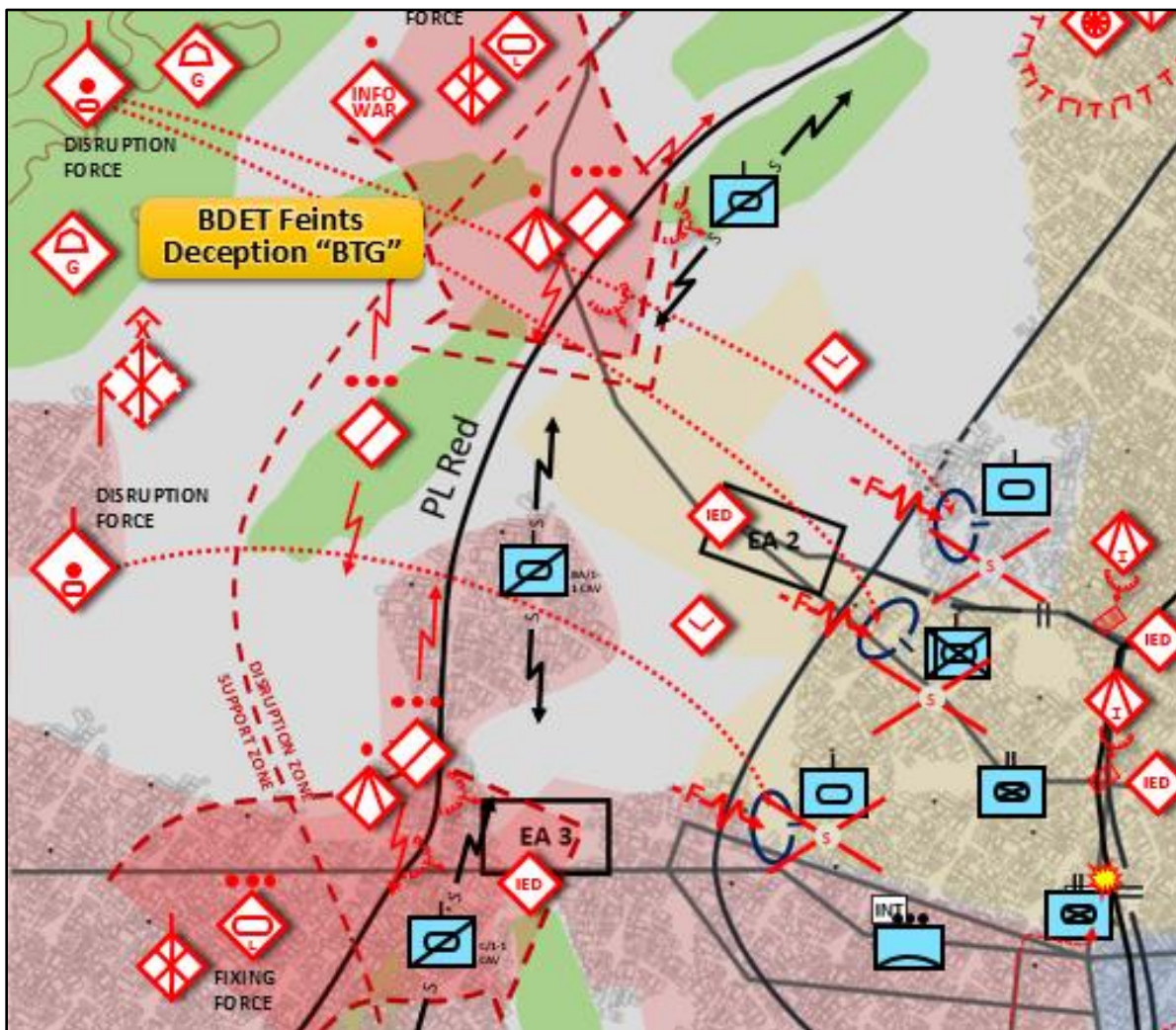


Figure 1. Hybrid threat disruption operations BP-2

Functional Tactics: Disruption Activities

Disruption operations not only affect the ABCT's movement and maneuver against the HT, but can delay its ability to restore stability. The main objective is to cut off the population from the ABCT and its allies. Widespread attacks against enemy security patrols, local government facilities, and media outlets will create confusion amongst the population and keep the ABCT guessing about what it should defend. Irregular elements will also enlist local gangs by permitting criminal activity in areas where they feel they need to disrupt stability operations. This criminal activity challenges the enemy as it struggles to execute stability operations while maintaining the force to deal with the perceived conventional fight.

The dispersed attack is a series of small tactical offensive actions. TC 7-100.2 states that, "when the Hybrid Threat is overmatched by a technologically superior enemy the dispersed attack allows him to conduct offensive actions while preserving combat power and remaining anonymous."² The HT relies heavily on irregular forces to facilitate hit and run attacks, maintain security, and support the INFOWAR campaign. It will leverage camouflage, concealment, cover, and deception capabilities within the urban environment to mask its true capabilities and support the narrative of being everywhere at once. A series of complex battle positions such as safe houses and caches throughout the urban zone provide protection and security and maintain operational flexibility.

Disruption activities conducted by HT regular and irregular forces against the enemy are adaptive in nature and are designed to preserve combat power while creating windows of opportunity against a technologically-superior adversary. Operational flexibility can include transitioning to an integrated attack or maintaining a stalemate or "frozen conflict," in which poor security prevents the ABCT from capitalizing on its tactical gains. The HT wins by not losing and can achieve this by gaining the population's loyalty and bleeding the ABCT through multiple small engagements.

Functional Tactics: Assault

1. Assault Objective

At the appropriate time, when the ABCT has either been significantly attrited or relegated to its base camps, the HT will execute a decisive attack against a key element of the ABCT's combat system. In this blueprint, guerrilla mortars and multiple vehicle-borne IEDs are the breaching element against the brigade support area's (BSA's) perimeter, while the exploitation element is a guerrilla company detachment, supported by criminal elements, that will accomplish the destruction and seizure of selected assets. The primary targets on the objective will be the lift helicopters, fuel storage, and other sustainment assets. This exploitation element is tasked with destroying or stealing the assets, depending on the strength and timing of the ABCT's response. Reconnaissance and INFOWAR capabilities throughout the HT area of operations will provide early warning of enemy quick response forces.

2. Leverage Criminal Motivations to Complete Objective

The irregular forces leading the assault will leverage relationships with local criminal elements and allow them access to areas in order to loot the compromised BSA and participate in the action. This creates an opportunity for synergistic relations between combatants and noncombatants as criminal elements profit from military activity.

Conclusion and Implications for Training

The BTG sets conditions by destroying, degrading, or overtaxing elements or components critical to the ABCT's combat systems in order to execute future offensive actions against the ABCT. The activities in the disruption zone to confuse and disrupt enemy reconnaissance can create favorable conditions for an attack in the battle zone. The BTG achieves this by executing a deception plan designed to present a larger, more capable regular force, while simultaneously increasing violence and instability inside the city. By maintaining contact through indirect fires and ambush attacks on ISR assets, the disruption element trains the ABCT's attention on the deception effort while degrading its situational awareness. Perception management activities that normalize violence and criminality allow the HT to conduct the attack at the time and place of its choosing by using the chaotic situation as a way to conceal its movement and preparations.

The HT can change the nature of the conflict by adopting asymmetric tactics instead of open combat. This approach allows the HT to continue the fight while maintaining the ability to conduct decisive operations at the right time.

INFOWAR is critical to the HT's strategy to control information within the population and to shape the ABCT's perception of the operational environment. Successful INFOWAR operations will draw the ABCT into smaller dispersed formations, making it vulnerable to isolation and attack. By compelling the ABCT to overreact and transmitting the event to civilian media, the HT gains legitimacy among the population when it decides to retaliate.

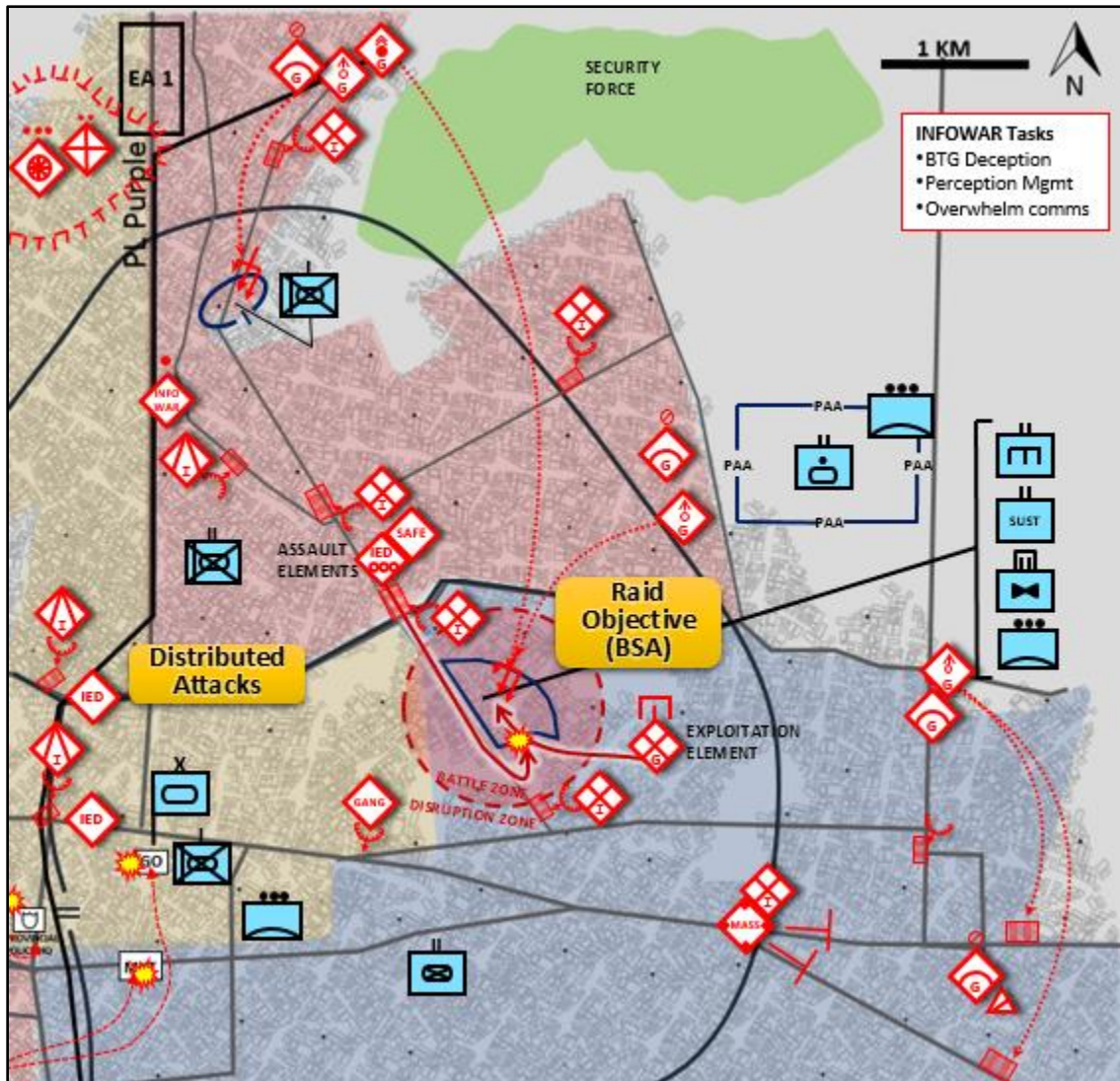


Figure 2. Hybrid threat assault force BP-2

The HT achieves operational flexibility through the complicity of the population. An ABCT will never know as much about the area as the locals, and for this reason it should attempt to understand how formal and informal relations work between the local population and the BTG. If the majority of the population supports the HT's end state, then isolation and containment by the ABCT may be the only option.

Notes

¹ Headquarters, Department of the Army. [Training Circular 7-100.2, Opposing Force Tactics](#). TRADOC G-2 Analysis and Control Element (ACE) Threats Integration. 9 December 2011. Para 1-20.
² Headquarters, Department of the Army. [Training Circular 7-100.2, Opposing Force Tactics](#). TRADOC G-2 Analysis and Control Element (ACE) Threats Integration. 9 December 2011. Para 1-66.



by [Jon H. Moilanen](#), TRADOC G-2 ACE Threats Integration (DAC)

This vignette describes significant actions portrayed in a maneuver defense conducted by an opposing force (OPFOR) in US Army training events and as stated in [US Army Training Circular 7-100.2, *Opposing Force Tactics*](#). Aspects of threat brigade-echelon capabilities observed in recent and current tactical real-world operations, such as substantial air defense, indirect fires, electronic warfare capabilities, and other combat power enablers, are present in the brigade tactical group task organization.

Tactical Overview

A brigade tactical group (BTG) conducts a maneuver defense to defeat an attack in zone by a US Army armor brigade combat team (ABCT). Affiliated insurgent organizations and guerrilla units, supported by special purpose forces (SPF), augment BTG combat power and impact significantly on enemy coalition actions throughout the disruption zone and battle zone. The BTG is a supporting effort to a higher headquarters mission.

The defensive concept is to employ affiliated units initially in a disruption zone to interrupt, on order, the tempo of ABCT lead units, degrade effects of US combat support and combat service support systems, and target and neutralize or destroy critical systems in the US attack formations. The BTG accepts reconnaissance, intelligence, surveillance, and target acquisition handover from friendly forces as the ABCT crosses the limit of responsibility (LOR) line and enters the BTG area of responsibility. BTG disruption forces sustain observation and the ability for continuous long-range fires on priority targets, report intelligence on follow-on ABCT echelons' movement and maneuver, and continue actions to disaggregate US forces before they reach the main defense zone. Other BTG and higher headquarters forces position in the BTG support zone to the rear of the battle zone.

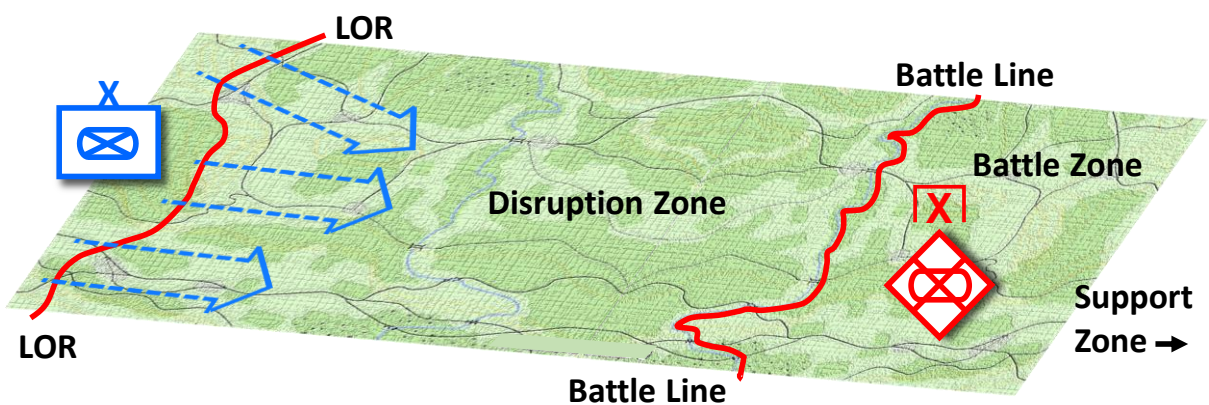


Figure 1. Brigade tactical group: partial geographic area for maneuver defense vignette

The main defense zone is organized in arrays as a succession of integrated kill zones, obstacles, and battle positions. BTG forces conduct a maneuver defense as a series of defensive arrays that alternate bounds of a *contact force* in contact or in imminent contact with the enemy, with a *shielding force* that conducts battle handover from the contact force and continues battle engagements as the contact force breaks contact to occupy a subsequent array of battle positions.

array depend on the nature of ABCT actions, terrain, readiness condition of the BTG, available time for establishing the defense, and the mission and intent of the BTG's higher headquarters.

Contact Force and Shielding Force

Defensive maneuver consists of maneuver by bounds and the maintenance of continuous fires on enemy forces. A disruption force and a main defense force perform defensive maneuver. In both cases, the BTG divides its combat power into two smaller forces: a contact force and a shielding force. The *contact force* is the force occupying the defensive array in current or imminent contact with the enemy. The *shielding force* is the force occupying a defensive array to the rear of the contact force, permitting the contact force to break contact and reposition to a subsequent array.

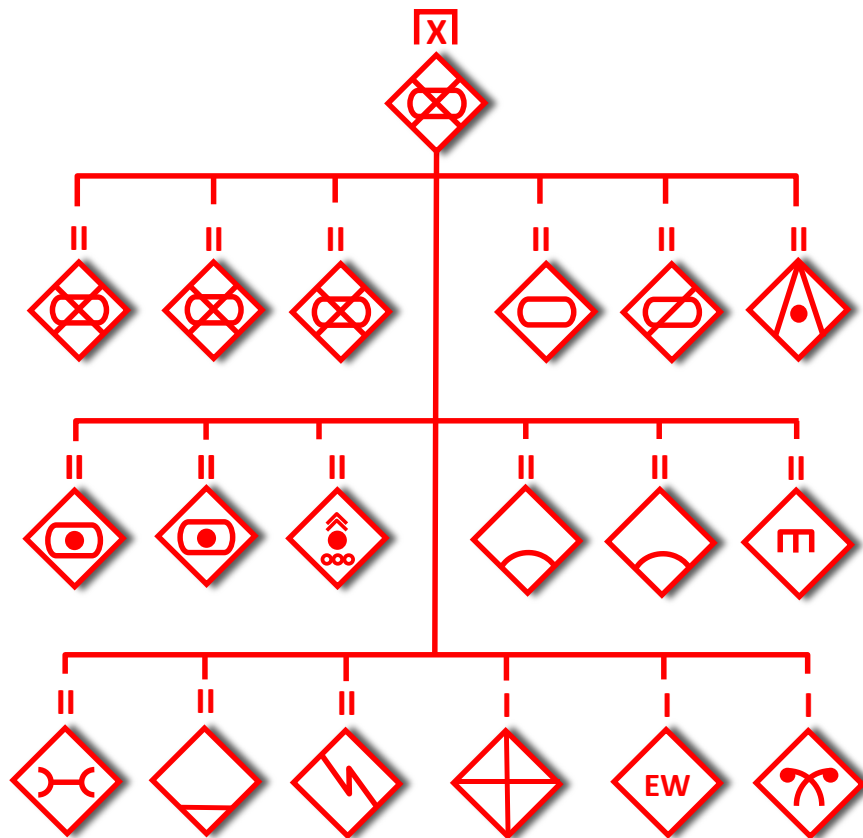


Figure 3. Brigade tactical group task organization (vignette example)

The maneuver defense typically places smaller forces forward in defensive positions and retains a significant reserve. The contact force ideally forces the enemy to deploy maneuver units and begin fires in preparation for the attack. Then, before the contact force becomes decisively engaged, it maneuvers to its next preplanned array, protected by the array occupied by the shielding force. While the original contact force is moving, the shielding force is able to keep the enemy under continuous observation and fires.

When the original contact force occupies positions in its subsequent defensive array, the two forces switch functions: the original contact force becomes the new shielding force, and the original shielding force becomes the new contact force. Forces continue to move by bounds to successive arrays, preserving their own forces while delaying or disrupting the enemy. Recurring defensive actions aim to defeat or destroy the enemy formation.

Subsequent arrays are typically far enough apart to preclude the enemy from engaging two arrays simultaneously without displacing his indirect fire weapons. This means that the enemy, having seized a position in one array, must change the majority of its firing positions and organize the attack against positions in the next array. However, the defensive arrays

are close enough to allow the defending units to maintain coordinated, continuous engagement of the enemy while moving from one array to another.

The BTG CO may require a unit occupying an array to continue defending, even if this means the force becomes decisively engaged or enveloped. This may be necessary in order to allow time for the construction of defenses farther from contact with the enemy. A force may be ordered to continue to defend an array if conditions are favorable for defeating the enemy or repelling the attack on that array. Maneuver defense can easily develop as a nonlinear group or series of engagements within a battle.

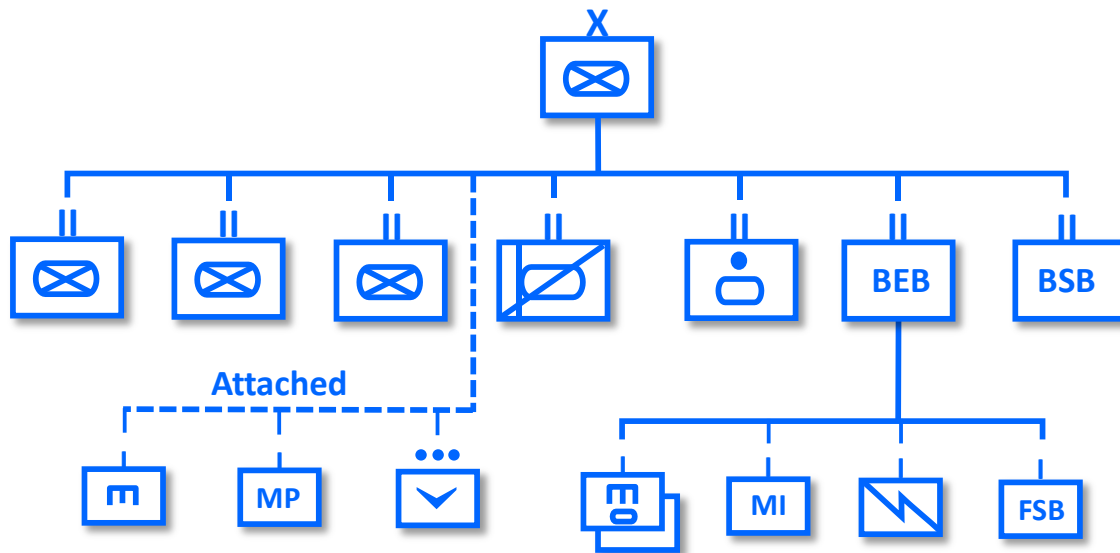


Figure 4. Armor brigade combat team task organization (vignette example)

Disruption Force in the Disruption Zone

The disruption force initiates recurring attacks on the ABCT combat system by targeting and destroying subsystems that are critical to the ABCT, such as command and control or logistics. The disruption force causes degradation of critical combat systems and may even cause the ABCT attack to culminate before entering the battle zone and BTG main defenses.

The disruption force often occupies battle positions in the disruption zone and seeks to force the ABCT to fight on disadvantageous terrain and at a tempo shaped by the BTG CO. A disruption force can also position for multiple ambushes and/or assaults, or set the conditions for a counterattack.

The transition of disruption force actions to main defense force actions uses deception techniques to mask any distinct point or time of battle handover between arrays. Although long-range fires, ambushes, and other actions delay ABCT units in the disruption zone, some disruption forces may be directed into hide positions in the disruption zone for attack of follow-on ABCT forces and combat systems.

Disruption Zone

Significant actions portrayed in this maneuver defense vignette by affiliated insurgent organizations and guerrilla units supported by special purpose forces can include:

- Identify and report the axes of US main effort and supporting efforts.
- Target and adjust long-range fires.
- Report intelligence updates on follow-on US forces echelons.
- Ambush to suppress US forces command and control elements.
- Fix lead US forces with military-grade munitions and improvised explosives.
- Ambush to disrupt US combat support and combat service support sustainment.

- Disrupt US forces maneuver.
- Be prepared to attack.

Main Defense Force in the Main Defense Zone

The mission of the main defense force is to complete the defeat of the ABCT by effectively engaging degraded ABCT forces. Contact and shielding forces of the main defense force plan and rehearse the bounds to successive arrays and defensive positions. The BTG CO may order a particular unit to defend a position.

A BTG CO can employ a number of reserve forces of varying types and capabilities. The maneuver reserve is task-organized as a force strong enough to defeat the ABCT's probable exploiting force. The commander positions this reserve in an assembly area using C3D to protect it from observation and attack. From this position, the reserve can transition to a situational defense or conduct a counterattack. The reserve must have sufficient air defense coverage, fires support, and mobility assets to allow rapid movement and maneuver and protection.

Main Defense Zone

Significant actions portrayed in this maneuver defense vignette by brigade tactical group forces, with affiliated insurgent organizations and guerrilla units supported by special purpose forces, can include:

- Accept battle handover from BTG disruption forces and continue coordinated fires on US forces.
- Fix lead US forces in kill zones with direct and indirect fires.
- Disperse fires, antitank, and air defense units well forward with contact-shielding forces.
- Coordinate guerrilla unit actions/defense in support of kill zones.
- Disrupt US forces command and control with electronic warfare (EW) capabilities.
- Destroy lead US forces in kill zones with contact forces; bound contact forces to subsequent battle positions; engage with shielding forces that accept battle handover as contact force.
- Destroy follow-on US forces in kill zones with contact forces. (Repeat bounds as required)
- Destroy unmanned aerial vehicles (UAVs) with all-arms air defense in maneuver units.
- Position fires units prepared to conduct massed fires and immediate dispersal-reposition.
- Coordinate insurgent organization actions/defense in urban areas and chokepoints in zone.
- Coordinate for rotary wing and fixed wing attack support in coordination with higher headquarters mission.
- Defeat US forces in zone; continue to improve the defense.
- Be prepared to attack.

Maneuver Defense Vignette

This tactical narrative describes actions initially in a disruption zone, followed by main defensive actions in a battle zone. Although many tactical actions occur simultaneously or sequentially in the vignette, descriptions progress from actions by a disruption force, through transition of engagements into the battle zone, and to the collective actions of disruption zone forces and main defense forces in the battle zone.

The BTG CO in this maneuver defense shapes his zone to achieve tactical success by skillfully using fires and maneuver to destroy key elements of the ABCT combat system and degrade the ABCT ability to attack. While the BTG CO preserves combat power of the BGT, the ABCT continually loses effectiveness until it can no longer sustain the offense and fails to achieve its objectives. The narrative describes actions in the context of terrain, time, and forces displayed in the maneuver defense graphic. In order to focus on tactics and techniques in the tactical graphic, forces and capabilities outside of the image are not specifically addressed.

The sequence of tactical description spotlights key disruption actions in a disruption zone, followed by main defensive actions in a battle zone as a BTG maneuver defense. Tactical actions in the disruption force and battle zone are interrelated actions of contact forces and shielding forces, and the contingencies that may occur for use of the BTG reserve. The tactical graphic is intentionally not to scale, and a cardinal direction of north is a general orientation to the top of the image.

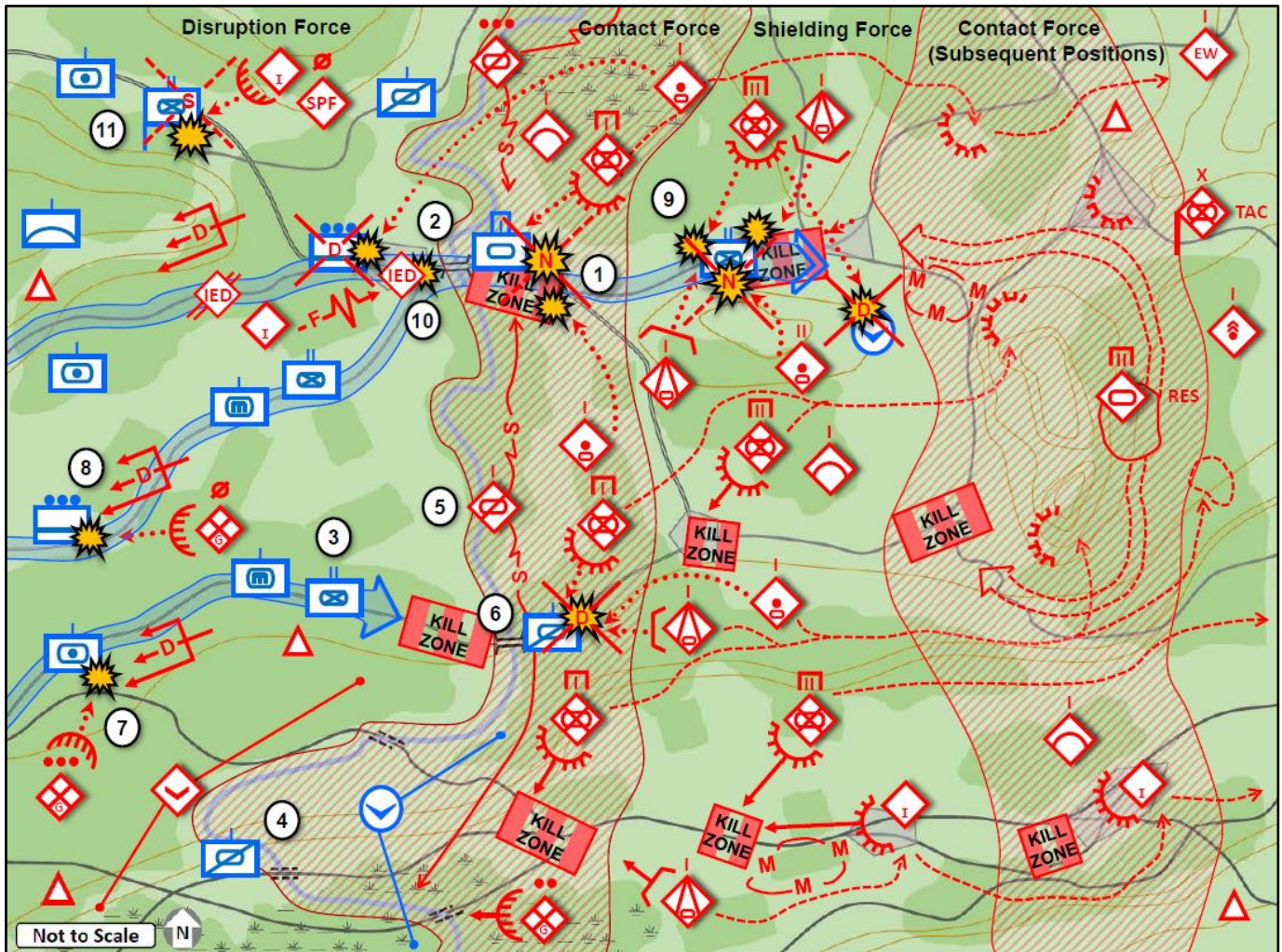


Figure 5. Disruption forces actions and handover to main defense forces (vignette example)

Disruption Zone

A brigade tactical group, a supporting effort to its higher headquarters mission, conducts a maneuver defense to defeat an attack in zone by a US Army armor brigade combat team as part of an enemy coalition offensive operation. The BTG has affiliated insurgent organizations and guerrilla units, supported by SPF, as integral to BTG maneuver defense.

BTG affiliated forces have continued to report the movement and general axes of several battalion-size units preceded by armored reconnaissance forces. Current intelligence has not identified the ABCT main effort but estimates it will occur either in the north or central area of the BTG defense zone. Numerous enemy unmanned aerial systems (UAS) continue to be reported in the northern, central, and southern corridors of the zone. High-value targets in the ABCT advance are being tracked by insurgents or guerrillas, and timely reports through their special purpose force advisors provide the BTG with accurate target planning and preparation for long-range fires execution from the support zone or even farther to the rear of the BTG battle zone. Intelligence updates from the BTG higher headquarters indicate that enemy coalition movements from the west are generally abreast of each other—BTG flanks appear to be secure from any rapid attempt at envelopment.

The BTG CO organizes his disruption zone to primarily track and fix designated ABCT elements at or near the major obstacle of the river line. He specifically limits initial combat actions in the disruption zone to shape ABCT CO decisions of where to cross the river with most of his combat power. The BTG CO intends to demonstrate defensive strength in the center approaches and convince the ABCT CO to focus on the northern crossing site.

- ① In the north, reconnaissance does not encounter significant resistance, secures the bridge crossing, and reports only sporadic direct fires from east of the bridge site. Insurgents and their SPF advisors report enemy forces on two axes of advance converging toward the northern bridge crossing from the west and southwest.
- ② A lead combined arms battalion (CAB) crosses the bridge and moves due east on and parallel to the main roadway. Congestion occurs west of the bridge as forces on the two axes converge and ABCT movement temporarily stalls. A tank company-size unit and mechanized infantry are about to start crossing but rapid movement is confined by the one bridge. Engineers are caught in the jam of vehicles now backlogged to the west and southwest of the bridge on the limited trafficability of narrow steep-banked roadways.

In the center, effective deception efforts by EW and information warfare sections (INFOWAR) portray a defense along the river line and vicinity of the central bridge site. ABCT security forces are allowed to cross the bridge with limited direct and indirect fires from the contact force.

- ③ A CAB approaches the center bridge crossing but is still west of the river. Farther to the west, guerrilla teams are tracking combat support and combat service support following lead ABCT units, and have located field artillery battery positions being established to support the bridge crossing by the ABCT.
- ④ In the south, guerrillas report on ABCT reconnaissance being conducted at several ford crossings and along the marshland roadways. BTG use of UAVs offsets some risk in this lightly-defended area of the zone. BTG observers report small low-flying UASs traversing the river line and in the vicinity of the ford crossings. Currently, there is no combat contact south in zone.

The actions in the disruption zone have interrupted the tempo of ABCT lead units and continue to degrade stalled US combat support and combat service support systems. The BTG continues to target long-range fire missions to disrupt or neutralize critical systems in the US attack formations and their rearward forces, reduce the combat power effects of the ABCT in the disruption zone, and conduct the main defense in the battle zone.

- ⑤ BGT security forces screen along the east bank of the river. Irregular forces remain west of the river to continue disruption of the ABCT attack. Battle handover occurs from irregular forces in the disruption zone to designated BGT forces at the battle line in the area of responsibility, oriented on axes of advance and attack by ABCT forces.

Main Defense Zone—Initial Contact Force

The main defense forces are to defeat the ABCT by creating vulnerabilities in the ABCT attack formations and in the decisions directed by the ABCT CO, and then decisively engaging selected ABCT forces already degraded or in the process of being degraded by actions in the disruption zone or areas of the BGT battle zone.

Successive defensive arrays, from a terrain perspective, are groups of defensive positions defended initially by contact forces. Shielding forces are located initially in subsequent defensive arrays to the rear of the contact force. An alternating sequence of battle handover between contact and shielding forces is conducted throughout the depth and width of the battle zone while retaining the ability to move or maneuver in support of the BGT maneuver defense. A particular BGT force may be directed to defend a position and accept the risk of becoming decisively engaged. Although this action is exceptional in a maneuver defense, such a commitment may be necessary to set conditions in the disruption zone or battle zone for eventual defeat of the ABCT.

- ⑥ Transition of battle handover and engagements in the battle zone are dependent on success of intended deception actions and direct and indirect fires by the initial contact force. Along the river line in the center of the battle zone, the ABCT security forces are allowed to cross the bridge, but are then fixed on the east side of the river with direct and indirect fires. The CAB commits to the bridge site but is not able to cross and makes nil progress to find any flank bypass to the natural obstacle reinforced by countermobility measures. Indirect massed fires and military-grade mines in the kill zone west of the bridge fix the main elements of the CAB as its supporting elements occupy hasty defensive positions and continue direct fires into BGT defenses.
- ⑦ As the BGT continues its fires on the CAB, a guerrilla platoon attacks by fire to disrupt a howitzer battery in position west of the river and causes the reduction of any effective sustained fires by the battery in support of the CAB.

Artillerymen are forced to defend their positions and indirect fire slows to an intermittent number of rounds fired. Two self-propelled artillery vehicles are destroyed and several other howitzers are damaged. The guerrilla platoon withdraws to an alternate ambush position.

- 8 About the same time in the central disruption zone, a guerrilla team ambushes a group of combat service support vehicles moving to the northeast along a center roadway. An ammunition carrier explodes in a tremendous ball of flame and a bulk fuel carrier careens off the road and tips over on its side. A wall of fire erupts, rounds of ammunition continue to detonate in all directions, and the road is blocked with destroyed or damaged vehicles. Wheeled vehicle traffic halts west of the ambush site and several vehicles move slowly cross-country to avoid direct fire from the guerrilla team. The guerrilla team withdraws and moves to another designated ambush site and observes for any approaching target within its capabilities.

Farther to the south in the marshland, BGT security forces observe an ABCT reconnaissance force classifying a ford crossing with minimal security east of the river. The small UAS continues to cycle along the river trace and gradually edges east toward the intersection of three secondary roads through the marshland. BGT and affiliated forces receive reports on the flight track and are alert to engage the UAS with all-arms air defense if the UAS comes within range of heavy machine guns.

- 9 At the bridge crossing in the north, the lead CAB is allowed to continue eastward along the roadway and most of the tank unit is now east of the bridge. The BTG CO initiates direct and indirect fires simultaneously on the CAB, tanks, and mechanized infantry in the vicinity of the bridge and restricted roadway. Electronic warfare capabilities with the contact force disrupt ABCT command and control to complicate any effective ABCT response.
- 10 Insurgents near the bridge site command-detonate improvised explosive devices to block any egress to the west, fix ABCT forces at the bridge site, and effectively isolate ABCT forces east of the river. Indirect fires, with observed adjustments by insurgents, continue the neutralization or destruction of combat support and combat service support systems stalled west of the river and located along woodlines near the intersection of the western and northwestern road approaches.
- 11 An insurgent cell with SPF advisors observing the northwest axis identifies a command post, probably battalion-level command and control, and ambushes it with direct fires. The fires suppress the command post, with several vehicles damaged and several wheeled vehicles moving quickly into the woods to the southwest. An approaching artillery battery causes the insurgents and SPF to break contact and exfiltrate to the northeast. They come upon ABCT reconnaissance elements moving northeast along the west bank of the river, and provide periodic situation updates to the BTG.

Main Defense Zone—Initial Shielding Force

- A In the center, a combination of direct fires from the contact force, self-propelled artillery fires, and antitank fires destroy the ABCT reconnaissance force fixed east of the bridge site. The carnage of destroyed vehicles convinces the ABCT CO to halt any continued attack on this axis.

The shielding force in this center area, a task-organized mechanized battalion, remains in defensive positions and prepared to conduct battle handover if required, with its company team positioned forward as the contact force. A warning order from the BTG CO alerts the battalion for possible support action to the north.

- B A UAS tracking farther to the east along the valley floor comes within gun range of an air defense force. The UAS is shot down and destroyed by 30-mm cannon fire from a self-propelled air defense system.
- C In the north, the lead CAB is allowed to maneuver into the shielding force defensive zone and is fixed in the kill zone by direct and indirect fires. Mines, command-detonated by insurgents as vehicles attempt to disperse away from the roadway, cause mobility kills and destroy several vehicles. The massed fires of antitank forces complete the neutralization of the lead CAB.
- D Similar effects are observed on the tank unit near the bridge. Direct and indirect fires and mines or improvised explosive devices neutralize that part of the tank unit isolated on the east side of the river. Electronic warfare

actions, coordinated with the contact force, disrupt ABCT command and control east of the river and prevent any effective ABCT support.

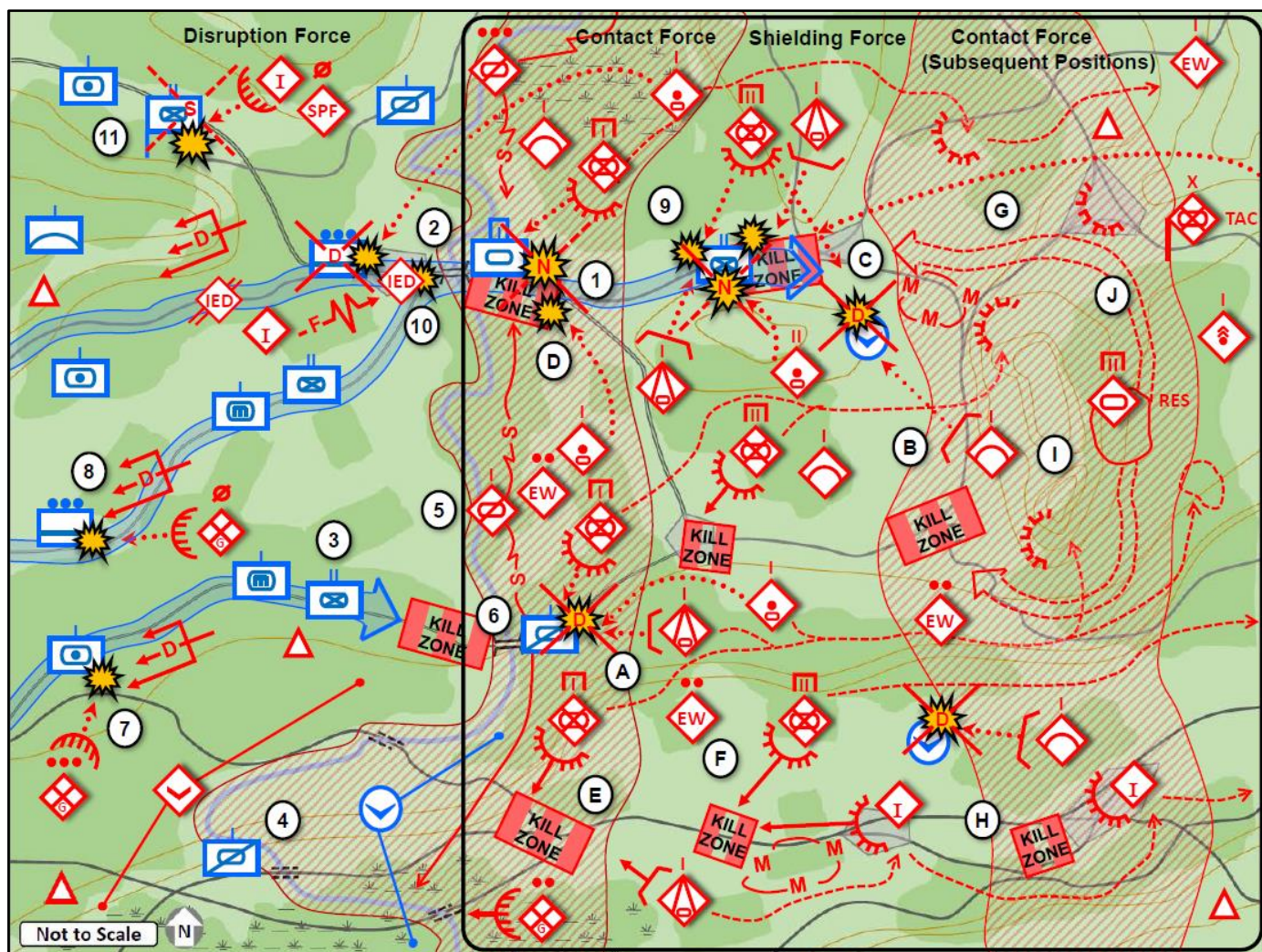


Figure 6. Maneuver defense contact and shielding force actions in the battle zone (vignette example)

- (E) Along the southernmost axes, the contact force and shielding force are prepared for an ABCT approach, but security forces confirm no ground advances currently beyond the river line. The battalion detachment commander accepts risk in using a company team as the contact force in order to retain the majority of his combat power as the tactical situation develops in his battle zone. Battle handover will occur with its parent battalion acting as the initial shielding force. Small guerrilla units and insurgent cells will ambush or support other defensive actions as an ABCT force enters kill zones.
- (F) Reports of a UAS in the southern zone prompts a visual confirmation by shielding forces. An electronic warfare capability with the shielding force spoofs the UAS, which then enters the gun range of an air defense system and is destroyed with 30-mm cannon fire.

Main Defense Zone—Contact Force in Subsequent Battle Positions

- (G) In the north, combined defensive actions by the contact force and shielding force have effectively stopped the ABCT attack on the northern axis. Nonetheless, the initial contact force continues to prepare defensive positions, as well as conduct withdrawal route reconnaissance and coordinate for guides when conduct of battle handover is appropriate for movement to subsequent battle positions.

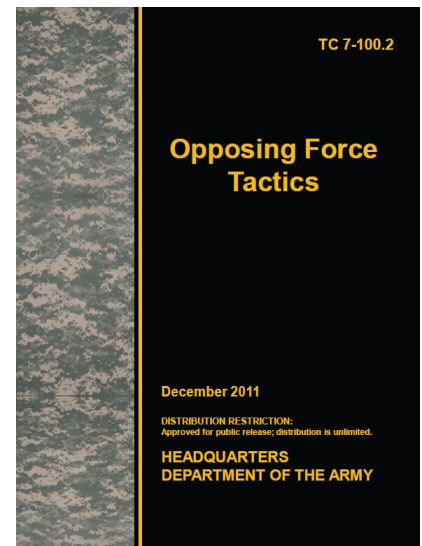
- H** In the south, insurgent cells continue to prepare defensive positions and reinforce urban terrain for possible defense. An engineer force continues to emplace minefields to reinforce kill zones along the main roadway axis, and an antitank force is responsive to any short-notice reorientation. Guerrilla sections continue to conduct reconnaissance and surveillance in the marshlands for early warning of any ABCT force approach.
- I** In the center, similar actions are in progress as the contact force continues to defend. Reconnaissance of withdrawal routes is complete and guides are positioned to enhance movement after battle handover to the initial shielding force and rapid occupation of the subsequent defensive array.
- J** The BTG reserve remains uncommitted. Axes for tank battalion movement or maneuver to the north and west, as well as to the south and west, have been reconnoitered and coordinated with other forces that the reserve, on order, may pass through or join.

Maneuver Defense Summary

In this tactical vignette of a successful maneuver defense, the BTG CO decided to use primarily affiliated irregular forces in the disruption zone in order to deceive the ABCT CO and set conditions for a decisive defeat of the ABCT in the battle zone. The expert knowledge of the terrain, relevant population, and tactical experience of irregular forces were significant combat multipliers used to best advantage. Timing of execution by the BTG CO was critical to effectively employing full combat power throughout the disruption zone and battle zone.

Using multiple deception techniques and ample measures for camouflage, cover, and concealment, the BTG masked the strengths of its defensive arrays and convinced the ABCT CO to commit his main effort on what was thought to be an area of BTG weakness. The BGT deception allowed the BGT CO to mass combat power in a time and location of his choosing that resulted in defeat of the ABCT.

The BTG CO accomplished his mission. He conducted a maneuver defense by directing where and when key actions would occur to create and exploit vulnerabilities in the ABCT attack. Once combat actions were initiated, the maneuver defense was a continuous attack on the enemy's entire combat system, particularly on designated systems critical to ABCT command and control. Just as important was disruption and degradation of the ABCT combat support and combat service support. Without the sustainment and support of these systems, the ABCT forces in direct contact with the BTG defenses quickly became vulnerable to defeat or destruction.



The BTG used its combined arms organization to optimize the combat systems of its mechanized infantry, tank, and antitank maneuver forces. Task-organized capabilities with the maneuver forces included but were not limited to—

- Cannon and howitzer artillery placed well forward in zone
- Cannon and rocket artillery dispersed in depth for survivability and rapid repositioning after fire missions
- Air defense systems well forward with maneuver forces to provide area coverage throughout the zone
- Engineers focused on critical countermobility tasks
- Unmanned aerial vehicles (UAVs) for reconnaissance and surveillance in conjunction with ground maneuver forces
- Electronic warfare (EW) and information warfare (INFOWAR) capabilities for deception, target locating, electronic attack, satellite link jamming or disruption, and UAS GPS spoofing
- Force support from special purpose forces (SPF)
- Force affiliation with insurgent cells and guerrilla units

For additional information on threat model maneuver defense and other threat tactics, see [US Army Training Circular 7-100.2, *Opposing Force Tactics*](#).

THREAT TACTICS REPORT



MILITANT GROUPS OPERATING IN PAKISTAN

by [Walter L. Williams](#), TRADOC G-2 ACE Threats Integration (DAC)

TRADOC G2 ACE Threats Integration (ACE-TI) produces Threat Tactics Reports (TTRs) as a method of informing the Army training and education community how a particular state or non-state actor conducts military operations. Unlike an operational environment assessment that looks at all of the operational variables of PMESII-PT,ⁱ a TTR focuses primarily on the military variable. This article is a follow-up to the Red Diamond article, “Threat Actors in Pakistan,” published October 2015. The October 2015 article discussed the strategic perspective described in the TTR and provided a snapshot of a tactical action. This article continues the discussion of the strategic outlook with a snapshot of two tactical actions.

Strategic Overview

Pakistani militant groups are not homogenous in nature nor monolithic in thought. Additionally, the organizational structure of the groups is very fluid and changes over time in response to external threats, such as those posed by forces allied with the United States. A literature review conducted by CSIS concluded “that there is no reliable information on the network of offices run by the militant groups across Pakistan and Afghanistan. Furthermore, there is much disagreement over the correct number of individuals who make up the total membership of a militant group and the number of active operatives in this cadre. This is perhaps the case because these organizations are extremely secretive and do not reveal their true strength.”¹

Islamabad has a long history of adopting various diplomatic, information, military, and economic methods to combat these religious and jihadist groups; such methods are likely to continue as the threat evolves. The groups can be divided into the following categories: domestic, transnational, and financial support. The motivations of each militant group are very complex and layered. Figure 1 provides a graphic look at the various factors that shape the conflict between the Pakistani Government and the populace at large.

Pakistani militant groups cross several lines of motivations such as criminal activity, political

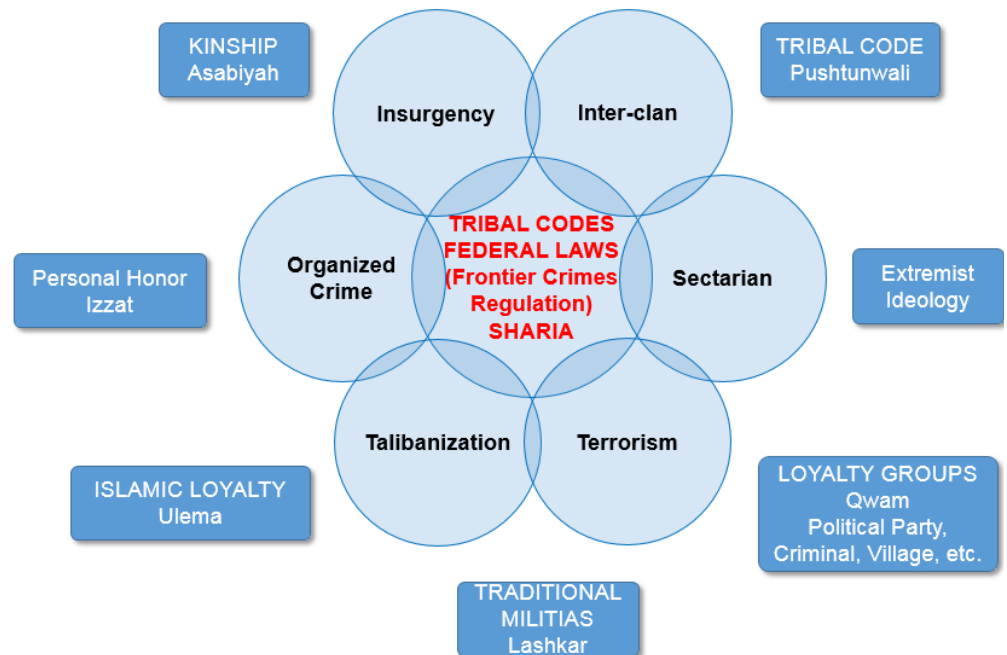


Figure 1. Modalities and influencers of conflict²

ⁱ Political, military, economic, social, infrastructure, information, physical environment, and time

discontent, tribal codes, and religious ideology at any one time. This condition sets the stage for increasingly blurred lines between criminal and hostile groups, to include extremists with transnational strategies. The motivations of these groups become even more complex when they employ sophisticated or adaptive tactics that appear the same as other militant groups during combat operations. The potential breakdown of Pakistan's security apparatus in intra-state and inter-communal or tribal conflicts now sets the stage for tremendous security challenges and tests the capacity of a coalition or allied force to carry out its mandates and programs. Thus, this makes it very difficult to apply a "one size fits all" type of response in combatting terrorism.

Tactical-Level Attacks

The majority of militant group attacks are small-scale or squad-size attacks as well as suicide vest improvised explosive device (SVIED) attacks against the population or a fixed-type facility. In each case the militant groups conduct a form of reconnaissance in order to carefully study the designated target or targets to inflict the maximum amount of casualties and damage to infrastructure. For example, within any given populace there exist traditions, customs, courtesies, and norms to which people abide without question. Militant groups and individuals may capitalize on these traditions and customs to carry out many of their activities with reasonably good cover. In an urban environment the militant groups go to great lengths to hide their specific location and activities. The groups attempt to maintain normal everyday patterns of behavior in order to conceal their activities. In some instances the militant group members may establish what one considers innocent patterns of behavior that they may capitalize or exploit later. A young woman or man may walk past a particular target such as a police station, school, park, office building, or government facility on the way to a market or mosque. The individual establishes an innocent behavior pattern to condition security personnel and take advantage of opportunities to conduct extensive reconnaissance and gather intelligence prior to conducting an attack.

The following paragraphs discuss two different attacks conducted by militant groups operating within Pakistan over the past two years. The first attack is categorized as a raid against a fixed facility and the second as a suicide vest improvised explosive device or SVIED attack against a stationary target as discussed in TRADOC G2 Handbook No. 1.07 C3, *A Soldier's Primer to Terrorism TTP*.

Attack on a Pakistani School in Peshawar

On 16 December 2014, the Tehrik-i-Taliban Pakistan (TTP) conducted an attack on a Pakistani Army-run school in Peshawar, killing at least 154 people including 135 children. The militant group attack is viewed as a response to military operations conducted by the Pakistan Army's XI Corps, which is responsible for Khyber-Pakhtunkhwa Provinceⁱⁱ and the Afghan border, and is based in Peshawar. Units from the XI Corps had been conducting military operations in the North

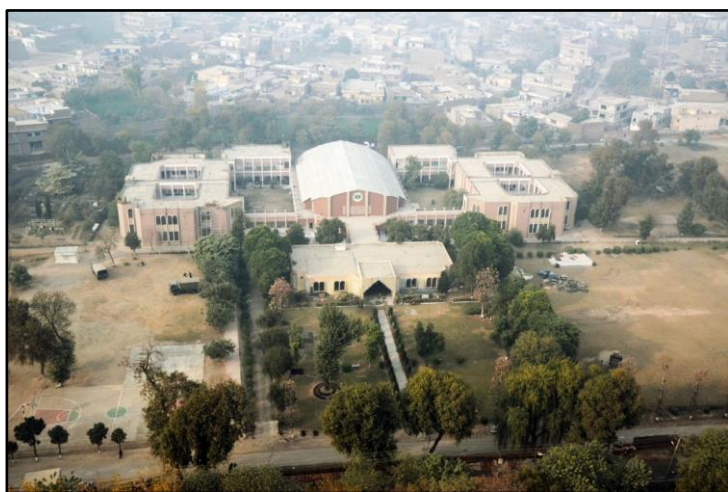


Figure 2. [Pakistani Army school](#)

Waziristan region of the Federally Administered Tribal Areas against TTP elements in the months preceding the 16 December attack. The military operations resulted in more militants relocating to the vicinity of Peshawar, where they stepped up attacks on government forces by conducting a series of extortions, kidnappings, and killings.

The TTP increased the attacks with what could be considered as a revenge attack in response to the XI Corps counterterrorist operations in North Waziristan. Prior to attacking the school, the seven gunmen first set fire to their transport vehicle and then proceeded to move through an adjacent cemetery near the back of the school. The attack began around 1100 on 16 December with the gunmen, dressed in Frontier Corps uniforms,

ⁱⁱ formerly known as the Northwest Frontier Province (NWFP)

scaling a wall surrounding the school and starting the attack with a series of explosions and gunfire. The gunmen entered the school and barricaded the doors to prevent the students and faculty from fleeing the facility, as well as to delay first-responders conducting sweeps to subdue the attackers and rescue the hostages. Various open-source media reports indicated that the gunmen moved to the auditorium (located in the center of the complex—see picture) where students were gathered for a class. When the gunmen opened fire, many of the students ran toward two exits located on the opposite end of the building to escape. However, many of them were shot and killed in the process. The gunmen then moved “methodically room-by-room to coral [sic] the students, trap them in their seats, and systematically slaughter them like animals but only after immolating a teacher in front of them.”³

First responders consisting of Pakistani Army Special Warfare (Special Services Group—SSG) teams entered the school and began to engage the gunmen as well as rescue students and faculty. Their attack from both sides of the school prevented the gunmen from injuring and killing more people. One gunman was killed by first responders near the auditorium as other gunmen were moving to the administrative building of the school complex, gathering hostages as they went. The SSG surrounded the administrative building and employed sniper teams to assist in the rescue and clearing operation. Units of the Pakistani Army Corps of Military Police and the provincial civilian Khyber Pakhtunkhwa Police isolated the area and provided blocking positions and checkpoints to close off possible escape routes for the terrorists. At the end of the day, at least 154 people, including 135 children, were killed by the terrorists out of the estimated 1,099 students, faculty, and staff that were present on the school grounds.

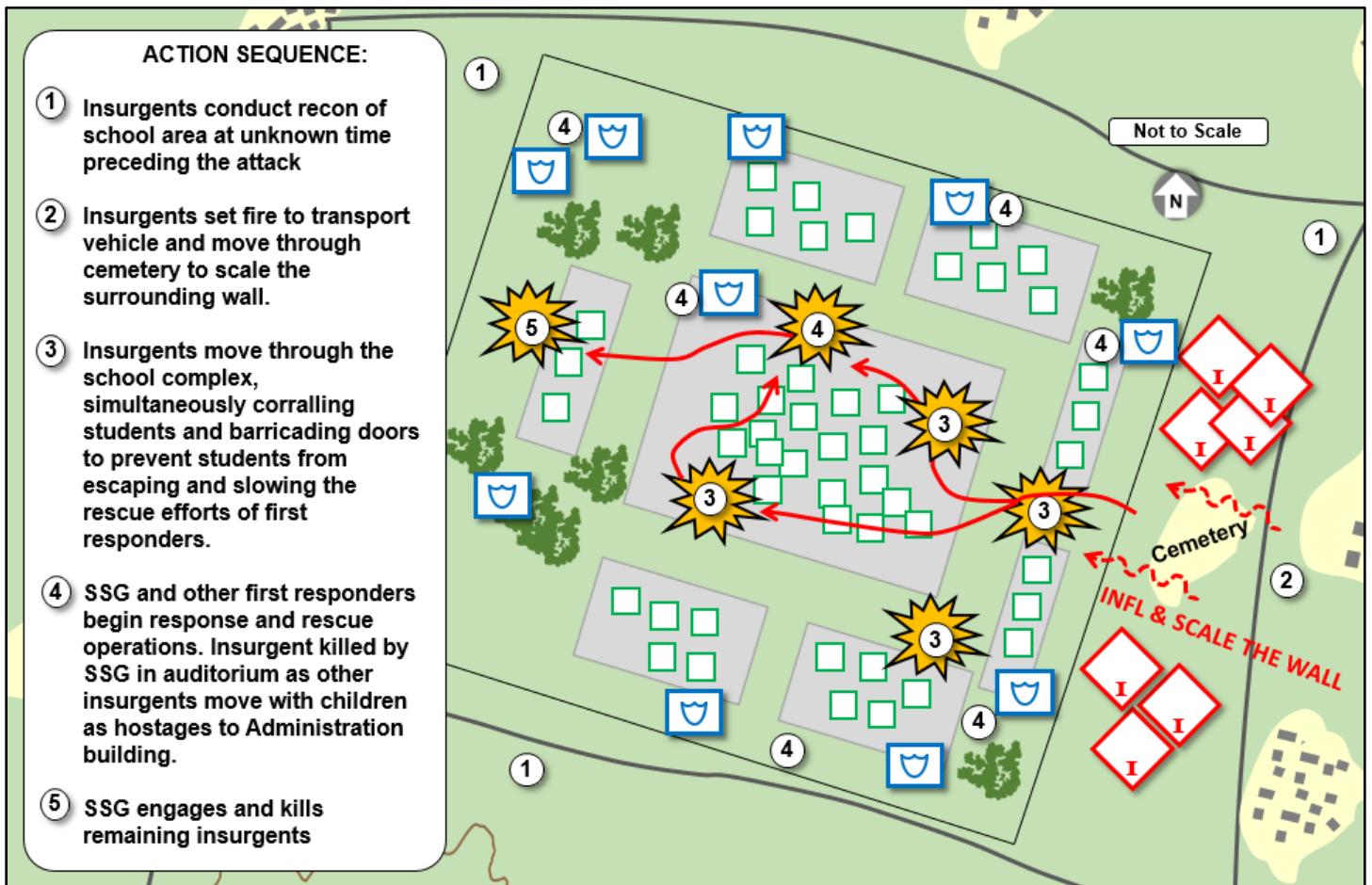


Figure 3. Raid on Pakistani Army school

“The Pakistani Taliban took responsibility for the massacre and warned that others would come in its wake if the army did not halt its anti-terrorist sweep in the North Waziristan [sic]. That cold-blooded savagery against innocent children finally inflamed popular attitudes which for many years tolerated terrorist attacks within Pakistan that would have galvanized, not just enraged, citizens in other countries who would have demanded a response by the security forces.”⁴ Prior to this

raid, Pakistan had not experienced an attack against children at a military-run school. In the aftermath many would equate this attack to the Beslan school hostage situation that occurred in the Russian Federation's North Ossetia-Alania region in 2004. Though similar in nature to the Beslan school situation in the type and number of casualties, the TTP's attack objective was not hostage-taking, rather it was to kill and injure the students. As a result of this attack, Pakistan increased its focus on conducting operations to degrade the capabilities of TTP.

Taliban SVIED Attack on a Park in Lahore, Pakistan

Seventy-two people were killed and approximately 300 were injured when a suicide bomber conducted an attack in the parking lot of Gulshan e-Iqbal Park on Easter Sunday, 27 March 2016. At least 29 of those killed were children. The Easter Sunday SVIED attack is considered to be the second-worst attack to date against Christians within Pakistan, with the first being the 22 September 2013 SVIED attack on a church Peshawar. The 2016 Easter Sunday attack began when a suicide bomber detonated his vest near the park entrance at approximately 1830 local time. Witnesses stated that many adults and children were located in the park at the time of the blast. The SVIED was detonated in an area marked off for women and created mass confusion, chaos, and panic. The TTP splinter group Jamaat ul-Ahar group claimed responsibility for this attack that deliberately targeted Christians during the Easter celebration. Post-attack forensic investigation revealed that the suicide vest contained at least 20 pounds of explosives, with ball bearings to produce shrapnel and maximize casualties.

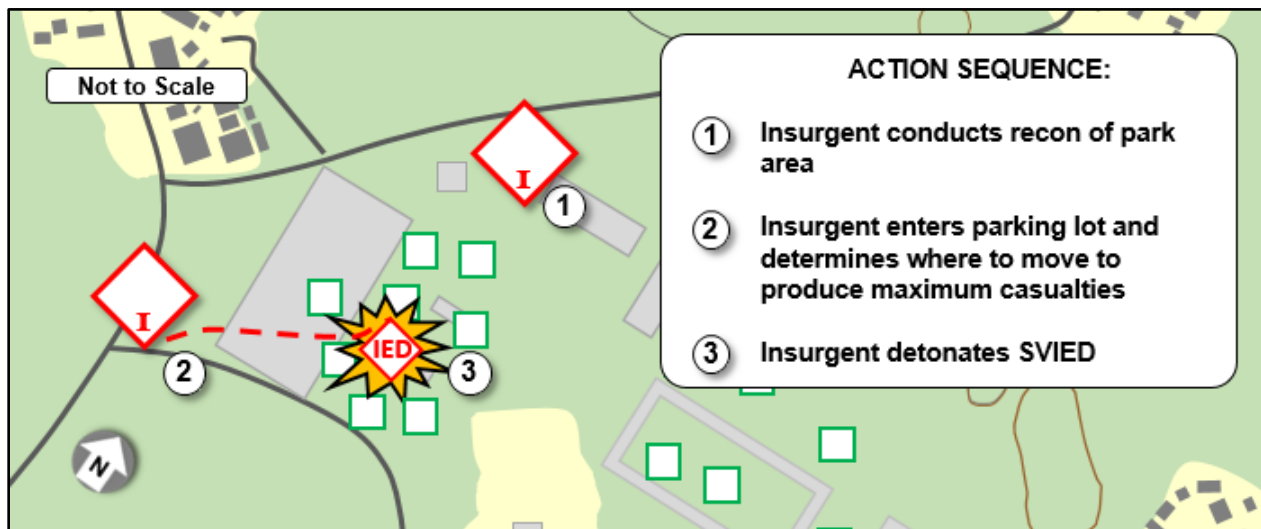


Figure 4. Assault on Lahore park

The attack appears to be a rejection of Prime Minister Nawaz Sharif's efforts to institute social reforms designed to project an image of stability in order to encourage foreign investment. The prime minister's social reform efforts present two different visions of a country with many different Islamic factions. One vision would be a secular Pakistan where there is a separation of Mosque (or church) and state, and religious minorities are protected by law and free to worship without reprisals. A second vision is a theocracy where Islam is the dominant religion and Islamic religious law is incorporated into the Pakistani constitution. Preceding the attack, Prime Minister Sharif was able to push forward several social reforms as well as pass minority-focused legal reforms. The SVIED attack was aimed at killing Christians, who comprise about 1% of the Pakistani population but have a significant presence in the city of Lahore. Ehsanullah Ehsan, a spokesman for the militant group, stated, "It was our people who attacked the Christians in LaHore, celebrating Easter. It's our message to the government that we will carry out such attacks again until sharia [Islamic law] is imposed in the country."⁵ However, the attack not only killed Christians but many Muslims who were gathered at the park to enjoy the Easter Holiday.

Training Implications

The strategic narrative and tactical examples discussed in the TTR offer an excellent foundation for a senior trainer or training developer within a TRADOC Center of Excellence or school to establish the conditions requisite for addressing critical thinking and adaptability for leaders at both the tactical and operational levels. The complexity of the various factors that shape the

conflict or actions between a government and the populace can be addressed during a combat training center rotation, home station training event, or learning events in a leader development course within the non-commissioned officer, warrant officer, or officer education systems.

It is critical for a paradigm shift during training and education to properly set the conditions at the strategic-operational level and then move through the operational to tactical level during exercise or scenario design. Otherwise, there is a strong risk of the training or learning events becoming a series of “battle drills” for a unit or individual versus driving the unit leaders to apply critical thinking as to the use of lethal and non-lethal force. Regardless of whether the training or educational event is combined arms maneuver or wide area security, the strategic-operational narrative enables a coherent picture of events that are reasonable, feasible, and plausible, conducted at the tactical level for leader development. This in turn addresses the ability of leaders at every level from tactical to strategic to engage in critical thinking and adaptability and not simply go through the motions or just execute a battle drill in response to events driving the unit training or learning objectives. What should happen is the leader transitions from an opinion or thought such as, “They can’t do that. They wouldn’t do that,” to “Why did they do that and what are my responses to the action?”

Notes

- ¹ Robert D. Lamb and Mariam Mufti, “[Religion and Militancy in Pakistan and Afghanistan.](#)” Center for Strategic and International Studies (CSIS). 29 June 2012.
- ² Thomas P. Wilhelm. “Understanding Pakistan’s Military Perspective In the AF-Pak Border Region.” September 2015.
- ³ Gerald Hyman. “[Will the Taliban School Massacre Change Pakistan’s Basic Security Orientation?](#)” CSIS. 28 May 2015.
- ⁴ Gerald Hyman. “[Will the Taliban School Massacre Change Pakistan’s Basic Security Orientation?](#)” CSIS. 28 May 2015.
- ⁵ Erin Cunningham and Shaiq Hussain. “[Taliban splinter group claims attack on Christians at Pakistan park; 60 dead.](#)” Washington Post. 28 March 2016.

Find the Threats and Opposing Force Products on ATN

The image shows a screenshot of the ATN (Army Training Network) website. At the top, there is a navigation bar with links for myFavorites, Home, Unit Training Management, myTraining, Videos, Products, Collaborate, and Print. Below the navigation bar are three main categories: Leader Development, Soldiers Skills, and Training for Operations. The Training for Operations category is expanded, showing a list of products. A red box highlights the 'OPFOR & Hybrid Threat Doctrine' product. Numbered callouts (1, 2, 3) and arrows indicate the path to this product: 1 points to the URL 'https://atn.army.mil/', 2 points to the 'Products' link in the navigation bar, and 3 points to the 'OPFOR & Hybrid Threat Doctrine' product. Other callouts include 'Click!' pointing to the 'Products' link, 'Click!' pointing to the 'OPFOR & Hybrid Threat Doctrine' product, and 'Check this out too!' pointing to the 'DA Training Environment' product. A red box also highlights the 'OPFOR & Hybrid Threat Doctrine' product.



by [H. David Pendleton](#), TRADOC G-2 ACE Threats Integration (CGI Ctr)

While the Russian BTR-80 armored personnel carrier (APC) has been around since 1984, the BTR-82A that came out in 2009 doubled the APC's combat effectiveness.¹ Due to the major changes in the vehicle's capabilities, the 2016 Worldwide Equipment Guide (WEG) will contain a separate WEG sheet dedicated to the new vehicle. The BTR-82A origin dates to the late 1990s when the Russian Ministry of Defense (MoD) decided its ground forces needed a better interim vehicle, with more firepower and mobility, until a replacement for the BTR-80 could be fielded. There are over 1,000 changes or modernizations that differentiate the BTR-82A and its BTR-80 predecessor.² After completing trials, the BTR-82A went into full-scale production in 2013.

The Russian Army now operates about 2,000 BTR-82As, with small numbers exported to Kazakhstan, Syria, and separatists in Eastern Ukraine. The Russian Army also provides the BTR-82A to some of its best-trained units or those stationed in strategic bases. Locations where the BTR-82A can be found include Abkhazia, the breakaway region of Georgia; Sevastopol on the Crimean Peninsula; and Russia's largest overseas military base in Tajikistan. It is expected that Belarus will receive some of the new APCs soon, and the Russian Army will also receive additional BTR-82As over the next few years. Russian military forces that currently operate the BTR-80 can return these older APCs to the factory for the latest upgrades. When this overhaul occurs, the APC is labeled as BTR-82AM.³

Weapons Systems

The 2A72 30-mm automatic gun found on a number of other Russian vehicles serves as the primary weapon system for the BTR-82A. The 2A72 is a weapon that is dual-fed from two different belts. One belt contains 125 rounds of armor piercing tracer (AP-T) and armor piercing discarding Sabot (APDS) ammunition. The second belt contains 125 rounds of fragmentation-high explosive incendiary (Frag-HEI) and fragmentation-tracer (Frag-T) rounds. Depending on the mission, the BTR-82A will carry approximately 250 rounds for the main gun. The maximum effective range for the AP-T and APDS ammunition is 2,000 meters, with 3,600 meters for the Frag-HEI and Frag-T rounds.⁴

The BTR-82A's secondary weapons system is a coaxial mounted Pulemyot Kalashnikova-Tank (PKTM) machine gun. The basic load for the PKTM on the BTR-82A is 2,000 rounds in a variety of types of ammunition. The maximum effective range during daylight hours is 1,500 meters. At night, the maximum effective range is 800 meters with a passive night sight and 1,000 meters with an active night sight.⁵

The original version of the BTR-82 mounted a 14.5-mm machine gun instead of the 2A72 automatic gun. The major difference between the BTR-82A weapon and that found on earlier BTR-80 models is that the newer version's machine gun is stabilized in two planes, allowing the weapon to accurately fire while on the move.⁶ Some reports indicate that a Kornet antitank guided missile can be mounted on the BTR-82A, but this practice appears to be the exception rather than the rule.⁷

Photo: [BTR-82As](#) on Parade by Pavel Kazachkov

Force Protection Systems

Many of the differences between the BTR-80 and the BTR-82A increase protection for the crew of three and the seven possible soldiers in the passenger compartment. The vehicle's outer shell is constructed of a new composition armor that not only meets standardization agreement standards against 12.7-mm rounds on the front turret, but also makes the APC almost invulnerable to grenades, small arms fire, and artillery shrapnel. There is now a "Kevlar-type" spall liner on the inside of the hull, providing better all-around crew protection. To protect the vehicle from mines and improvised explosive devices (IEDs), the BTR-82A features a reinforced multi-layered floor. The vehicle also comes equipped with new seats mounted on a special suspension system that not only provides those inside the APC with a more comfortable ride, but also increases the soldiers' survivability in case of a mine/IED blast. The BTR-82A also retains the best protection features found in its predecessors, to include an overpressure nuclear, biological, and chemical protection system and an automatic fire suppression system.⁸



Figure 1. [BTR-82A at Alabino Proving Grounds near Moscow, Russia \(photo by Vitaly V. Kuzmin\)](#)

Mobility

The Russian MoD believes that the BTR-82A possesses capabilities similar to the Russian BMP-1 and BMP-2 infantry fighting vehicles (IFVs), but with an added capability to traverse places the tracked IFVs cannot. The BTR-82A can reach a top speed of over 80 kph on roads, with a cruising road speed of 60 kph. Off-road speed can average 40 kph. A 300 horsepower V8 diesel KamAZ 740.13-300 engine provides the power, giving the vehicle a cruising range on roads of over 600 km. Off-road cruising varies with conditions, and would range from 200 to 500 km on unpaved roads. Despite weighing a little more than the BTR-80, the BTR-82A is fully amphibious and can travel 9 kph in water for up to 12 hours. Amphibious

operations can occur with or without the APC's snorkels mounted, but the snorkels increase the vehicle's ability to withstand surface waves by a factor of 50%—0.75 m in height instead of only 0.5 m.⁹

Other Features

The BTR-82A includes improved optics for both the gunner and commander; a laser illuminator and infrared (IR) searchlight; thermal sights; a smokescreen generating system with six launchers; a multi-channel VHF radio; an intercom system that can accommodate up to six users; and a central tire inflation system to neutralize the effect of a flat. A counter-IED version of the BTR-82A is also available.¹⁰

Weaknesses

The major weakness of the BTR-82A, just like the original BTR-80A, is that its engine is located in the back of the APC. This design forces dismounting soldiers to exit through doors located between the second and third wheels on both sides of the vehicle. In the midst of combat, the side exits make the soldiers vulnerable to enemy direct fire weapons. Rear exits would allow soldiers to use the APC itself for concealment and possibly cover during the dismounting process.

Variants

Unlike the BTR-80, there are currently very few variants of the BTR-82A available. The BTR-82, the original model, features a 14.5-mm machine gun that replaces the 2A72 automatic gun mounted on the BTR-80. The BTR-82AM is the nomenclature given to BTR-80s that were retrofit into the newer BTR-82A. The major difference with the BTR-82A1 is a remotely-controlled weapon station with a 30-mm automatic cannon and a 7.62-mm machine gun that either the gunner or commander can fire. The Taifun-M recon vehicle is a BTR-82 specifically designed for service with the Russian strategic missile forces as an escort vehicle.¹¹

Summary

It is likely that the proportion of Russian ground forces equipped with the BTR-82A will continue to grow, increasing the probability that the vehicle will emerge on some future battlefield. American and allied soldiers need to understand that while the BTR-82A looks like many older-model BTR-80 APCs, the newer version is much more capable in both firepower and survivability. The main way to differentiate the BTR-82 from its predecessors is the square PL-1-01 laser illuminator/IR searchlight located above the main gun, instead of the round illuminator found on a BTR-80. Knowledge of that simple detail could make the difference between life and death on a future battlefield.



Figure 2. Comparison of the [BTR-80](#) Laser Illuminator/IR Searchlight on the left to the [BTR-82A](#) on the right (photos by Vitaly V. Kuzmin)

RUSSIAN ARMORED PERSONNEL CARRIER **BTR-82A**



BTR-82A at the factory



BTR-82A on parade at Alabino Proving Grounds near Moscow



© Vitaly V. Kuzmin

BTR-82A with good view of the stowed snorkel system



© Vitaly V. Kuzmin

BTR-82A without the coaxial machine gun

SYSTEM	SPECIFICATIONS	AMMUNITION	SPECIFICATIONS
Alternative designations:	See Variants	Name:	2A72
Date of introduction:	2009	Caliber/length (mm):	30
Proliferation: Vehicles: Countries	2100+ 5+	Type:	Automatic Gun
Description:	Upgraded BTR-80A with more crew protection & improved weapons systems. 7 firing ports (3 on right, 3 on left, 1 right front) for 7 passengers.	Ammo (Rounds): AP-T, APDS: Frag-HEI, Frag-T:	150 150
Crew (driver, commander & gunner):	3	Max Effective Range (m): AP-T & APDS Frag-HEI/Frag-T Night (Passive): Night (Active): Air (Slant angle up to 2000 m in altitude)	2000 3600 800 1100 2500
Combat weight (mt):	16	Armor penetration: 1000 m 2000 m	55 45
Chassis length overall (m):	7.58	Muzzle velocity (m/s):	960
Height overall (m):	2.725	Name:	PKTM
Width overall (m):	2.985	Caliber/length (mm):	7.62
Ground pressure (kg/cm ²):	INA	Type:	Turret Coaxial

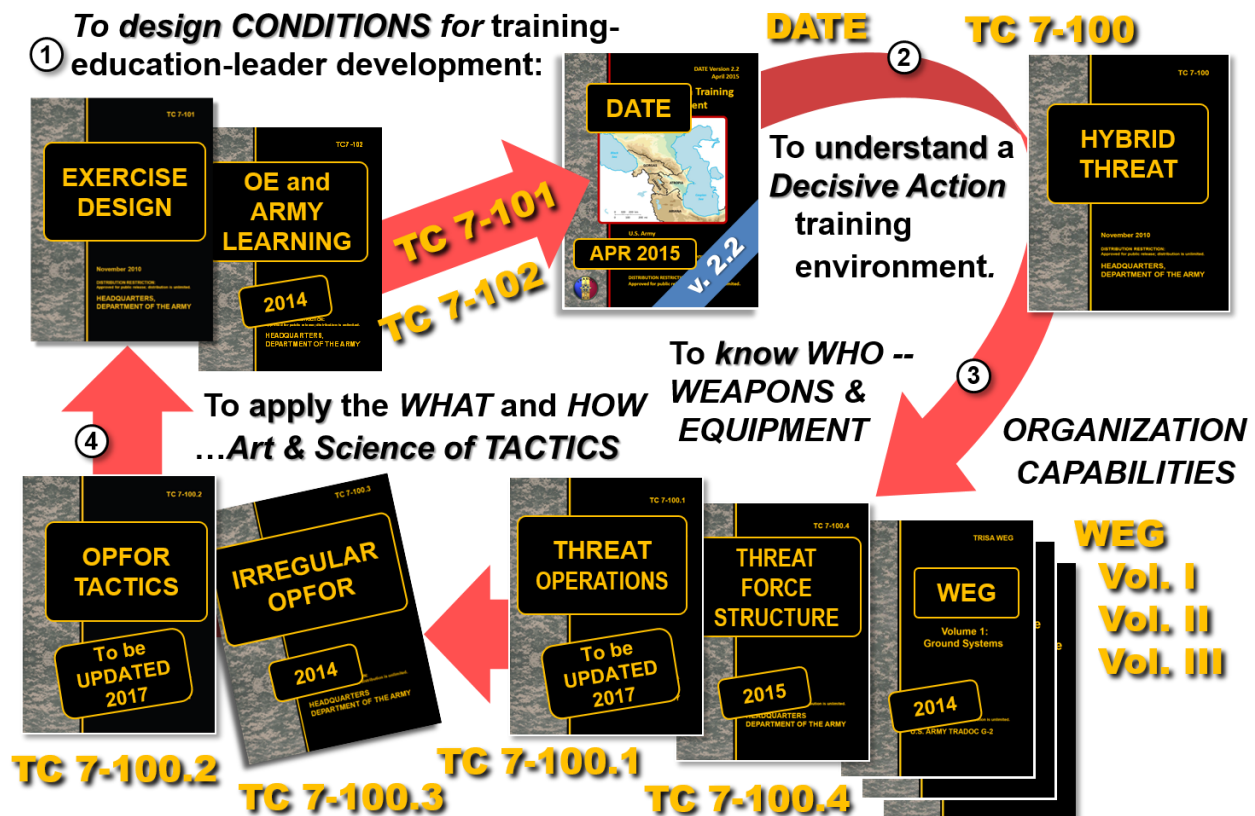
Automotive performance:	300-hp KamAZ 740.13-300	Ammo (Rounds): Light Ball, Ball-T, Heavy Ball, API, APIT-, Incendiary	2000
Engine type:	Turbocharged V8 diesel	Max Effective Range (m): Day: Night (Passive) Night (Active)	1500 800 1000
Cruising range (km): Road Unpaved Roads:	700+ 200-500	Armor penetration (mm RHA at 500 m):	8
Speed (km/h): Max road: Max off-road Average cross-country: Max Swim:	80+ 40 40 9	Muzzle velocity (m/s):	850
Fording depths (m):	Amphibious	VARIANTS	SPECIFICATIONS
Radio:	R-168-25U-2 30-108 MHz (VHF), voice, data, retrans, 17-20 km	BTR-82	14.5-mm machine gun instead of the 2A72 automatic gun. Unlike BTR-80s, the MG is stabilized to fire on the move
Protection:	Spall liner on inner walls and roof. Laminate armor in blast attenuating hull bottom. Blast attenuating seating for crew at minimum.	BTR-82AM	Converted original BTR-80s to BTR-82A standards plus KAMAZ 740.14-300 engine, transmission, & more heavy duty suspension
Armor, turret front (mm): Can Defeat Rounds:	12.7	BTR-82A1	BTR-82 with a remotely controlled weapon station (CRI Petrel) with 30-mm automatic cannon and 7.62-mm MG capable of being fired by the gunner or commander
Applique armor (mm):	Yes	Taifun-M Recon Vehicle	Designed for the Russian strategic missile forces as an escort vehicle
Explosive reactive armor(mm):	No		
Active Protection System:	N/A		
Self-entrenching blade:	No		
NBC protection system:	Collective		
Smoke equipment (81-mm Smoke Grenade Launchers):	6		
Survivability equipment:	Automatic Fire Suppression System with manual override		
NOTES			
SOURCES: ACE THREATS BTR HANDBOOK , MILITARY PERISCOPE, MILITARY FACTORY, MILITARY TODAY, TANKS ENCYCLOPEDIA, GLOBAL SECURITY, JANES, ARMY RECOGNITION, INFORMNAPALM, THE DIPLOMAT, AND TANK NUT DAVE. ALL PHOTOS FROM WIKIMEDIA COMMONS.			

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Use US Army TC 7-100 Series for Threats and OPFOR: Training for Readiness





MILITIA BATTALIONS IN THE UKRAINIAN CONFLICT

PART 1: PRO-UKRAINE UNITS



by [Marc Williams](#), TRADOC G-2 ACE Threats Integration (ThreatTec Ctr)

The ongoing conflict between Ukraine and Russia has renewed interest in Russian techniques and procedures. The hybrid warfare in this conflict includes the use of irregular militias on both sides with training from special purpose forces (SPF). This series of articles will highlight a cross-section of the militia battalions that exist on both sides and provide a context for their portrayal in training. This month's article will focus on militia battalions supporting Ukraine. A second article will focus on militia battalions supporting the separatist movement.

Historical Setting

The Ukrainian revolution—also known as the Euromaidan Revolution, Maidan Revolution, or Revolution of Dignity—took place in February 2014. A series of violent events involving protesters, riot police, and unknown shooters in Kiev culminated in the ousting of Ukrainian President Viktor Yanukovich. This was immediately followed by a series of changes in Ukraine's sociopolitical system, including the formation of a new interim government and the restoration of the previous constitution. Russia used this event to surreptitiously move combat units into eastern Ukraine and raise separatist battalions.



Figure 1. [Map of districts within Ukraine](#), modified by ACE-TI

Crimea and Donbass regions. When Crimea was annexed by Russia in February 2014, the Ukrainian Army could only field 6,000 battle-ready soldiers. When separatists in eastern Ukraine attempted to form the Donetsk People's Republic the following November, "hastily organized volunteer fighters, not to mention non-combat volunteers of all sorts, were a

crucial aspect of Ukraine's response...in the midst of state failure."¹ Pro-Ukrainian militia units were referred to as Territorial Defense Battalions and aligned with the Ministry of the Interior, Ministry of Defense, or were privately raised and funded. Many Ukrainians credit the battalions with stemming the advance of separatist-controlled territory and the Ukrainian military's rapid victories against Russian-backed rebels.

US Response. The US recognized Ukraine's need for materiel and training assistance. The Defense and State departments notified the US Congress of the intent to use \$19 million in Global Security Contingency Fund authority to train and equip four companies and one tactical headquarters of the Ukrainian National Guard at the International Peacekeeping and Security Center in Yavoriv.² The initial effort was titled Operation FEARLESS GUARDIAN. The initial materiel support included 100 high mobility multi-wheeled vehicles (HMMWV), night vision goggles, body armor, counter-rocket-artillery-mortar systems, and drones.³

Certain militia battalions were involved in illegal activities and human rights violations. In accordance with the "[Leahy Amendment](#)," all Ukrainian units and individuals were vetted for eligibility before training by US forces.⁴ Militia units or individuals identified as having been involved in illegal actions were denied training by the US.

The training was "infantry-based, defensive-focused training at the individual and collective levels including medical training in combat lifesaver and casualty evacuation; counter-unmanned aerial vehicle tactics training; counter-improvised explosive device training; cordon and knock/search training; Law of Armed Conflict and use of force training; and various common soldier and collective tasks such as first aid, survival, land navigation, communication, and unit operations."⁵ The training was conducted by the California National Guard as part of the State Partnership Program, 173rd Airborne Brigade, 10th Special Forces Group (Airborne), and training support personnel from US Army Europe and the Joint Multinational Training Command. FEARLESS GUARDIAN trained six Ukrainian National Guard companies. The mission then transitioned to the Joint Multinational Training Group-Ukraine (JMTG-U) in November 2015, with a focus on Ukrainian Land Forces battalions. The training mission lasts until December 2016 and will train a total of five of these battalions by completion.⁶

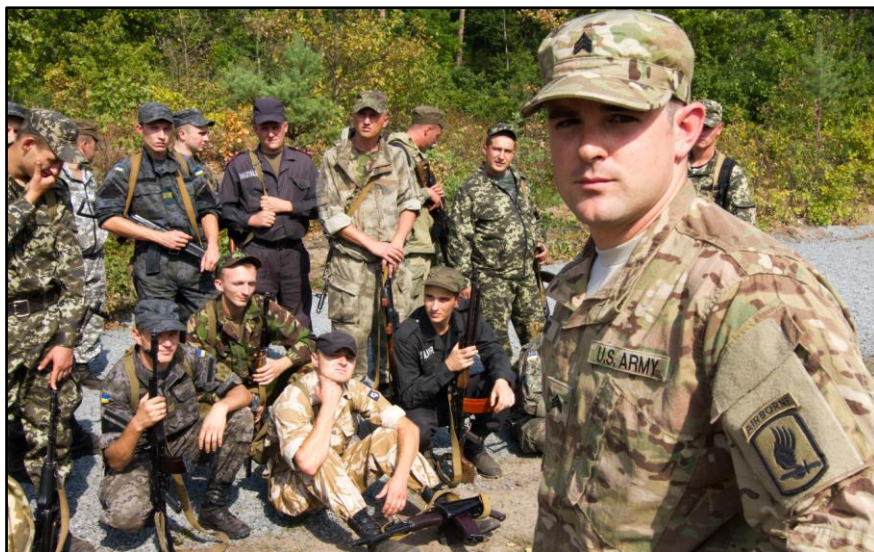


Figure 2. [SGT Travis Walker training the Ukrainian National Guard's 21st Brigade, 15 September 2015, in Yavoriv](#)

Types of Combatants in US Doctrine

What is a militia battalion and how does it fit into US doctrine? To answer this question, one must begin with an analysis of the political, military, economic, social, information, infrastructure, physical environment, and time (PMESII-PT) variables using [Training Circular \(TC\) 7-101, Exercise Design](#). Depending on the news source used, the militias in this conflict will fall under the military variable as either "government paramilitary forces" or "non-state paramilitary forces."⁷ Whichever designation is used, these are armed combatants that may be operating independently, supplementing regular military forces, and/or operating as combat forces in an insurgent or guerrilla role. More information concerning these designations can be found in Tables 3-9 and 3-10 of [TC 7-101](#).

Most of the pro-Ukraine battalions were initially funded by private citizens and later absorbed into the nascent National Guard or Ministry of the Interior. There are notable exceptions, which will be detailed below.

The following list is not comprehensive. There are approximately 50 militia units operating in Ukraine on both sides of the conflict. The following is a representation showing the complexity of just one subvariable of the operational environment,

with groups that include Chechens fighting on both sides, foreign fighters, Ukrainians, Russians, numerous other ethnicities and nationalities, Islamists, radical Christians, and mercenaries, all with differing and sometimes competing agendas.

Pro-Ukrainian Militia Battalions

Aidar Battalion. Funded by Ukrainian oligarch Ihor Kolomoisky, Aidar was founded by Serif Melnychuk to try and stop the separatist advance following the Maidan protests. He started with five men and had 250 within two weeks. Melnychuk is now a member of Parliament. Aidar Battalion faces charges of abduction and robbery by Ukrainian prosecutors. The unit was ordered to reform into the 24th Assault Battalion as part of Ukraine's official forces but has not yet fully complied.⁸

Aidar, Donbass, and Dniepro Battalions were highly visible and notorious in the eastern Ukraine fighting. Aidar operated primarily in the Luhansk Oblast. "The battalion is particularly diverse in its geographical makeup, with 60 percent of its members hailing from the eastern Ukrainian Donbass region. Nadiya Savchenko, a former Ukrainian Air Force pilot, who was imprisoned in Russia on what has been described as politically-motivated charges, was a member of the battalion when she was captured by pro-Russian rebels."⁹ She was released in a prisoner exchange on 25 May 2016.¹⁰ Aidar Battalion is subordinate to the Armed Forces.¹¹



Figure 3. [Aidar Battalion unit patch](#)



Figure 4. [Azov Battalion unit patch](#)

Azov Battalion. Azov was originally funded by Ukrainian oligarch Ihor Kolomoisky and is led by Colonel and member of Parliament Andriy Biletsky. The unit has around 1,000 fighters and is described as ultranationalist, fierce, and neo-Nazi. "The Azov battalion originated from Biletsky's paramilitary national socialist group called 'Patriot of Ukraine', which propagated slogans of white supremacy, racial purity, the need for authoritarian power and a centralized national economy."¹² The Azov Battalion is made up of infantry and artillery units, and is attempting to organize tank units. Pay is 6,000 hryvnia (\$316) per month, paid by the government and Ukrainian oligarchs. The unit was enrolled as a member of the Ukraine National Guard in September 2014. While the US Army is training the Ukrainian National Guard, "Americans are specifically prohibited from giving instruction to members of the Azov group."¹³ Members of the Azov Battalion are volunteers from eastern and central Ukraine, with some foreigners from Sweden.¹⁴ Azov Battalion is subordinate to the Ministry of the Interior.¹⁵



Figure 5. [Colonel and Member of Parliament Andriy Biletsky](#)



Figure 6. [Crimea Battalion unit patch](#)

Crimea Battalion. This unit is based in Krematorsk and consists mostly of Crimean Tatars who are Muslim.¹⁶ There is no US involvement with this unit.¹⁷

Dniepro-1 Battalion. This unit was founded by Ukrainian oligarch Ihor Kolomoisky.¹⁸ Soldiers "fill a variety of roles, and are required to possess an assortment of skills. Any one soldier may be given the task of conducting raids on Donetsk People's Republic (DNR) positions, manning defensive posts in the trenches, partaking in reconnaissance missions, or performing first aid. They are also trained in the use of tanks and other armored vehicles, of which the unit operates several variants."¹⁹ Amnesty International accuses Dniepro-1 Battalion of blocking roads and not allowing humanitarian aid of food and medicine to enter the conflict area.²⁰ It also accuses the unit of serious human rights abuses against civilian prisoners.²¹ Dniepro-1 Battalion is subordinate to the Ministry of Defense.²²



Figure 7. [Dniepro-1 Battalion unit patch](#)

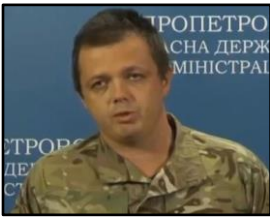


Figure 8. [Semen Semenchenko, Commander of Donbass Battalion](#)



Figure 10. [Isa Munayev, founder of Dzhohkar Dudayev Battalion](#) (Euromaidan Press, used with permission)



Figure 12. [Volunteer Ukrainian Corps \(paramilitary wing of Right Sector\) unit patch](#)

Saint Mary Battalion is the fighting arm of the extreme-right Ukrainian political party Bratsvo. As of April 2015, the commander is Borgese “Alex” Serediuk, formerly of the Azov Battalion. Unit size is 150 armed men with 50 other occasional fighters. Most of the fighters are not registered with the Ukrainian government. Registered “fighters receive weapons issued by the Ukrainian government, unregistered ones just go to the war zone in the east with the battalion regardless and get weapons from looting enemy bodies.”³⁷

Sheikh Mansour Battalion. This is a primarily Muslim unit that broke off from the Dzhohkar Dudayev Battalion after Isa Munayev’s body was left on the battlefield, which is strictly against the Chechen honor code. It is based close to Mariupol, in the southeast of Ukraine.³⁸ Sheikh Mansour Battalion is named for an 18th-century Chechen resistance figure. The

Donbass Battalion. The Donbass Battalion was funded by Ukrainian oligarch Ilhor Kolomoisky, is manned by fighters from all over Ukraine—especially natives of eastern Ukraine, and is based in the Donetsk Oblast.²³ The battalion commander is “Semen Semenchenko, a self-identified ethnic Russian from Crimea who later moved to the city of Donetsk.”²⁴ Semenchenko is an outspoken critic of Ukrainian generals and attempted to set up a parallel command structure for volunteer battalions outside the Army.²⁵ Amnesty International has accused Donbass Battalion of blocking roads and not allowing humanitarian aid of food and medicine to enter the conflict area.²⁶ The unit is sometimes called “The Little Black Men.”²⁷ Donbass Battalion is subordinate to the National Guard.²⁸

Dzhohkar Dudayev Battalion. This unit was named after the first president of independent Chechnya, who was killed by Russians in 1996, and founded by Isa Munayev, a Chechen commander who fought in two wars against Russia. Munayev was killed 1 February 2015 in a Russian tank attack on Chernukhino. His body was left under heavy fire and retrieved days later by his deputy, Adam Osmayev. Members of this battalion include Muslims from several nations—Chechens, Kurds, Azeris, Uzbeks, Balkars, and Dagestanis; Ukrainians; Georgians; Russians; and Crimean Tatars. They raise funds legally in restaurant and construction projects, and illegally through forged passport sales, blackmail, unlicensed amber mining, extortion, armed robbery of casinos, and protection rackets. The size of the battalion is a mystery, but it claims to have 500 volunteers. Its operating area is between Donetsk and Luhansk.²⁹

Kiev Rus 11 Battalion. Kiev Rus 11 is a nationalist unit that objects to the presence of Muslims in Ukraine. The unit participated in the defense of the city of Debaltseve.³⁰ Kiev Rus 11 is commanded by Oleksandr Gumeniuk and is subordinate to the Ministry of Defense.³¹

Right Sector. Right Sector was originally funded by Ukrainian oligarch Ilhor Kolomoisky. When he stopped funding the group, it seized his property in Dnipropetrovsk.³² Its leader is Dmytro Yarosh, who is also a Member of Parliament. The unit has a neo-Nazi outlook and is only open to European and “Eurodescendant” men.³³ “The battalion is probably the most feared among the local eastern Ukrainian population, largely the result of extensive Russian propaganda which portrays the group as violent anti-Russian fascists. However, Kyiv [sic] largely denounces the battalion, which has refused to submit itself under the authority of the Ministry of the Interior.”³⁴ Right Sector has been accused of serious human rights abuses against both civilian and military prisoners.³⁵

Saint Mary Battalion. The founding commander was Dmytro Korchynsky. This unit is ultra-nationalist and Orthodox Christian. The commander’s intent was “to create a Christian ‘Taliban’ to reclaim eastern Ukraine as well as Crimea. I would like Ukraine to lead the crusades. Our mission is not only to kick out the occupiers, but also revenge. Moscow must burn.”³⁶ The Saint



Figure 9. [Donbass Battalion unit patch](#)



Figure 11. [Kiev Rus 11 Battalion unit patch](#)

Commander's nom-de-guerre is "Muslim," a Chechen who has fought the Russians since the demise of the Soviet Union. The unit is not part of the formal police or military and all volunteers are unpaid. The unit is mostly Chechen, but includes other Muslims such as Uzbeks and Balkars. Its primary tactics are ambushes and raids, with a policy of killing officers and contract soldiers, but releasing conscripts. Members prefer to fight with little protective gear: "We believe in God, so we don't need armored vests."³⁹

Training Implications

Scenario development with militia battalions complicates the battlefield operating picture. These units are essentially guerrilla units, but they are viewed through the legal lens of government association or not. Ukraine still does not define this conflict as a war, but as an anti-terrorist operation (ATO), so many pro-Ukraine units have been absorbed into the Ministry of the Interior instead of the Ministry of Defense. In many sources, the author has found police officers, rather than soldiers, doing the fighting. The US counterinsurgency experience in Afghanistan and Iraq will help in this understanding, but some soldiers are going to be surprised and unsure of how to proceed when they learn their counterpart is in law enforcement rather than the military. Some of the units have not been absorbed into the formal government agencies on either side and still operate independently with their own goals and agendas. If the goal is to challenge Army units with novel approaches based on real-world examples, the militia units of the Ukrainian ATO is a good way to do it.

The Ukrainian ATO fits the US definition of a hybrid threat as found in [Training Circular 7-100, Hybrid Threats](#). Regular forces, irregular forces, and criminals all work on their own agendas—sometimes together, and sometimes not. Techniques vary with each unit. Tier 1, 2, 3, and 4 weapons, as defined in the [Worldwide Equipment Guide](#), are present on the battlefield. US military involvement is highly restricted and subject to interagency coordination with Department of State and the Central Intelligence Agency. Some of the units and commanders may be subject to sanctions by multiple countries and entities. Some of the units are financing their military activities with criminal activities while others are financed through oligarchs. And there are the larger strategic implications of direct conflict between Russia and European countries if major mistakes are made and the fighting escalates into a full-scale war.

The US is dedicated to supporting Ukraine in improving its warfighting capacity. That includes the addition of pro-Ukrainian militias into either the National Guard or the Ministry of the Interior while adhering to the restrictions of the Leahy Amendment. Some volunteer battalions will not be trained by the US, as even the Ukraine Land Forces do not support all the volunteer battalions.

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The 12.7x108mm Heavy Machine Gun, Variants, and How the Threat Employs Them

By [Michael G. Spight](#), TRADOC G-2 ACE Threats Integration (CGI Federal Ctr)

In the world of military armaments, there are two iconic heavy machine guns (HMGs). For the US military and many of its allies, the Browning M2 .50 caliber (12.7x99mm) HMG has been its military-issue HMG from the year of its adaption (1933) through the present day. The creation of John Moses Browning, who is unquestionably the greatest and most prolific American firearms designer in history, the weapon has undergone some improvements over the past 80+ years—the latest variant, the M2A1, was introduced in 2010—and remains the standard for over 80 of the world’s nations. This article, however, will address the equally-iconic threat HMG of choice, the DShK, and the two product improvements that have come since its adoption by the Soviet military in 1938: the NSV HMG (1971) and the KORD HMG (1998). A discussion of how the threat employees HMGs and the ammunition types typically available will follow the sections on the three HMG variants. The threat HMG is also distributed throughout the world among former Soviet client states and other countries that have purchased the weapons systems, and also by countries that have purchased licenses to manufacture the HMGs within their own borders.

DShK

The DShK 1938 was designed by Vasily Degtaryov and Georgi Shpagin, with the “K” in the acronym standing for Krupnokaliberny (large caliber). Like the development of the Browning M2, the catalyst for the birth of threat HMGs was WW1 and the introduction of motorized wheeled vehicular transport—some which were armored—and early tracked vehicles (the “tank”). Additionally, the development and use of aircraft on the battlefield to bomb and strafe infantry, command posts, and logistics nodes required something heavier than the existing 7.62x51R general-purpose machine guns that were the standard during the Great War.

There are variants for use by infantry in defensive positions, typically mounted on tripods with traversing and elevation (T&E) mechanisms, and for mounting atop both tracked and wheeled infantry fighting vehicles (IFVs). The DShK was also



Figure 1. [DShK](#)

mounted directly in front of the commander’s hatch on earlier (pre T-64) Soviet-era main battle tanks (MBTs) for use against infantry troops in the open or defensive positions, lightly-armored wheeled or tracked vehicles, or for engaging low-flying enemy rotary or fixed wing aircraft. The DShK also has a role as a dedicated anti-aircraft (AA) weapons system when equipped with special AA metallic ring or optical sights and vehicular and/or ground mounted systems. The DShK is commonly seen in the Middle East and Africa, typically used by insurgent or paramilitary forces with the weapon mounted in the backs of pickup or larger trucks. Commonly referred to as “technical,” they first came to public attention for their use in Somalia, and have been used in Afghanistan by the Taliban and, most recently, in Iraq and Syria by the Islamic State of Iraq and the Levant.

The DShK is an extremely heavy HMG, with the gun itself—without a mounting system—coming in at approximately 75 pounds. Add in the ground-mounted, wheeled system with splinter shield, and the entire system weighs approximately 346 pounds, rendering it virtually useless for any role other than in a fixed, defensive position. Overall length is approximately 64 inches, and a crew of a minimum of two soldiers is required to operate the weapon in its ground-mounted configuration. The weapon is a gas-operated system (unlike the Browning M2’s short recoil system), with a rate of fire of approximately 600 rounds per minute. Muzzle velocity is 850 meters per second, with an effective firing range of 2,000 meters. Iron sights are standard on the DShK, but optical sighting systems are available for installation and use, particularly for AA roles. Ammunition is fed via 50-round belts. The DShK does not have a quick change, air-cooled barrel. Unlike the Browning M2, there is no capability for the weapon’s crew to swap out the barrel once it becomes overheated; however, the DShK’s follow-on variants (NSV and KORD) do feature barrels that can be quickly changed by the weapon’s crew. On the plus side, there is no requirement for the crew to set and confirm head space and timing as required on the Browning M2 HMG.

NSV

The NSV (initials of its designers: Nikitin, Sokolov, and Volkov) HMG has been in service with the former Soviet Union and Warsaw Pact countries since 1971. It was designed to replace the aging and worn DShK as the Soviet Union’s primary HMG for use on vehicles on the ground, with infantry, and as a low-altitude AA system. Of note, the NSVT was typically mounted on all Soviet MBTs, to include the T-64, T-72, and early variant T-80 series. As shown in the picture, the NSV is equipped



Figure 2. [NSV](#)

with a shoulder stock and pistol grip firing unit—actually part of the tripod in which the HMG is mounted for use by infantry—providing greater flexibility for troops using the weapon in a ground role, as the gunner can get into a good prone position behind the weapon when firing from a low tripod. When mounted on vehicles (MBTs or IFVs) or in its low-altitude AA role, an electrical solenoid firing system is installed on the weapon. The primary focus in the NSV’s

development was to produce a lighter HMG that could be used more easily by infantry troops on the ground and that provided improved accuracy over the DShK, which—when fired from its heavy ground mount—was noted for its inaccuracy due to the heavy recoil and vibrations of the gun and mount.

Of note is the fact that although the NSV was designed in the Soviet Union, manufacturing was centered in the former Soviet Republic of Kazakhstan. That geographical fact would play a significant part in the later design and development of the KORD HMG, as described later in this article.

The NSV is much lighter than the DShK, coming in at 55.1 pounds (gun only), and 90.4 pounds (mounted on tripod). Like the DShK, the 12.7x108mm ammunition is supplied and fed into the weapon in 50-round belts that weigh 24.25 pounds each. Rate of fire is 700–800 rounds per minutes—100–200 more rounds per minute than the DShK— with a muzzle velocity of 845 meters per second. Effective firing ranges are 1,500 meters against aircraft and 2,000 meters against ground targets. Like the DShK, the NSV is a gas-operated weapon and fires from an open bolt, which is certainly not unique to light, medium, or heavy machine guns of any nation. The NSV was also a more accurate HMG system than the DShK, which was one of the primary reasons for the former’s conceptualization, design, and manufacture.

Optical, telescopic-type sights were and are standard issue for the NSV HMG, and the iron sights are considered to be backups for the optical sighting system. Obviously the optical sights are far superior for use than iron sights. Additionally, in a significant improvement over the DShK, the NSV’s barrel can be easily and quickly replaced by its crew once it becomes overheated or burned out and inaccurate due to high rates of sustained fire. Although not as widely proliferated as the venerable DShK, the NSV is in use by at least 20 nations, and is manufactured under license by four of them.

KORD

Following the breakup of the Soviet Union, the factory that manufactured the NSV HMG, the manufacturing licenses, and the engineering technical data package for the NSV remained with Kazakhstan, which was then an independent country. This left the Russian Federation with no recourse other than to design and manufacture an HMG within Russia, as purchasing new NSVs and/or spare parts for the aging weapons in the Russian inventory was problematic.



Figure 3. [KORD](#)

This geographical and political fact resulted in the design and manufacture of the KORD HMG, and its eventual acceptance by the Russian military as the replacement HMG for both the DShK and the NSV and their respective variants. Designed in the Degtyarev Bureau by Namitulin, Obidin, Bogdanov, and Zhironkin, the acronym KORD is obviously not their initials. KORD roughly translates to mean that the weapon was designed by Degtyarev.

Entering service in 1998, the KORD HMG shares many similarities with the NSV, particularly the fact that it is manufactured in a manner that allows easy interface with vehicular, AA, and other mounts that were originally designed for the NSV HMG. And like the NSV and the DShK, it is a gas-operated system (improved in the KORD) but, unlike its predecessors, the KORD's bolt has been totally redesigned from the DShK and NSV's antiquated pivoting breech block to a more modern, and simpler to manufacture, rotating bolt system.

The KORD is, without doubt, the lightest HMG available today. The gun alone weighs in at 55 pounds, and one of its variants mounted on a bipod instead of a tripod—as seen in the image—comes in at only 71 pounds. Mounted on a standard tripod, the weight is still down to 91 pounds. All of this is due to improved design and manufacturing techniques and improvements in the steels and alloys used in the manufacturing process.

When mounted on the bipod, the weapon can be easily moved, on a limited basis, around the battlefield by a single soldier, with his assistant carrying extra ammunition. This combination of HMG and bipod is very unique and brings the ability to move that much firepower around by dismounted infantry somewhat unique, particularly with regard to combat in built-up, urban areas, including from upper stories of high-rise buildings. And, of course, its vehicular variants are mounted on Russian IFVs (wheeled and tracked) and MBTs (T-80 and T-90), and will certainly be seen on the newly-introduced Russian armored vehicle series, the Armata.

Rate of fire for the KORD is 650–750 rounds per minute, with a muzzle velocity of 860 meters per second. Effective firing range is 2,000 meters and, like the NSV, it can be equipped with a range of optical sights—thus rendering its iron sights to backup status—and it is also fed with metal-linked belts of 50 rounds.

Ammunition

Ammunition available for issue and use in the KORD, NSV, and DShK are varied and purpose-built. Some examples are the 12.7x108mm rounds designated as ZBZ-1, which are armor-piercing, incendiary rounds designed for use against lightly-armored vehicles at up to 1,500 meters, infantry in the open, and infantry in buildings and/or behind barriers at up to 1,000 meters. ZBZ-1 can also be employed against low-flying rotary and fixed wing aircraft, and the incendiary each round contains is fully capable of igniting aviation fuel or fuels used in ground vehicles. Other rounds with the 7-Z-2 designation are incendiary rounds designed for use as dedicated anti-aircraft HMG systems, as they are designed to ignite aviation-type fuels. The 57-BZT-542M round is an armor-piercing, incendiary, tracer round used for designating targets for engagement by close air support assets or other direct fire systems.

Training Implications

Like any other military equipped with light, general purpose, and heavy machine guns, the threat will engage enemy infantry, light-skinned, or light-armored vehicles with direct fires out to the effective range of the system. If the HMG is properly set in a threat defensive position and mounted on a tripod with T&E mechanism, it can be tied into a defensive plan of interlocking fires, and can be set to deliver grazing fire to strike advancing light infantry at about waist height if the weapon is overwatching open, flat terrain. In the case of rolling, irregular terrain, such as hills, ravines, or washes, if the HMG position is located at a higher elevation at the right range, it is also possible to deliver effective plunging fires onto an enemy, in spite of his being down in what he initially assessed as terrain capable of providing both cover and concealment (defilade).

The HMG is a very effective, devastating weapon system when employed by trained, skilled, and motivated soldiers. It can kill enemy troops, thin-skinned or lightly-armored vehicles (wheeled and tracked), or low-flying aircraft at fairly substantial ranges with an array of purpose-built ammunition. When engaged by a threat HMG crew, it is imperative to locate the weapon; suppress it, if possible, with direct and indirect fires; and maneuver against it quickly to destroy the weapon and its crew.

Reference

US Army, TRADOC G-2 Analysis and Control Element (ACE) Threats Integration. [Worldwide Equipment Guide – Volume 1: Ground Systems](#). December 2015.

What ACE Threats Integration Supports for YOUR Readiness

- ◆ Determine Operational Environment (OE) conditions for Army training, education, and leader development.
- ◆ Design, document, and integrate hybrid threat opposing forces (OPFOR) doctrine for near-term/midterm OEs.
- ◆ Develop and update threat methods, tactics, and techniques in HQDA Training Circular (TC) 7-100 series.
- ◆ Design and update Army exercise design methods-learning model in TC 7-101/7-102.
- ◆ Develop and update the US Army *Decisive Action Training Environment (DATE)*.
- ◆ Develop and update the US Army *Regionally Aligned Forces Training Environment (RAFTE)* products.
- ◆ Conduct Threat Tactics Course resident at Fort Leavenworth, KS.
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- ◆ Support terrorism-antiterrorism awareness in threat models and OEs.
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