

Combine Arms Battalion

Tactical Decision Exercises

Series 1 – Engagement Area Development

1.1 Battalion EA Development



Panther Team

Operations Group

National Training Center

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Series 1: Engagement Area Development

1.1 Battalion (CAB) EA Development

Since the defense is less satisfying to plan and more challenging to execute, and because we associate defense with failure, we then design training for our officers in Army schools focused on offensive operations. Then, in the stress of the decisive-action scenario at NTC, where commanders and staff are sleep-deprived, hungry, too hot or too cold, and desperately trying to salvage the time that is quickly slipping through their fingers, they fall back onto what they know and what they've trained for—the offense.

CPT Jared Hirschhorn- Getting Defensive: Observations from the National Training Center

About this Tactical Decision Exercise:

Tactical Decision Exercises (TDE) or Tactical Decision Games (TDG) are not new to the US Army. Throughout our history they have been used as a low-cost method to train leaders and their staffs. This particular volume and future ones vary slightly from the norm for a couple of reasons.

1. It is focused on a routinely observed deficiency in training for combined arms battalions and subordinate formations at the NTC.
2. They are a little more structured than most in order to focus on specific areas of weakness. Hence, why this volume doesn't simply say "You have 30 minutes to determine how you would defend."

This volume is designed to be done in sequence and to build off each step. The ultimate goal is to help leaders at company and battalion level improve their proficiency at engagement area development. The first two steps are designed to afford the opportunity for leaders to focus on critical steps in engagement area development; determining how and where the enemy will attack. **A common observation at NTC is that units habitually pick-up the blue pen first and determine how and where to defend without considering terrain or how the enemy will attack.** As a result units habitually are outflanked, out maneuvered, or simply out of position.

Step three of this TDE is designed to help counter a void in our current doctrine. In the past doctrinal manuals like **FM 90-7 Combined Arms Obstacle Integration** (2003) and **FM 71-123 Tactics and Techniques for Combine Arms Heavy Forces: Armored Brigade, Battalion/Task Force, and Company/Team** (1992) discussed the way we fight. They provided concrete examples of how to successfully integrate obstacles, direct fire, and indirect fire to defeat the enemy. Currently our doctrine does not provide these examples and as a result, units and leaders fail to **successfully integrate obstacles, direct, and indirect fires in engagement areas.**

Which leads to the third difference from traditional TDEs. Links to doctrinal references and teach slides are provided for unit commanders to help facilitate leader development and tactical training in order to improve tactical and technical proficiency.

The final step of this TDE is more traditional. However, enough depth has been provided to allow this step to be utilized by a BCT CDR to train BN CDRs and their staffs, and echelon the training and execution of the TDE down to platoon level if desired.

Engagement Area Development

Step 1:

Identify all likely enemy avenues of approach.

Situation:

The 80th Division Tactical Group will conduct an integrated attack in order to gain control of key terrain to the west within the next 36 to 72 hours. Intelligence indicates that the 803rd BCT, expected to attack in our sector, has been reinforced with one troop of attack aviation, a UAS company, and electronic warfare assets for this operation. The BCT S2 assess to mass all available combat power against individual BNs in order to achieve a penetration.

The BCT will conduct an area defense NLT 36 hours from now in order to deny the 80th DTG key terrain. Our BN, the BCT main effort will conduct a defense in depth from PL PURPLE to PL RED IOT prevent 803rd BTG penetration of PL RED. 2nd BN will be to our south conducting an area defense IOT defeat the 802nd BTG. On order, we will pass the CAV SQDN and 3rd BN through our BPs to conduct a counter-attack to destroy remnants of the 803rd BTG.

Given:

- Included maps and imagery
- BCT draft concept sketch
- Blank overlays and map markers
- **Optional** – ATP 2-01.3 Intelligence Preparation of the Battlefield, Chapter 4
- **Optional** – additional maps or imagery software

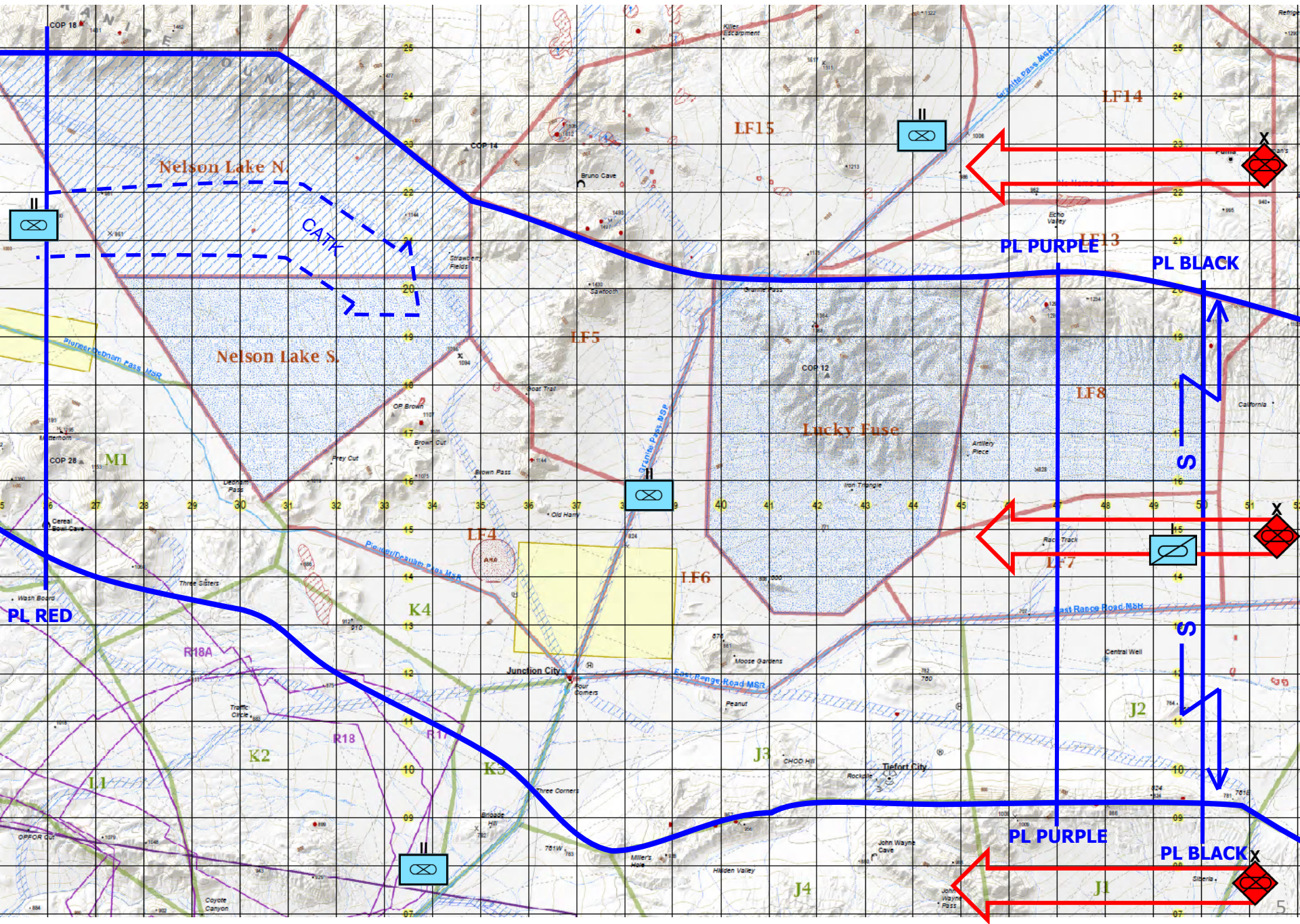
Facilitator Instructions:

- The training audience for this TDE can be a battalion commander, company commanders, staff officers, or senior non-commissioned officers in a standard combined arms or Stryker battalion.
- The training audience's BCT is currently repositioning into the area of operations with the BCT cavalry squadron screening to the east.

Instructions for the training audience:

Create an overlay depicting enemy mobility corridors and avenues of approach that are available for the 803rd BTG to utilize in their attack. Be prepared to explain your rationale and analysis in 20 minutes.

PL RED



Facilitator Guided Questions/Discussion Topics: Step 1 Identify likely enemy Avenues of Approach

The following questions are designed for the facilitator to generate discuss based on training audiences overlays.

- How did individual mobility corridors combine to form air and ground avenues of approach?
- What key and decisive terrain did you identify?
- What locations afford positions of advantage over the enemy?
- Where do natural obstacles and chokepoints restrict forward movement?
- Which avenues provide cover and concealment for the enemy while allowing them to maintain their tempo?
- What terrain is the enemy likely to use to support each avenue?
- As the enemy advances what terrain and avenues of approach support any or all of the following
 - Attack/assault positions
 - Support/Attack by fire positions
 - Flank attacks
 - Envelopment
- How do the AAs impact sustainability (line of communications [LOC] support)
- What AAs of approach have you identified?
- Did you default to a bias for action? Planning the enemy's attack or our defense prior to understanding the terrain and its effects?

Recommendations and TTPS

- Conduct reconnaissance of AAs from the enemy's perspective when security conditions allow in order to identify micro-and better anticipate the enemy's reactions.
- Pull reconnaissance information from the cavalry squadron constantly. Your initial IPB before hostilities or the operations commences may be based on old or incorrect information. Constantly refine your understanding of where the enemy can go.
- The enemy's objective may not be you, identify AAs from the FEBA to the support area.
- Look at AAs across domains. Don't forget to look at how air threats will ingress and can impact you.
- Engagement areas are designed to help mass fires. Battle positions are oriented on AAs first, EAs are applied after as a direct-fire control measure.
- Unit "special" maps for NTC while useful for common understanding, often hinder or prevent IPB in the context of the actual situation.
- Be wary of bias, the NTC OPFOR adapts during and between rotations. Trying to fight the last rotation is counter-productive. Train the steps of EA DEV, TLPs, and MDMP until they are second nature.

Engagement Area Development

Step 2:

Determine likely enemy concept of operations.

Situation:

The 80th Division Tactical Group will conduct an integrated attack in order to gain control of key terrain to the west within the next 36 to 72 hours. Intelligence indicates that the 803rd BCT, expected to attack in our sector, has been reinforced with one troop of attack aviation, a UAS company, and electronic warfare assets for this operation. The BCT S2 assess to mass all available combat power against individual BNs in order to achieve a penetration.

The BCT will conduct an area defense NLT 36 hours from now in order to deny the 80th DTG key terrain. Our BN, the BCT main effort will conduct a defense in depth from PL PURPLE to PL RED IOT prevent 803rd BTG penetration of PL RED. 2nd BN will be to our south conducting an area defense IOT defeat the 802nd BTG. On order, we will pass the CAV SQDN and 3rd BN through our BPs to conduct a counter-attack to destroy remnants of the 803rd BTG.

Given:

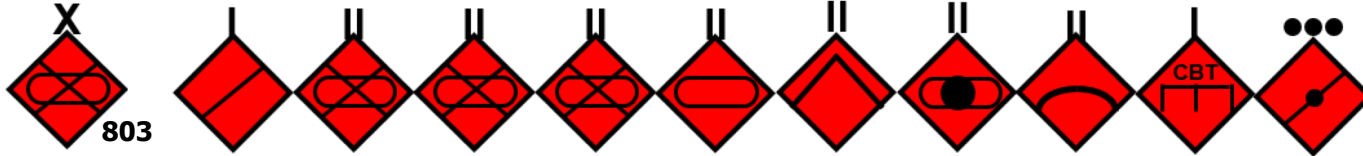
- Included maps, imagery, and 803rd BTG task organization
- Avenue of Approach overlay from Step 1
- Blank overlays and map markers
- **Optional** – included templates and aides
- **Optional** – ATP 2-01.3 Intelligence Preparation of the Battlefield, Chapter 6
- **Optional** – *Worldwide Equipment Guide*

Facilitator Instructions:

- The training audience for this TDE can be a battalion commander, company commanders, staff officers, or senior non-commissioned officers in a standard combined arms or Stryker battalion.
- The training audience's BCT is currently repositioning into the area of operations with the BCT cavalry squadron screening to the east.
- The training audience can conduct individually or as a "staff" focused on reverse warfighting function IPB.

Instructions for the training audience:

Create a threat situational template and COA statement for the 803rd BTG integrated attack in 30 minutes.



An *integrated attack* is an offensive action where the OPFOR seeks military decision by destroying the enemy's will and/or ability to continue fighting through the application of combined arms effects.

Integrated attacks are characterized by–

- Not being focused solely on destruction of ground combat power but often on C2 and logistics.
- Fixing the majority of the enemy's force in place with the minimum force necessary.
- Isolating the targeted subcomponent(s) of the enemy's combat system from his main combat power.
- Using complex terrain to force the enemy to fight at a disadvantage.
- Using deception and other components of INFOWAR to degrade the enemy's situational understanding and ability to target OPFOR formations.
- Using flank attack and envelopment, particularly of enemy forces that have been fixed.

TC 7-100.2 Opposing Force Tactics

OPFOR forces task organize for purpose in order to achieve their designated function. The following are examples of possible forces a BTG commander may task organize in the offense.

- **Fixing Force** - OPFOR offensive actions are founded on the concept of fixing enemy forces so that they are not free to maneuver. The fixing force may consist of a number of units separated from each other in time and space, particularly if the enemy forces required to be fixed are likewise separated.
- **Assault Force** - At BTG level, the commander may employ one or more assault forces. This means that one or more subordinate detachments would conduct an assault to destroy an enemy force or seize a position. However, the purpose of such an assault is to create or help create the opportunity for the action force to accomplish the BTG's overall mission.
- **Security Force** - The security force conducts activities to prevent or mitigate the effects of hostile actions against the overall tactical-level command and/or its key components.
- **Support Force** - A support force provides support by fire; other combat or combat service support; or C2 functions for other parts of the tactical group.
- **Exploitation Force** - In most types of offensive action at tactical group level, an exploitation force is assigned the task of achieving the objective of the mission. It typically exploits a window of opportunity created by an enabling force. In some situations, the exploitation force could engage the ultimate objective with fires only.
- **Strike Force** - A strike is an offensive COA that rapidly destroys a key enemy organization through a synergistic combination of massed precision fires and maneuver. The primary objective of a strike is the enemy's will and ability to fight.
- **Mission Force** - In those non-strike offensive actions where the mission can be accomplished without the creation of a specific window of opportunity, the set of capabilities that accomplish the mission are collectively known as a mission force. However, the tactical group commander may give a mission force a more specific designation that identifies its specific function.
- **Reserve Force** - OPFOR offensive reserve formations will be given priorities in terms of whether the staff thinks it most likely that they will act as a particular type of enabling or action force. The size and composition of an offensive reserve are entirely situation-dependent.

TC 7-100.2 Opposing Force Tactics

Facilitator Guided Questions/Discussion Topics: Step 2 Determine likely enemy course of action

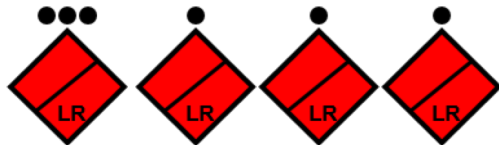
The following questions are designed for the facilitator to generate discuss based on training audience's COA statement and SITTEMP.

- What is the enemy's mission?
- What are the enemy's immediate, subsequent, and final objectives?
- What is the enemy's end state?
- How is the enemy BTG task organized in this COA and why?
- What specific capabilities do you anticipate being employed; when and where?
- Where is the enemy vulnerable in this COA and how are those vulnerabilities mitigated.
- What decision points have you identified for the enemy commander?
- If this COA fails what are the subsequent options available to the enemy commander?
- Where is enemy line of departure, objectives, and left and right boundaries?
- What attack routes are available for the enemy to use to conduct its attack and secure its immediate and subsequent objectives?
- Where is the point of penetration?
- How will the enemy employ ground reconnaissance assets from the line of departure along attack routes to the immediate and subsequent objectives?
- Where are the initial and subsequent field artillery firing positions the enemy will use to support the attack?
- What are the potential locations the enemy may employ special munitions to isolate part of the friendly defense; delaying reorientation of the defense or the use of counterattack forces?
- What are the air AAs that enable the enemy's use of close air support on immediate and subsequent objectives?
- Describe the enemy movement formations, when they change, and the attack timeline.
- Where are enemy commander's decision points, what are the conditions (friendly and enemy) that will trigger these decisions?
- How and where will the enemy employ their EW assets?
- How and where will the enemy employ their UAS assets?

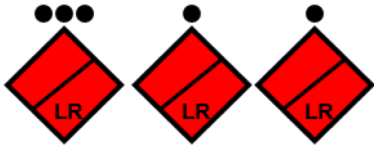
Recommendations and TTPS

- Don't develop an enemy COA that fits your plan for the defense. Pickup the red pen first determine how the enemy will attack and then determine how to beat them.
- Be detailed to two levels down; brigades template companies, battalions template platoons, and so on. A series of company or battalion level icons on a battalion SITTEMP ignores a lot of detail and risks mission failure.
- A method to show how the enemy will attack is to template formations either as they enter the engagement area or at various stages of their operation.
- The Threat task organizes for purpose, even more so than the US Army. Determine what capabilities the threat needs to accomplish the mission and determine the task organization required.
- Have a method to show the enemy in time and space throughout their attack.
 - One method is to apply time phase lines to the template, but this may become overly complex over a long period of time.
 - A second method is multiple overlays that provide greater detail, but only depict the enemy in specific moments or phases.
- Maximum engagement lines for weapon systems are incredibly useful to determining the friendly COA, but don't forget to template to the right echelon and that the enemy can and will maneuver throughout the defense, maximum engagement lines are not static.
- Utilizing standard sized drops for analog overlays helps with graphic production, dissemination, and display.
- JCR has limited functionality to provide crews and leaders a clear understanding of the developed concept. Figure out in advanced how you will provide the enemy SITTEMP to the lowest level.

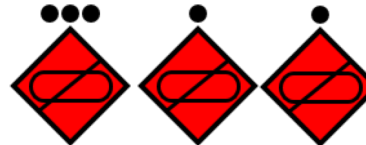
803rd Recon Company
1x BRN-3K



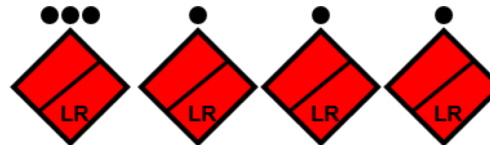
Long Range Recon PLT
4x BRDM-2 (HOT)



Long Range Sensor PLT
2x HJ 62C
1x BMP-1 KSH

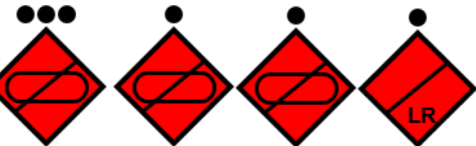


Recon PLT
2x BMP-2
1x BRM 3K

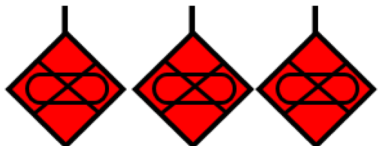


HM Recon PLT
3x GAZ 2330 TIGR
3x GAZ .5T
3x Motorcycle

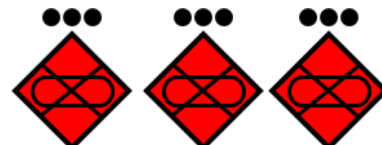
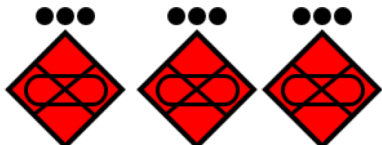
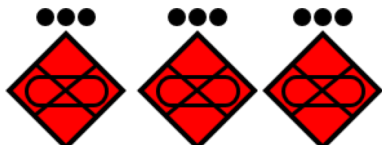
8031, 8032, and 8033 Mech Battalions
1x BMP-2



Recon PLT
2x BMP-2
1x GAZ 233- TIGR
1x GAZ.5T
1x Motorcycle
1x BRM-3K
1x SKYLARK UAS

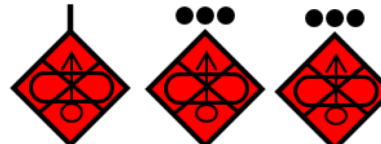


MECH CO(x3)
1x BMP-2
9x BMP-2

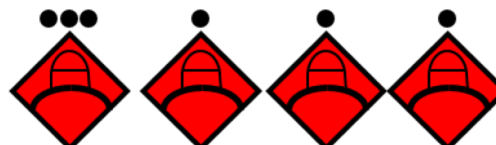


WPNS PLT
3x BMP-2

WPNS PLT



FA BTY
6x 2S9
2x Observer Teams

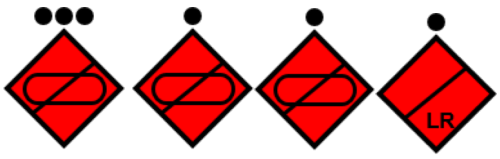


SAM PLT
3x BMP-2
3x SA18

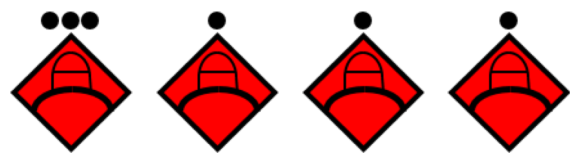
803rd Tank Battalion
1x T-90A



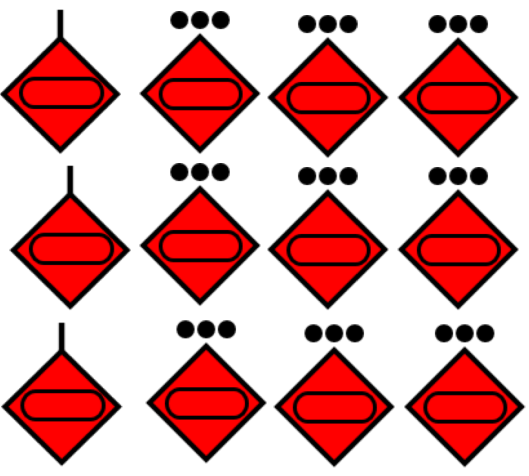
Recon PLT
2x BMP-2
1x GAZ 233- TIGR
1x GAZ.5T
1x Motorcycle
1x BRM-3K



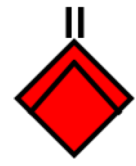
SAM PLT
3x BMP-2
3x SA18



TNK CO(x3)
1x T-90A
9x T90A



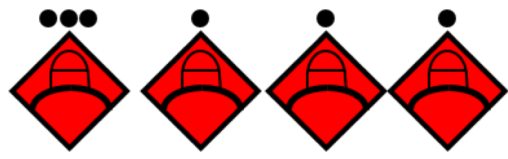
803rd AT Battalion



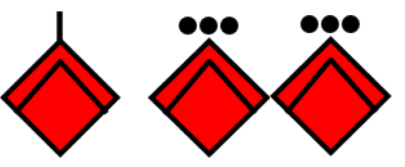
AT GUN Battery
1x BMP-2
6x 2A45M
6x MTLB
1x PRP-4A ARGUS

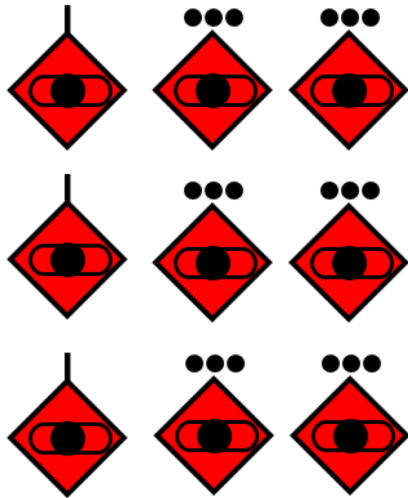


SAM PLT
3x BMP-2
3x SA18

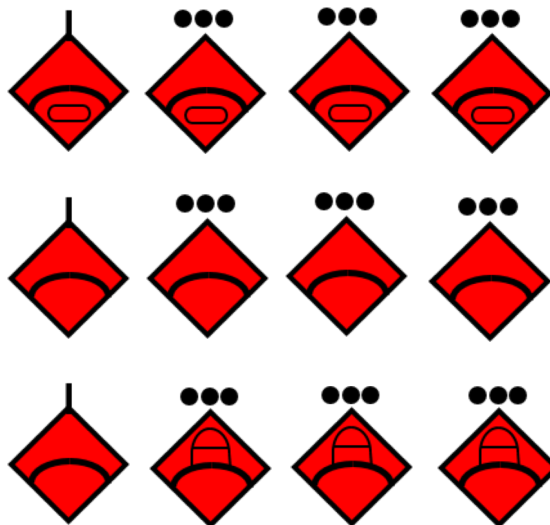


ATGM Battery
6x BMP3 w/AT14
1x PRP-4A ARGUS





FA Battery (x3)
6x 2S19
3x Observer Teams



AA Battery
3x 2S6M
1x DOG EAR RADAR

SAM Battery
3x Crotale Launchers
3x Crotale Radar
1x DOG EAR RADAR

MANPAD Battery
9x BMP-2
9x SA18
1x DOG EAR RADAR



Combat Engineer Platoon
3x BMP-2



Mine Warfare PLT
Mine Laying Squad

1x GMZ-3
1x PMZ-4
1x UMZ

Mine Clearing Squad

1x IMR-2
1x UR77

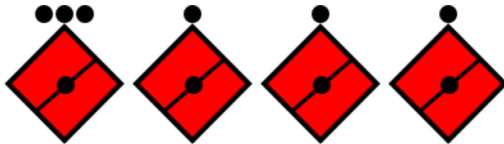


Bridge PLT
1x MTU-72
1x MT-55A AVLB

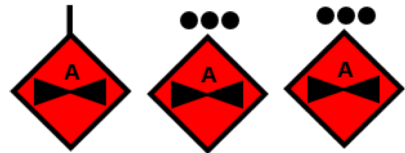


Engineer Recon Team
IRM Recon Vehicle

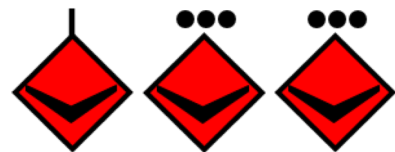
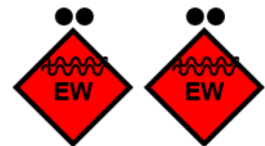
803rd Sniper PLT



1st Troop, 821st Attack Battalion
4x MI35 HIND E



1st CO Electronic War (Attack), 879th EW BN (-)
1x KAMAZ R330 HF VHF UHF Jammer
1x KAMAZ SPN5 GPS Jamming System



1st UAV CO 880th UAV BN
1x S100 UAS
1x ASN 207 UAS

Engagement Area Development

Step 3:

Determine where to kill the enemy.
Plan and integrate obstacles.
Emplace weapon systems.
Plan and integrate indirect fire.

Situation:

The 80th Division Tactical Group will conduct an integrated attack in order to gain control of key terrain to the west within the next 36 to 72 hours. Intelligence indicates that the 803rd BCT, expected to attack in our sector, has been reinforced with one troop of attack aviation, a UAS company, and electronic warfare assets for this operation. The BCT S2 assess the 803rd BTG will mass all available combat power against individual BNs in order to achieve a penetration.

The BCT will conduct an area defense NLT 36 hours from now in order to deny the 803rd BTG key terrain. Our BN, the BCT initial main effort will conduct an area defense from PL PURPLE to PL BLUE IOT turn the 803rd BTG into the 2nd BN to our south conducting an area defense as well. On order, we will pass the CAV SQDN and 3rd BN through our BPs to conduct a counter-attack to destroy remnants of the 803rd BTG.

Given:

- Included maps and imagery
- Avenue of Approach overlay from Step 1
- Enemy COA sketch and statement from Step 2
- Blank overlays and map markers
- **Optional** – ATP 3-90.5 Combined Arms Battalion
- **Optional** – ATP 3-90.9 Combined Arms Countermobility Operations
- **Optional** – ATP 3.09.42 Fire Support for the Brigade Combat Team
- **Optional** – additional maps or imagery software

Facilitator Instructions:

- The training audience for this TDE can be a battalion commander, company commanders, staff officers, or senior non-commissioned officers in a standard combined arms or Stryker battalion.
- The training audience's BCT is currently repositioning into the area of operations with the BCT cavalry squadron screening to the east.

Instructions for the training audience:

Determine where you will kill the enemy between PL PURPLE and PL BLUE and build your defense.
Be prepared to brief your plan in 30 minutes.

Changes to situation:

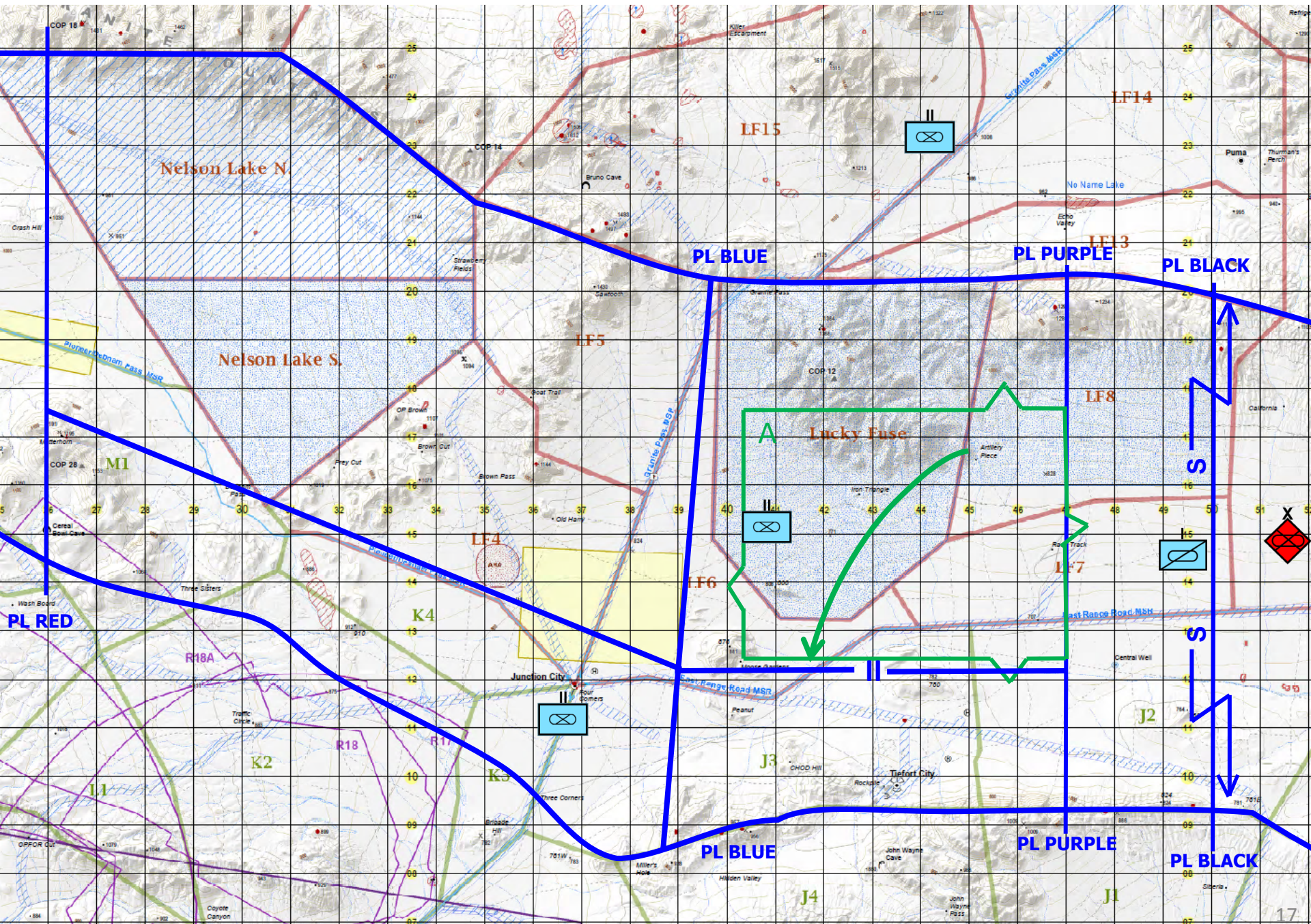
Your BN has been reinforced with an additional tank company.

BCT has directed a turning obstacle belt (BELT A) and allocated :2,500 meters of AVD and 2,500 meters of TSC

BCT has authorized two 400x400 volcano (4 hour limit) minefields and is awaiting your recommendations

You are the BCT Main Effort and you have been allocated 2 batteries to provide up to 6 priority targets, 1 FPF (FA), 1 smoke target, 2 BN Mortar

Priority targets, and 1 Mortar FPF.



Facilitator Guided Questions/Discussion Topics: Step 3 Engagement Area Development

The following questions are designed for the facilitator to generate discuss based on training audience's EA Development.

- Where did you place TRPs that match the enemy's scheme of maneuver and detects where enemy force can be engaged throughout the depth of the sector?
- How many weapon systems are focusing fires on each TRP to achieve the desired end state (effect)?
- Which platoons will mass fires on each TRP?
- Where did you establish EAs around TRPs?
- What other direct fire planning measures are necessary to focus fires at each TRP?
- Where are the primary, alternate, and supplementary positions to achieve the desired effects for each TRP?
- What obstacle groups did your direct or design to achieve the turn effect?
- How do fires, indirect fires, and the obstacle combine to achieve the desired effect?
- What is the task and purpose of your indirect fires?
- What is your observation plan?
- What are the triggers for your fires? Technical and tactical?
- Where did you plan FPFs?
- Where are your fires in front, on, and behind the battle positions? What is the task and purpose?
- Did you plan any critical friendly zones or no-fire areas?
- How will you trap and destroy the enemy in your engagement areas?
- What made you pick these specific engagement areas?
- Did you identify a reserve and if so what are the planning priorities? If not, what risks do you foresee and how will you mitigate it?
- Where will you place mission command nodes?
- How will you array your logistics?
- How will you:
 - Gain and maintain contact
 - Disrupt the enemy
 - Fix and destroy the enemy
 - Did you think about follow through? How will you counter-attack

Recommendations and TTPS

- Battalions attack and then they defend. A routine observation is that units are “surprised” and precious time is lost when directed to defend. Once an attack is successful or culminates the BN will defend. Plan early for the defense. It is far easier to transition from a hasty defense to a deliberate defense than from an attack into a deliberate defense.
- MDMP and EA DEV are iterative and interwoven. The CDR and staff must put the details in the defensive plan by allocating resources, setting priorities, and integrating warfighting functions. The EAs may shift, but think through the critical aspects early.
- Blend the terrain, obstacle effects, enemy reactions, and fires together to maximize results.
- Maneuver leaders do not understand counter-mobility and often delegate responsibility away. Home-station training must focus on helping leaders to understand the effects of and building of obstacle arrays.
- Obstacle belts need not be one single obstacle. Utilize different obstacle groups to achieve the desired effect.
- Assign one or two obstacle groups per company at the BN level.
- EA DEV is not a stand-alone process divorced from MDMP. MDMP and EA DEV are iterative and support each other.
 - Get the IPB complete early (Steps 1 and 2).
 - Determine where in the EA you are going to engage the enemy.
 - Mark the TRPs you will use to mass and control fires.
 - Plan obstacles and fires to achieve the desired effect.
 - Plan control measures and direct fire guidance to mass appropriately.

Combine Arms Battalion
Engagement Area Development
Teach Slides



Panther Team

Operations Group

National Training Center

The *area defense* is a defensive task that concentrates on denying enemy forces access to designated terrain for a specific time rather than destroying the enemy outright. (ADRP 3-90)

Outright destruction of the enemy may not be a criterion for success. The focus is on retaining terrain where the bulk of the defending force positions itself in mutually supporting positions and controlling the terrain between positions. The defeat mechanism is fires into EAs, which reserve units can supplement. The commander uses his reserve force to reinforce fires, add depth, block penetrations, restore positions, or counterattack to destroy enemy forces and seize the initiative.

Units conduct area defenses when—

- The mission requires holding certain terrain for a specific period of time.
- There is enough time to organize the position.
- The CAB has less mobility than the enemy does.
- The terrain limits counterattacks to a few probable employment options.
- The terrain affords natural lines of resistance, and limits the enemy to a few well-defined avenues of approach, thereby restricting the enemy's maneuver.

ATP 3-90.5

A *defense in depth* is normally the commander's preferred option. Forces defending in depth absorb the momentum of the enemy's attack by forcing the enemy to attack repeatedly through mutually supporting positions in depth. Depth gives the commander's fire support assets time to generate devastating effects and affords the defending commander multiple opportunities to concentrate the effects of overwhelming combat power against the attacking enemy. This provides more reaction time for the defending force to appropriately respond to the attack. The commander continues to gather additional information about the attacking enemy's intentions and capabilities between the time combat starts and the time the enemy commits to a COA. This reduces the risk of the enemy force quickly penetrating the main line of defense along an unexpected direction.

While defending in depth, the CAB plan and prepare primary, alternate, supplementary, and subsequent fighting positions. As the attacking enemy force attempts to create a penetration, the CAB's companies hold and or shift from one position to the next coordinating the combined effects of direct and indirect fire keeping continuous pressure on the advancing enemy. The mobility, firepower, and protection of the tanks and fighting vehicles in the company teams enable the option of using a more dynamic rather than purely static defense. Commanders continuously look for opportunity to conduct local counterattacks to destroy an enemy and seize the initiative.

The commander usually decides to conduct a defense in depth when—

- The mission is not restrictive and allows the commander to fight throughout the depth of the battlefield.
- The terrain does not favor a defense well forward, and there is better defensible terrain deeper within the AO.
- The AO is deep compared to its width, and there is significant depth available.
- The cover and concealment on or near the forward edge of the battle area (FEBA) is limited.
- The enemy has several times the combat power of the defender.

ATP 3-90.5

Avenues of Approach

AAs are air or ground routes comprised of a series of mobility corridors. AAs are used by an attacking force to reach its objective or to key terrain in its path. An AA must provide ease of movement and enough width for dispersion of a force large enough to significantly affect the outcome of the operation. The identification of AAs is important because:

1. All COAs that involve maneuver depend on available AAs.
2. Identification of AAs inform the commander and his staff on COA available to the enemy and limitations to the enemy's offensive capabilities.
3. AAs identify where friendly reserves can maneuver and potential locations for their commitment against the enemy.
4. In the defense BPs and defensive systems are oriented toward AAs, not the engagement area. EAs and sectors of fire are tools to optimize the effects of fires, not to restrict fires or cause operations to become static or fixed.

Mobility corridors are areas that are relatively free of obstacles where a force will be canalized due to terrain restrictions allowing military forces to capitalize on the principles of mass and speed (JP 2-01.3). Mobility corridors are classed based on the distance between the terrain features that form the corridor. Mobility corridor ranges are not absolute but reflect the relative and approximate distance between terrain features. The table below identifies these classifications.

Avenue of Approach	Cross-country mobility corridor classification	Approximate distance between terrain features (in kilometers)
Division	Brigade/Regiment	10
Brigade/Regiment	Brigade/Regiment	6
Battalion	Company	2

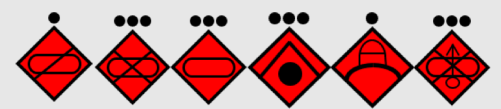
Task and Purpose

Designation

Task Organization

Fix enemy vicinity of Debnam Pass
IOT prevent displacement

Fixing Force 1



Overlays Depicting the Enemy in Offensive Tasks

Step 1 – Draw the enemy line of departure.

Step 2 – Draw the enemy's intermediate and subsequent objectives as identified in the enemy COA statement.

Step 3 – Draw the enemy left and right boundaries.

Step 4 – Draw all available attack routes the enemy may use to conduct its attack and secure its immediate and subsequent objectives.

Step 5 – Template the point of penetration.

Step 6 – Template the locations of enemy ground reconnaissance assets from the line of departure along attack routes to the immediate and subsequent objectives.

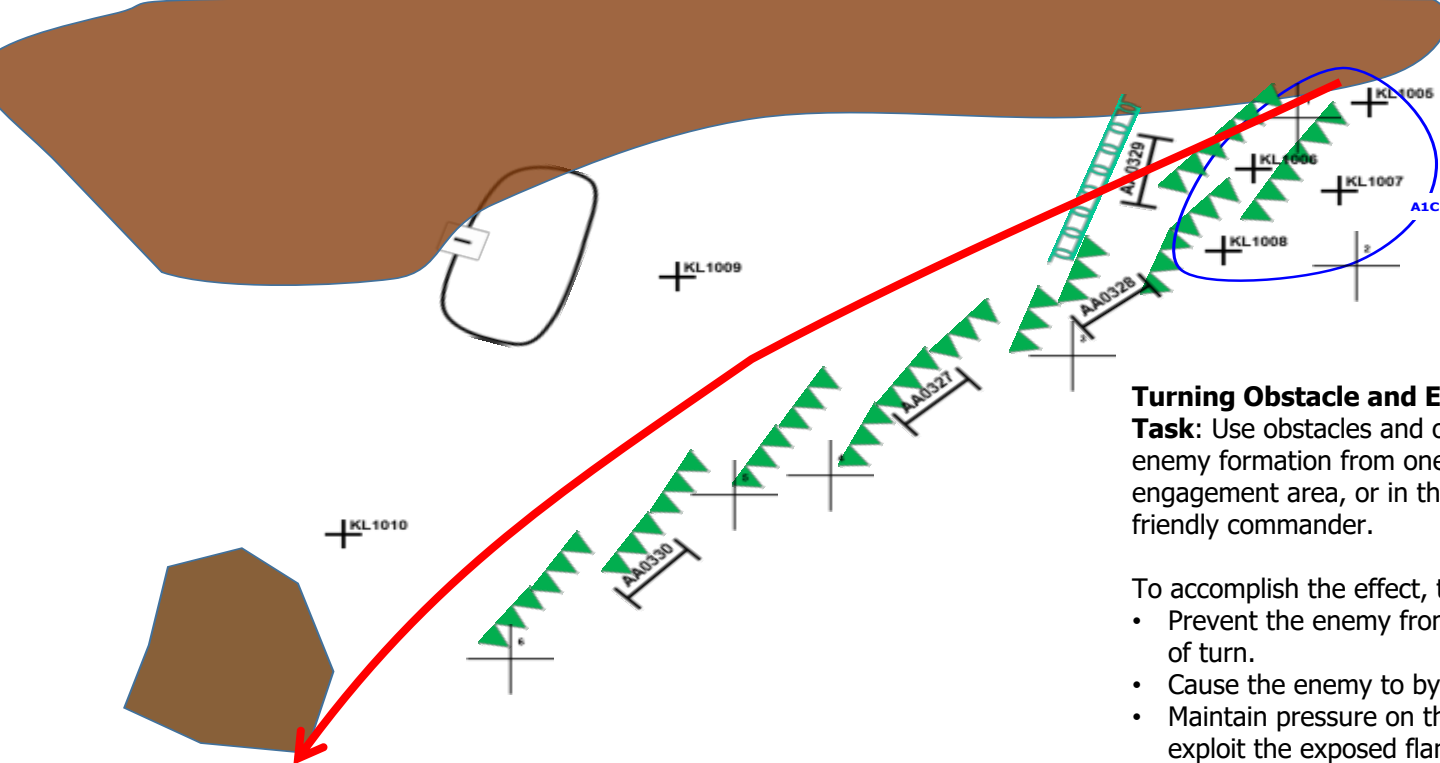
Step 7 – Template the initial and subsequent field artillery firing positions the enemy will use to support the attack.

Step 8 – Template potential locations the enemy may employ special munitions to isolate part of the friendly defense; delaying reorientation of the defense or the use of counterattack forces.

Step 9 – Template Air AAs that enable the enemy's use of close air support on intermediate and subsequent objectives.

Step 10 – Template enemy movement formations and attack timeline.

Step 11 – Label enemy commander's decision points.



Turning Obstacle and Effect

Task: Use obstacles and overwhelming fire power to divert an enemy formation from one AA to an adjacent AA, into an engagement area, or in the direction that is desired by the friendly commander.

To accomplish the effect, the obstacle and fires must –

- Prevent the enemy from bypassing or breaching at the start of turn.
- Cause the enemy to by-pass in the desired direction.
- Maintain pressure on the enemy throughout the turn and exploit the exposed flank.
- Maintain loose TRP orientated fires by platoon to maintain pressure.

Direct Fires

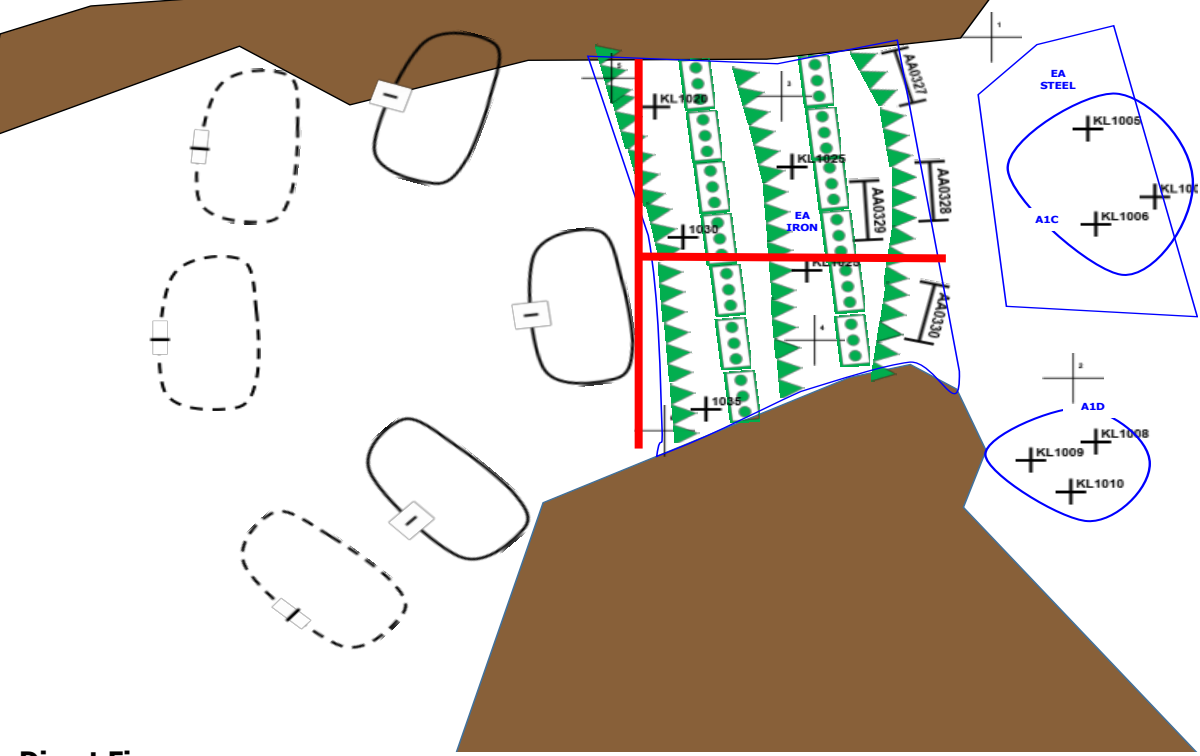
- Designate breaching assets as priority targets.
- Initially mass direct, with indirect, fires at the obstacle anchor to deter breaching.
- Shift direct fires in unison with indirect fires as the enemy turns.

Indirect Fires

- Plan destruction target or group at the anchor point.
- Plan neutralization fires along the length of the obstacle to discourage breaching.
- Plan targets in front of, on top of, to the side of, and behind the obstacle to maximize effectiveness.
- Register all targets.
- Deliberately determine the tactical and technical triggers.

Obstacle

- Thickest obstacle density is at the anchor.
- Be subtle, the enemy must not know he's being turned.
- Divert in small steps and allow the enemy to move in a direction close to the enemy's desired direction of maneuver.
- Leave an open route that seems to meet the enemy's requirements.



Direct Fires

- Engagement area must cover the entire AA.
- Mass interlocking fires across the entire AA.
- Maximize stand-off.
- Array weapons in depth based on maximum range.
- Depth of EA = max range – stand-off distance.
- Mass quick volleys of direct and indirect fires to defeat lead forces.

Indirect Fires

- Plan destruction targets on block obstacles to destroy breaching vehicles.
- Plan destruction targets or groups beyond the obstacle to destroy stopped vehicles.
- High volume of fire on targets.

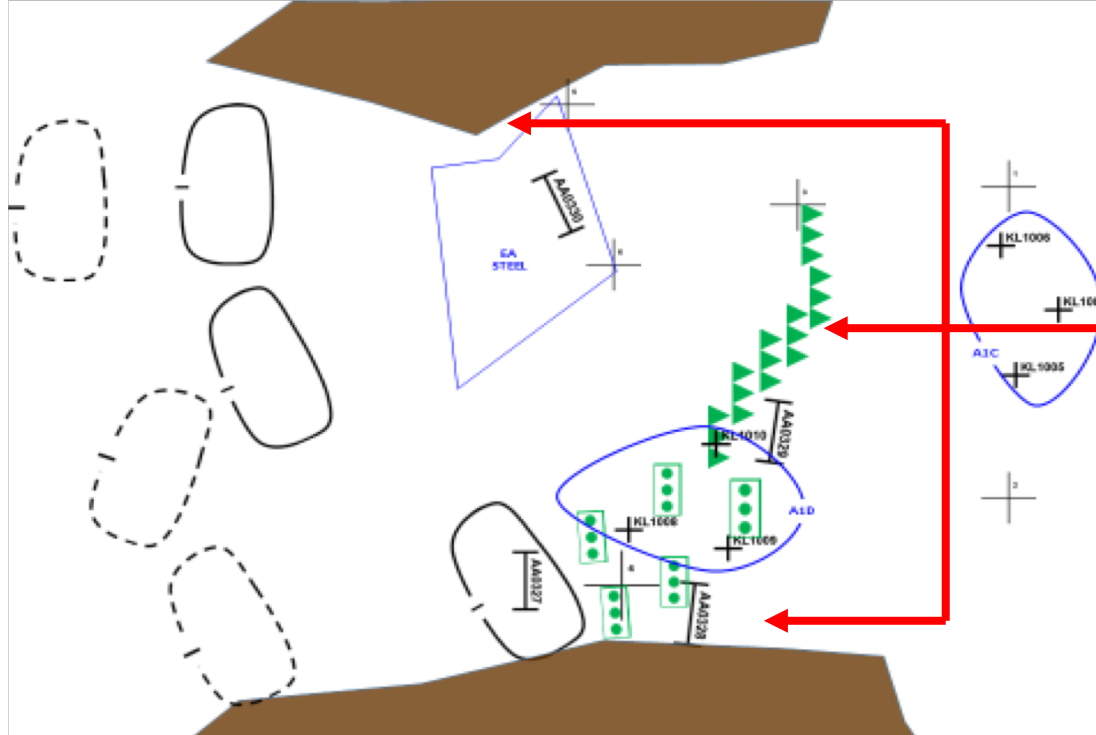
Obstacle

- Most resource intensive obstacle and usually reserved for the critical point on the battlefield.
- Concentrated in successive layers across a shallow depth.
- Span the entire AA with no by-pass.
- Layered so that any single lane requires multiple reduction techniques.
- Minefield arrays must be deep enough to prevent repeated bull through attempts.

Block Obstacle and Effect

Task: Integrate fire planning and obstacle efforts to stop an attacker along a specific avenue of approach, to prevent the attacking force from passing through an engagement area, limit a penetration, to stall an attack (setting a counterattack), or to protect key terrain that must be retained. **Success is defined by the impact on the enemy advance, not by enemy losses. Inability to breach and reduction asset losses should make the attacker reconsider commitment of follow-on forces.** To accomplish the block effect, the obstacles and fires must—

- Prevent the enemy from bypassing or breaching the obstacles.
- Maximize available standoff.
- Stop enemy forward movement.



Disrupt Obstacle and Effect

Task: Focus fire planning and obstacle effect to cause the enemy to break up its formation and tempo, interrupt its timetable, commit breaching assets prematurely, and attack in piecemeal fashion. The disrupt effect also helps to deceive the enemy concerning the location of friendly defensive positions, separate combat echelons, or separate combat forces from their logistics support.

Obstacles and fires must

- Cause the enemy to deploy early.
- Slow & disrupt part of the enemy force.
- Break-up formations and tempo.
- Allow part of the enemy forces to advance unimpeded.
- Interrupt the enemy synchronization.
- Make the enemy piecemeal his attack.
- Force the enemy commander to commit breaching assets prematurely.

Indirect and direct fires are used to force the enemy from march to pre-battle or attack formations, resulting in reduced speed and increased time to engage the enemy prior to the engagement area.

Use electronic warfare, obscuration, and indirect fires to disrupt the decision making cycle of the enemy and increase the window of opportunity to attack the unimpeded part of the enemy's formation.

Direct Fires

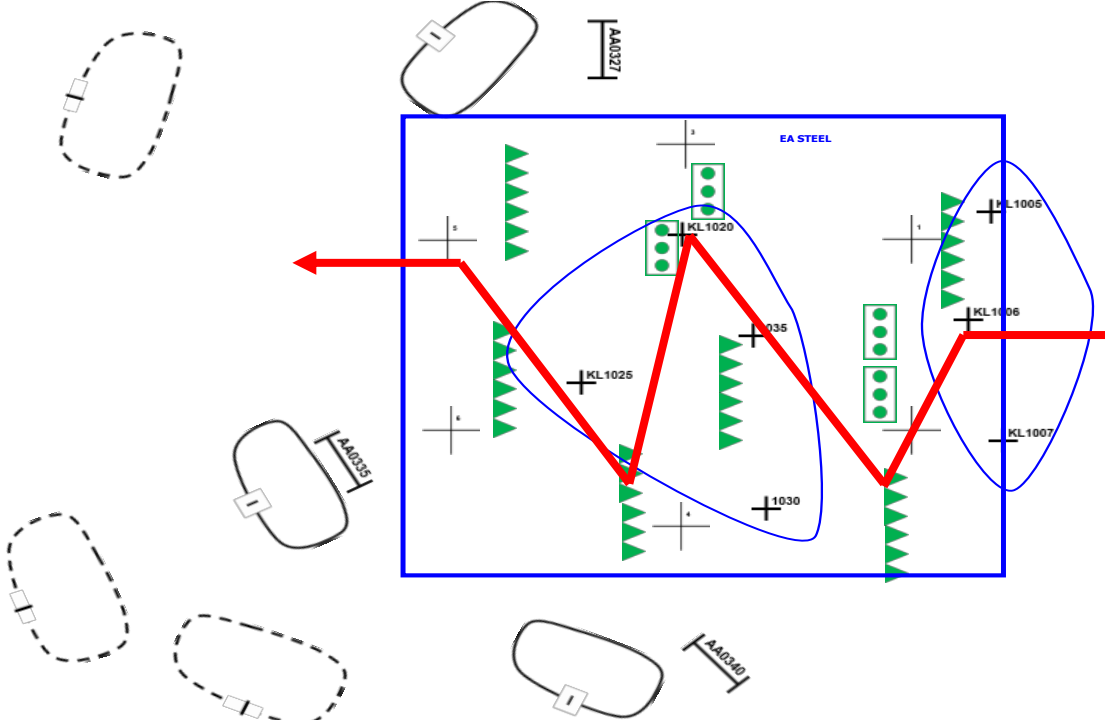
- Once the unimpeded formation separates from its parent formation TRPs are used to mass direct fires against the portion of the enemy formation that is not impeded by obstacles and indirect fire.
- Plan fire control measures that allow for the shift of direct or indirect fires to the enemy that are slowed by the obstacle if the enemy begins to breach or by-pass.
- If the enemy is breaching rapidly, shift direct fires against the enemy breach assets.
- If larger than expected force follows the by-pass, shift all fires against the unimpeded force to inflict maximum losses.
- Plan disengagement criteria to facilitate occupation of subsequent and alternate positions

Indirect Fires

- Plan destruction and neutralization targets or groups in obstacles.
- Plan indirect fires with the obstacles to slow the enemy that makes contact with the obstacles.
- Fires alone will not disrupt the enemy.

Obstacle

- Obstacle must attack half of the targeted AA to achieve the disrupt effect.
- Disrupt obstacles do not require extensive resources for construction or emplacement.
- Disrupt obstacle effect usually employed forward of the EA, but does not discourage the enemy from entering the EA.
- Generally a secondary component of a larger defensive plan.



Fix Obstacle and Effect

Task: Focus fire planning and obstacle effort to slow an attacker's movement within a specified area, normally an engagement area. The fix effect allows time to acquire, target, and destroy the enemy with direct and indirect fires throughout the depth of an EA or AA. The fix effect helps fires to defeat the enemy in detail or to gain the necessary time for forces to reposition while inflicting maximum casualties.

The obstacle and fires must –

- Cause the enemy to deploy into attack formation early.
- Cause the enemy to advance slowly into the EA.
- Make the enemy fight in multiple directions within the EA.
- Generate the time necessary for the defending force to break contact and disengage as the attacking force maneuvers into the area.

Commanders specify the amount of time or effect that the combined effect of fires and obstacles must achieve.

Commander must be able to adjust intensity of fires to allow the enemy to advance slowly and then re-adjust to defeat.

Direct Fires

- Initially orient fires on the enemy force as a whole, but as the enemy advances through the EA priority shifts to breach assets.
- Direct fires increase in intensity as the enemy approaches, successive TRPs trigger engagement by additional weapons systems.
- Vary rates of fire that allow the enemy to advance until fully committed into the EA, and then complete destruction.
- Once committed direct fire plan focuses on interlocking flank fires to further disrupt command and control, reduce the ability to mass and slow the advance.
- Plan supplementary positions to reorient fires.

Indirect Fires

- Plan suppression and neutralization fires forward of the obstacles.
- Plan targets in the EA to reinforce obstacles.
- Plan targets to hold the enemy in the EA.
- Plan protective fires to deny critical mobility corridors and protect friendly flanks.

Obstacle

- Array obstacles in depth to cause the attacking formation to react and breach repeatedly.
- Obstacle array must influence the entire width of the AA, but not make the terrain impenetrable.
- Individual obstacles must look easy to bypass or reduce.
- Utilize a combination of clearly visible and unseen obstacles (reverse slope) to confuse the attacking force.
- Consider the use of protective obstacles to protect friendly BPs.
- Closer in obstacles may be a different type to contain the threat or limit his advance.

OBSTACLE INTENT

Obstacle intent describes how obstacles support the commander's concept of operations. Obstacle intent consists of the—

- (U) Target.
- (U) Effect.
- (U) Relative location.

TARGET (U)

(U) The target is the enemy force that the commander wants to affect with tactical obstacles. The commander usually identifies the target in terms of the enemy size and type, the echelon, the AA, or a combination of these things.

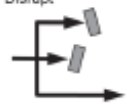

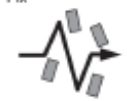

EFFECT (U)

(U) Tactical obstacles and fires—direct and indirect—manipulate the enemy in a way that supports the commander's intent and scheme of movement and maneuver/scheme of maneuver. Obstacle effect describes the effect that the commander wants the obstacles, combined with fires, to have on the enemy. The obstacle effect—

- (U) Drives integration.
- (U) Focuses subordinate fires.
- (U) Focuses obstacle effort.
- (U) Multiplies firepower effects.

(U) It is important to remember that obstacle effects occur because of the combined effects of fires and obstacles, rather than from obstacles alone. Tactical obstacles produce one of the following effects:

- (U) Disrupt.
- (U) Turn.
- (U) Fix.
- (U) Block.

Application	Description
<p>Disrupt</p> 	<p>The arrows indicate the direction of enemy advance.</p> <p>The length of the arrows indicate where the enemy is slowed or allowed to bypass.</p>
<p>Turn</p> 	<p>The heel of the arrow is the anchor point.</p> <p>The direction of the arrow indicates the desired direction of the turn.</p>
<p>Fix</p> 	<p>The arrow indicates the direction of enemy advance.</p> <p>The irregular part of the arrow indicates where enemy advance is slowed by obstacles.</p>
<p>Block</p> 	<p>The vertical line indicates the limit of enemy advance and where the obstacle ties into severely restricted terrain.</p> <p>The horizontal line shows the depth of the obstacle effort.</p>

Direction of enemy attack →

Belts and Groups

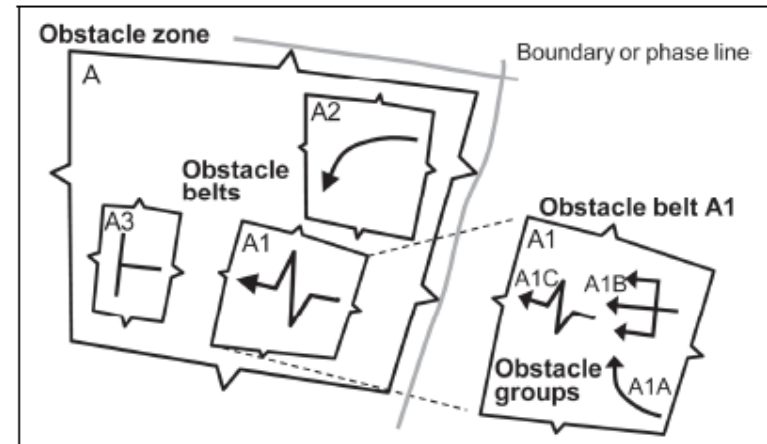
Belts:

- Used by BCT CDRs to grant obstacle emplacement authority to subordinate BN CDRs.
- Belts are placed within assigned obstacle zones to ensure obstacles do not interfere with the higher CDR's scheme of maneuver.
- Belts are planned and allocated against BTG AAs.
- Belts do not cross unit boundaries and a single unit is responsible for each belt.
- BN CDRs CANNOT plan or emplace obstacles outside the directed obstacle belts.
- Assigning obstacle intent to each belt and prioritizing belts helps the staff plan and resource obstacles and facilitates subordinate unit planning.
- Belts refine the area of emplacement but provide BN CDR latitude to develop a detailed obstacle plan based on direct fire.
- Intent is descriptive not prescriptive, assigning an effect to a belt does not dictate all obstacle groups within the belt must have the same effect, overall effect is the intent.

Obstacle Control Measure	Echelon	Specific Obstacle Effect	Size of Enemy AA/Mobility Corridor	
			Armored	Light
Zone	Division and corps	Optional; not normally used	Division/brigade	Brigade/battalion
Belt	Brigade and regiment	Optional; normally used	Brigade/battalion	Battalion/company
Group	Battalion, brigade, regiment, division, corps	Mandatory	Battalion/company	Company/platoon
Restriction	Corps, division, brigade, regiment, battalion	NA	NA	NA
Legend:				
AA	avenue of approach			
NA	not applicable			

Groups:

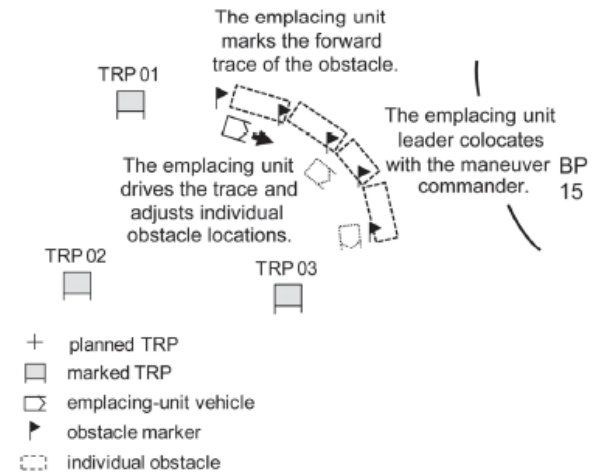
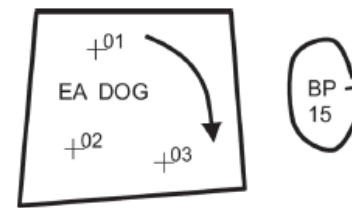
- Groups are one or more individual obstacles that are grouped together to produce a specific obstacle effect.
- Obstacle groups are normally planned by BNs along a battalion AA.
- Light Infantry BNs plan against company AAs.
- Unlike belts, groups are general locations where obstacles will be emplaced.
- BN CDRs can plan groups with different obstacle effects if the combined effect meets the belt intent/effect.
- Company teams are normally focused on one obstacle group (AA), and no more than two in order to mass fires.
- If more than two companies are assigned to cover a single group the individual responsible for establishing the EA is in charge of integrating the obstacle with fires. Normally the BN CDR or S3 play a significant role.
- Groups can be adjusted by the company team commander based on terrain to ensure direct fire integration; however significant changes require BN CDR approval.



Sighting Obstacles

Obstacle sighting confirms or modifies the exact location and design for each planned obstacle based on the actual terrain and the refinement of the observation and fire plan that occurs at the lowest level. Obstacle sighting ensures that each individual obstacle or obstacle group is—

- Properly oriented in relation to an actual mobility corridor.
- Tied into the natural restrictiveness of the terrain.
- Able to be covered by fire to achieve the desired effect.
- Positioned on suitable terrain that allows for obstacle emplacement and proper obstacle performance.
- Obstacle sighting begins once well-marked fire control measures (TRPs) and one known position per platoon (not dug in) are set.
- Sighting team requires engineer element leader, FSO, and responsible commander mark the forward trace (enemy side) of individual obstacles or groups.
- While sighting the sighting team makes the necessary adjustments to position and orientation of the obstacle based on actual terrain.
- The items used for marking the obstacle must be identifiable without compromising OPSEC.
- One vehicle per platoon (minimum) in positions maintains radio comms with sighting team and assists in placement.
- Sighting team concurrently perform other preparations to include, marking VOLCANO employment areas, routes to enter or exit emplacement sites, and layout of Class IV/V supply point.
- Once complete sighting team(s) collocates at BP and updates planning and fighting products.



Legend:

BP	battle position
EA	engagement area
TRP	target reference point

Sighting Obstacles & Rehearsals

During sighting, a simulated enemy force can be used to help participants in the BPs observe their sectors and the impact obstacles have on the enemy.

The enemy force may be directed to travel back and forth along the obstacle trace or until it encounters an obstacle to ensure they can be seen and covered by fire.

If necessary obstacle markers and TRPs are adjusted and changes noted on range cards.

FSOs should be included to confirm observer plans for indirect fires.

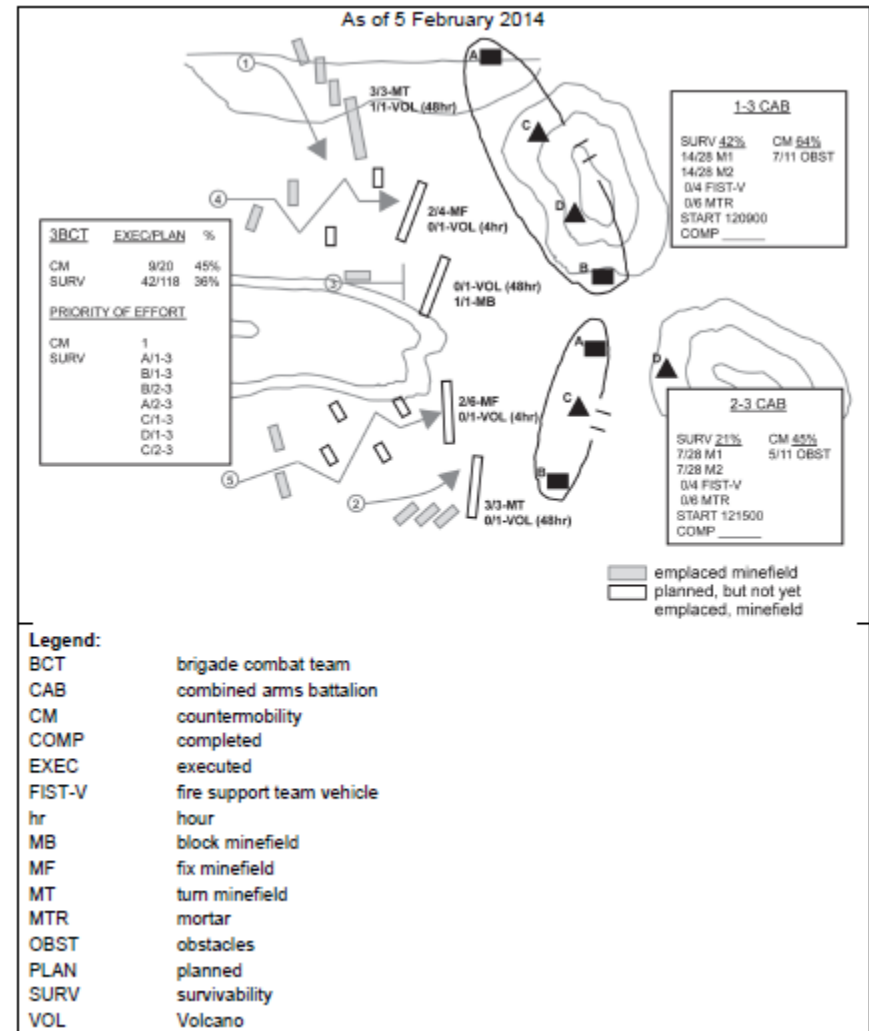
Obstacle Tracking

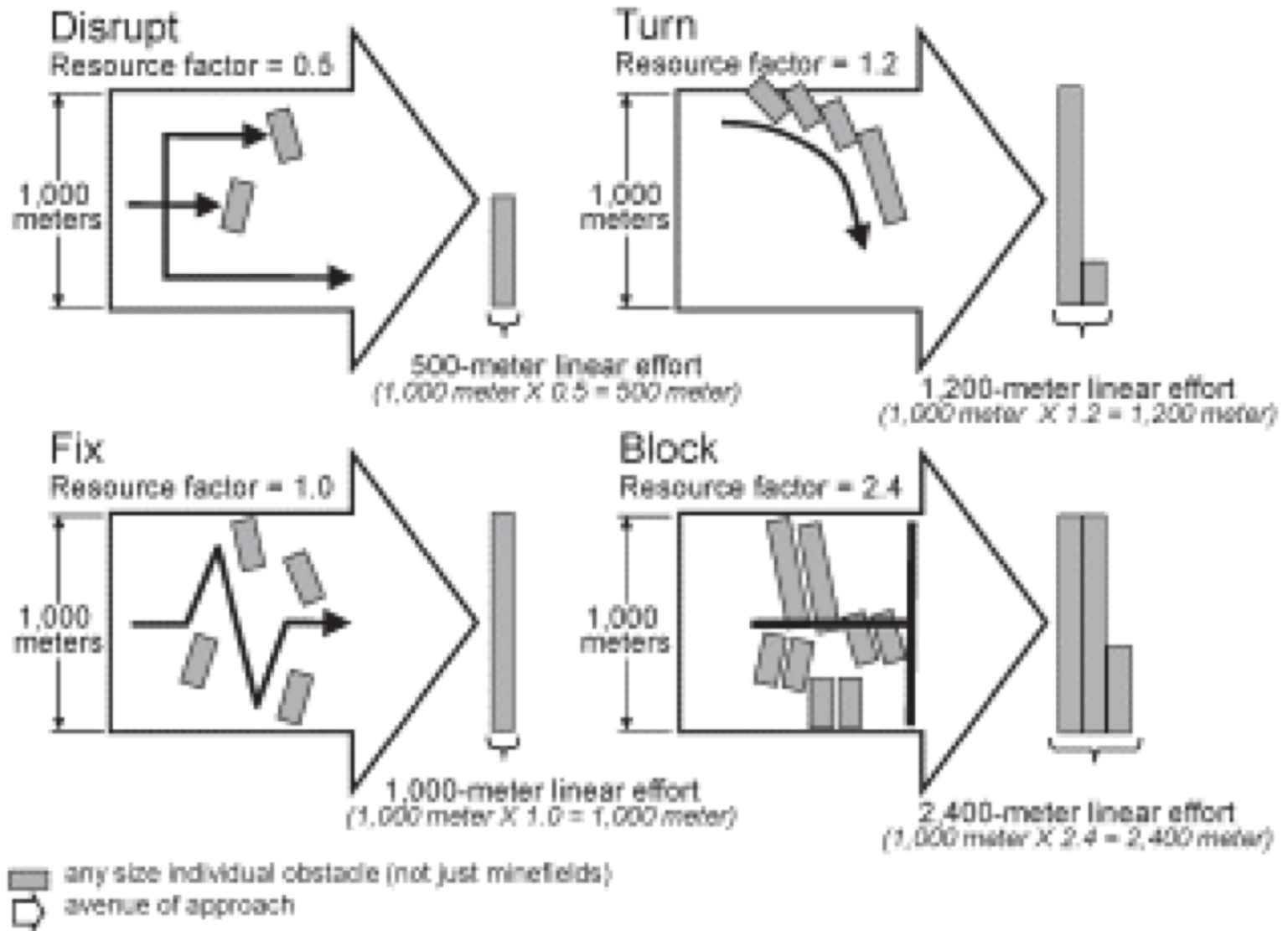
During the preparation or obstacle emplacement phase, command posts must maintain an accurate status of counter-mobility and survivability efforts.

The figure to the right, a Commander's Status card, offers one way to track critical information.

Keeping the status of the efforts current allows timely decisions to adjust the effort based on friendly and enemy criteria that was determined during the planning process.

A Decision Support Template can also be used to support these decisions by planning for adjustments that may include reallocating Class IV/V obstacle material and shifting blade assets or obstacle emplacement systems such as the Volcano or dozers.





This figure highlights the planning considerations for obstacle resource requirements. It is only a guide, Terrain, enemy characteristics, and the effectiveness of friendly weapons systems employed will impact the resource requirements.

Christmas Tree Pattern

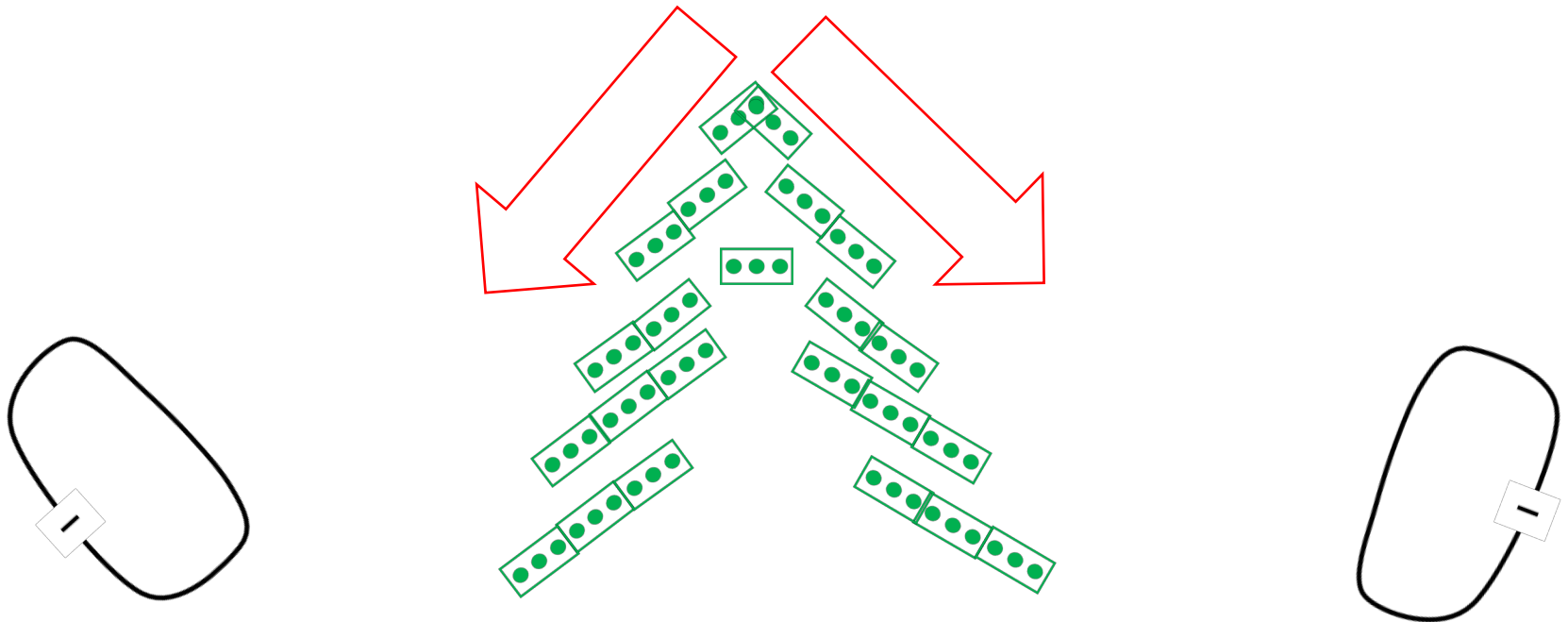
Used to split a formation by gently leading each side away from the other.

Obstacle segments are nearly parallel to the direction of attack at first.

Successive segments slant further and farther from the direction the threat wishes to travel.

Continuous travel straight into the tree is a very difficult breaching undertaking because of the overlapping depth.

This pattern is useful if the terrain opens up into a wide bowl where overwatching BPs cannot range into the center.



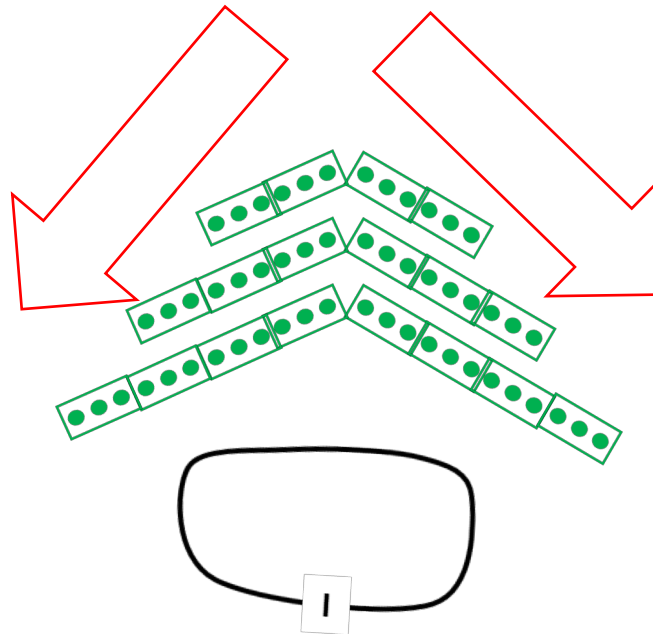
Chevron Pattern

The chevron pattern has an effect similar to the Christmas Tree pattern.

It is used to split a formation, but instead of leading or deceiving the enemy, it forces the separation.

The obstacle depth in the center makes the breaching effort difficult and then to force the attacker into easier going on the flanks.

This pattern is used to force an attacker in a wide bowl into flank EAs.

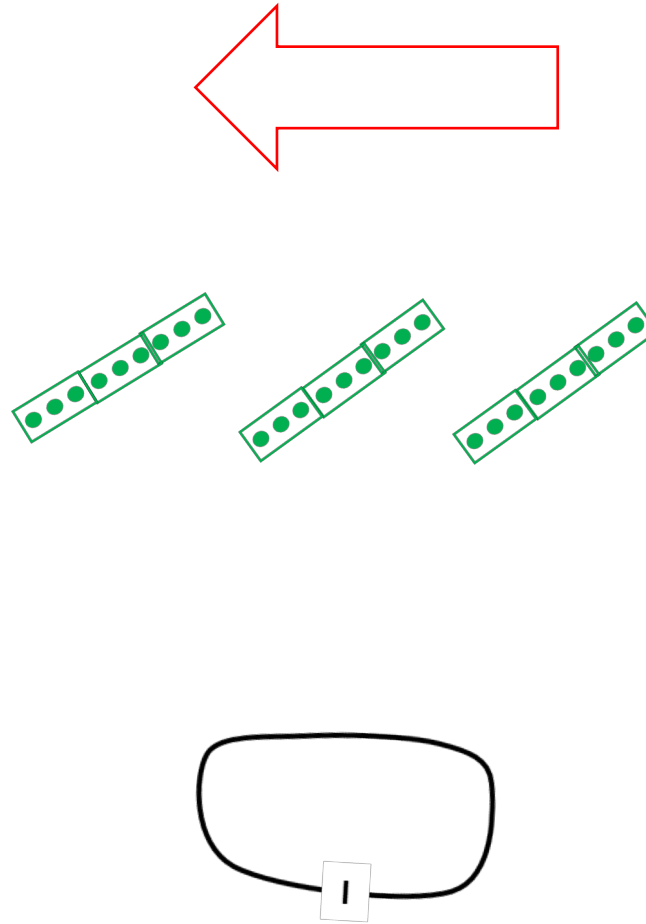


Herringbone Pattern

Overlapping angled obstacles extend into an AA.

It causes vehicles to turn, exposing their flanks for better shots, and discourages direct attack of the BP.

Lends itself to the counter-attack, since an attack into the threat rear is possible by passing between the obstacles.



Fires Distribution & Control

9-19. Fire control measures are the means by which the company commander or his subordinate leaders control direct fires. Application of these concepts, procedures, and techniques helps the unit acquire the enemy, focus fires on him, distribute the effects of the fires, and prevent fratricide. At the same time, no single measure is enough to control fires effectively. At company level, fire control measures are **effective only if the entire unit has a common understanding of what they mean and how to employ them.**

FM3-12.10 The Infantry Rifle Company

<i>Terrain-Based Fire-Control Measures</i>	<i>Threat-Based Fire-Control Measures</i>
Target reference point Engagement area Sector of fire Direction of fire Terrain-based quadrant Friendly based quadrant Maximum engagement line Restrictive fire line Final protective line	Fire patterns Target array Engagement priorities Weapons ready posture Engagement criteria Weapons control status Rules of engagement Weapons safety posture Engagement techniques

Table 9-1. Common fire-control measures.

Direct Fire Control Principles

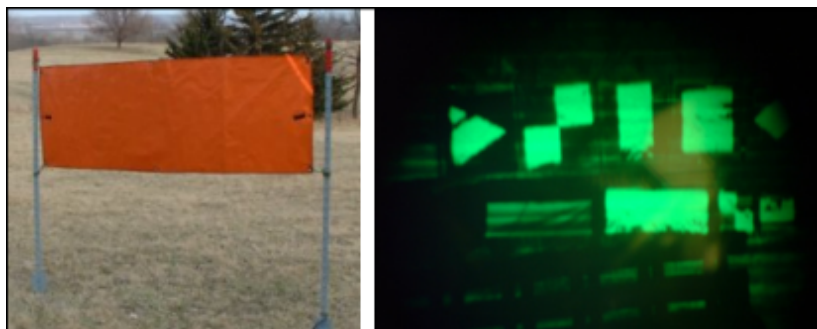
- Mass the effects of fire
- Destroy the greatest threat first
- Avoid target overkill
- Employ the best weapon for the target
- Minimize friendly exposure
- Plan and implement fratricide avoidance measures
- Plan for extreme limited visibility conditions
- Develop contingencies for diminished capabilities

Engagement Area Marking

Terrain Features	Naked Eye (Day/Night)	Thermals (All Used at Night)
Hilltops	Azimuth (degree, mil) (D/N)	Burn barrels
Roads/streets	VS-17 panel (D)	BBQ grills
Streams	Engineer tape (D)	Reverse polarity paper
Road intersections	Chem light bundle (N)	Heated ammo can
Building corners	Strobe light (N)	IR (N)
Anything easily identifiable	Illumination (D/N)	Lasers (PAQ-4, PEC-2, GCP, AIM 1)
	Pyrotechnics (D/N)	Beacon/firefly strobe
	Tracer fire (D/N)	Strobe light
	Destroyed vehicle (D/N)	

FM3-21.10- Markings for Direct Fire Controls

VS-21 Battlefield Marking Systems



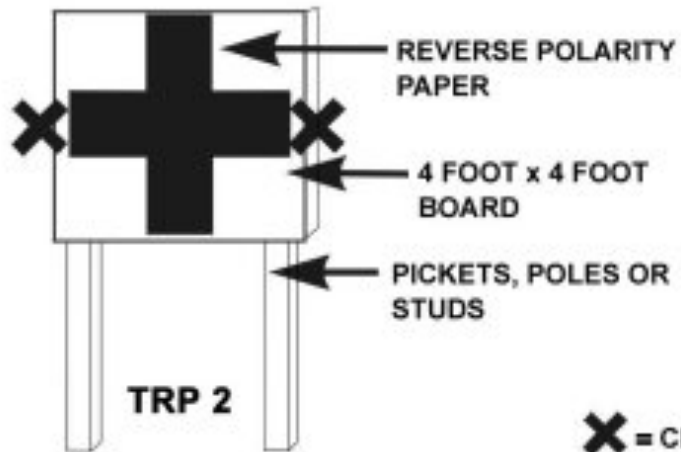
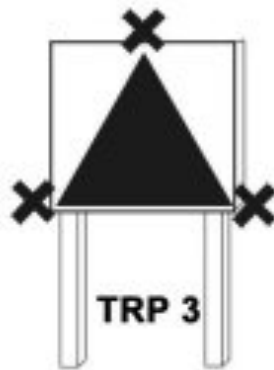
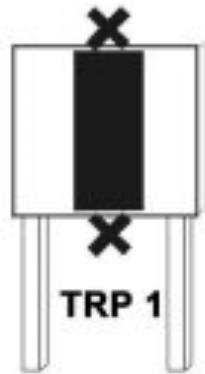
VS-21 Orange Side (all no power thermal) VS-21 through M1 Thermals (black hot): Lower center. Compare to non-thermal VS-17, lower left shadow.

Type A - Info	Type B - Info	Type C - Info	Type D
NSN 6910013887699	NSN 6910013887660	NSN 6910013887624	NSN 6910014608098
Type E	Type F	Type G	Type I
NSN 6910014608103	NSN 6910014608107	NSN 6910014608111	Not assigned

METHOD	DAY/ NIGHT	ASSETS	FRIENDLY MARKS	TARGET MARKS	REMARKS
Signal mirror	D	All	Good	N/A	Avoids compromise of friendly location. Dependent on weather and available light and may be lost in reflections from other reflective surfaces such as windshields, windows, and water.
Spotlight	N	All	Good	Marginal	Highly visible to all. Compromises friendly position and warns of fire support employment. Effectiveness is dependent upon degree of urban lighting.
IR Spotlight	N	All NVD	Good	Marginal	Visible to all with NVDs. Less likely to compromise than overt light. Effectiveness dependent upon degree of urban lighting.
Visual laser	N	All	Good	Marginal	Highly visible to all. Risk of compromise is high. Effectiveness dependent upon degree of urban lighting.
Tracers	D/N	All	N/A	Marginal	May compromise position. May be difficult to distinguish mark from other gunfire. During daytime use, may be more effective to kick up dust surrounding target.
Electronic beacon	D/N	See remarks.	Excellent	Good	Ideal friendly marking device for AC-130 and some United States Air Force fixed wing (not compatible with Navy or Marine aircraft). Least impeded by urban terrain. Can be used as a TRP for target identification. Coordination with aircrews essential to ensure equipment and training compatibility.
Strobe (overt)	N	All	Marginal	N/A	Visible by all. Effectiveness dependent upon degree of urban lighting.
Strobe (IR)	N	All NVD	Good	N/A	Visible to all NVDs. Effectiveness dependent upon degree of urban lighting. Coded strobes aid in acquisition.
Flare (overt)	D/N	All	Good	N/A	Visible by all. Easily identified by aircrew.
Flare (IR)	N	All NVD	Good	N/A	Visible to all NVDs. Easily identified by aircrew.
GLIR/IR panel	N	All NVD	Good	N/A	Not readily detectable by enemy. Very effective except in highly lit areas.
Combat identification panel	D/N	All FLIR	Good	N/A	Provides temperature contrast on vehicles or building. May be obscured by urban terrain.
VS-17 panel	D	All	Marginal	N/A	Only visible during daylight. Easily obscured by structures.
Chemical heat sources	D/N	All FLIR	Poor	N/A	Easily masked by urban structures and lost in thermal clutter. Difficult to acquire, can be effective when used to contrast cold background or when aircraft knows general location.
Spinning chem light (overt)	N	All	Marginal	N/A	Provides unique signature. May be obscured by structures. Effectiveness dependent upon degree of urban lighting.
Spinning chem light (IR)	N	All NVD	Marginal	N/A	Provides unique signature. May be obscured by structures. Effectiveness dependent upon

FM3-21.8- Friendly Marking Systems

TRP Options



AMMUNITION CAN FILLED WITH OIL AND DIESEL FUEL (AIR HOLES CUT IN CAN TO VENT).

MEDICAL HEAT PAD AND IR MARKING DEVICE SUCH AS CHEM LIGHT, PHOENIX OR BLACK LIGHT TUBE.

