SLC SOP

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Role of the Scout Platoon

- The scout platoon's mission is to conduct reconnaissance and security operations to answer the commander's information requirements and provide early warning to the protected force.
- Specifically, it conducts tasks to satisfy the commander's critical information requirements (CCIRs) before the latest time information is of value (LTIOV) expires.
- Commanders specifically assign the scout platoon missions for any given operation based on known and projected friendly operations, the range of threats, and their understanding of potential areas of operations (AO). Scouts then confirm or deny commanders' assumptions.
- Scout platoons conduct reconnaissance and security missions in close contact with enemy organizations and civilian populations to allow maneuver commanders to make informed decisions that seize, retain, and exploit the initiative and obtain a position of relative advantage.
- The execution of reconnaissance and security missions provides supported units information, time, and space to adjust to the changing situation, react to opportunities and danger, and enable commanders to transition to future operations.

Commander's Reconnaissance Guidance

- Commanders provide clear reconnaissance guidance that offers both freedom of action to develop the situation as well as adequate direction to ensure that their organic Cavalry organization can accomplish stated reconnaissance objectives within the required timeline. The commander's reconnaissance and security planning guidance provides a clear understanding of the Cavalry organization's task, purpose, and objective. Reconnaissance and security guidance explains focus, level of detail required, levels of covertness, and guidelines for engagement, disengagement, and displacement of the organization.
- The commander's reconnaissance guidance (CRG) enables disciplined initiative and enables the Scout Platoon and subordinate elements to act. The Scout Platoon Leader must take the CRG issued at the Troop OPORD and break down that guidance to their individual sections and squads.
- Focus defines the Scout Platoon's area of emphasis and can consist of one of four categories (threat, infrastructure, terrain and weather effects, and society). Providing focus enables the Scout Platoon to develop their scheme of maneuver and operate within the higher commander's information needs. An example of focus would be in an ABCT Cavalry Squadron conducting a zone reconnaissance, the lead Platoon is threat focused in order to provide freedom of maneuver for the trail Platoon that is terrain focused.
- The reconnaissance focus must be further refined by the Commander in to Reconnaissance Objectives. A Reconnaissance Objective is a terrain feature, geographic area, or an enemy force about which the commander wants to obtain additional information. The Reconnaissance Objective must directly support the end state defined in the Commander's Intent.
- Tempo of Reconnaissance refers to the level of detail and the level of covertness required by the Scout Platoon to best accomplish their mission. Tempo is described by four terms; rapid, deliberate, stealthy, and forceful. Rapid and Deliberate are levels of detail and are mutually exclusive, meaning a Scout Platoon cannot be rapid and deliberate at the same time. Stealthy and forceful are mutually exclusive levels of covertness, meaning a Scout Platoon cannot be stealthy and forceful at the same time. NOTE: The Tempo of a Reconnaissance operation can change by phase. The Tempo issued in the OPORD covers the breadth of the mission and not necessarily every part of the operation. When the Scout Platoon leader issues his Reconnaissance guidance, the tempo is always issued as two words. There the four distinct terms associated with reconnaissance tempo comprise four possible combinations.
- Rapid tempo indicates that the level of detail for the reconnaissance operation is limited to a certain number of prescribed tasks or PIR. Rapid tempo has nothing to do with the speed with which the operation is conducted. An example of this would be a rapid route reconnaissance in which the commander is only concerned with the ability of a bridge to support follow-on forces. Given this guidance, the Scout Platoon would conduct an overall rapid reconnaissance of the route; however, they would transition to deliberate at the NAI associated with the bridge and answer all necessary questions from the Commander.
- Deliberate tempo implies that all tasks of the mission must be accomplished to ensure overall mission success. An example of this would be when an organization is new to its area of operations and possesses limited information about a main route that it wishes to utilize as a main supply route for future operations. Given this scenario, the Scout Platoon would be ordered to conduct a deliberate route reconnaissance of the MSR, following all of the critical tasks associated with a route reconnaissance and creating a route reconnaissance overlay for the commander.

Commander's Reconnaissance Guidance

- Stealthy tempo emphasizes avoiding detection and generally consists of restrictive engagement criteria. Stealthy reconnaissance takes more time and utilizes dismounted reconnaissance methods to maximize the use of cover and concealment to reduce friendly signatures. Stealthy reconnaissance is utilized when time is available, detailed reconnaissance is required, enemy threat contact is likely, or when terrain restricts the use of mounted reconnaissance elements.

- Forceful tempo develops the situation rapidly by employing ground and air assets to develop the situation rapidly and "fight for information." Forceful reconnaissance relies upon the use of standoff weapons and optics to rapidly seize the initiative and answer the Commander's information needs. Forceful reconnaissance is used when time is limited, detailed information is not required, terrain is open, or when dismounted reconnaissance elements cannot answer the information requirements in the time allotted.

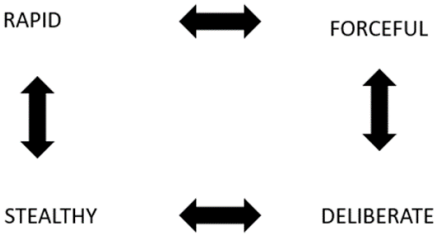
- Engagement Criteria are protocols that specify those circumstances for initiating engagement with an enemy force. They can be either restrictive or permissive. The Scout Platoon leader must define the size and type of force he expects his subordinate units to engage and avoid. This enables the planning of the use of direct and indirect fires. Engagement criteria must be extremely precise so as to avoid confusion. Example, if the Engagement Criteria for 1st Platoon issued by the Commander (a Scout Platoon in a SBCT Cavalry Squadron) is 9 or fewer dismounts, 2 or fewer BRDM's or 1 BMP, the Scout Platoon leader, operating in a 2 section concept can break down the engagement criteria to the section level as follows: 5 or fewer dismounts, 1 BRDM, only engage the BMP with dismounted Anti-Tank weapons systems at less than 1000M. NOTE: The Scout PLT must develop a PACE plan for initiating contact with the enemy. For example, if the Scout PLT is to destroy an enemy BMP as part of their scheme of maneuver, the Primary means to destroy the BMP may be a priority fires target from the Artillery Battalion. An alternate means to destroy the BMP may be using the Troop Mortars. A contingency may be direct fire from an Anti-Tank weapons system; and an emergency means may be a dismounted Anti-Tank weapons system. Engagement criteria needs to be thought of as the size of the enemy element that can be rapidly destroyed by the organic firepower on hand in the Scout Platoon. This enables the Scout Platoon to avoid becoming decisively engaged and retain the freedom of maneuver.

- Disengagement Criteria are protocols that specify those circumstance of avoiding contact or when to disengage from a fight so as to avoid becoming decisively engaged and retain the freedom of maneuver. If a Scout Platoon does not understand or violates its disengagement criteria, it will likely become decisively engaged and have to fight the battle to its conclusion. Using the example from engagement criteria listed above; if an individual section encounters 3 BMP's, they are to disengage. While the section may possess enough Anti-Tank weapon systems to gain a small tactical victory, the chances of becoming decisively engaged and failing to orient on the reconnaissance objective are too great. In this scenario, the Scout Section would seek to avoid a direct fire engagement and move, if necessary, to an alternate location to maintain threat contact while avoiding engagement.

- Displacement Criteria are triggers for a planned withdrawal, passage of lines, or a reconnaissance handover between units. Displacement criteria are conditions that are either event driven (example, associated PIR being met), time driven (example, latest time information of value trigger is met), or threat driven (example, identification of enemy reserve).

Commander's Reconnaissance Guidance

COMMANDER'S RECONNAISSANCE GUIDANCE - TEMPO



NOTE: There are four different Tempo's that can be given to a Scout PLT:
- Rapid and Stealthy
- Rapid and Forceful
- Deliberate and Stealthy
- Deliberate and Forceful

Reconnaissance missions

Zone reconnaissance is a form of reconnaissance that involves a directed effort to obtain detailed information on all routes, obstacles, terrain, and enemy forces within a zone defined by boundaries. Commanders assign a zone reconnaissance when the enemy situation is vague or when information related to terrain, infrastructure, or society is limited. The level of detail required during a zone reconnaissance makes these operations a deliberate and time-consuming process. The commander must work to balance available time with critical collection requirements to ensure that they provide the necessary information for their higher commander.

- Find and report all enemy forces within the zone.
- Based on engagement criteria, clear all enemy forces in the designated AO within the capability of the unit conducting reconnaissance.
- Determine the trafficability of all terrain in the zone, including built-up areas.
- Locate and determine the extent of all contaminated areas in the zone.
- Inspect and classify all bridges within the zone.
- Locate fords or crossing sites within the zone.
- Inspect and classify all overpasses, underpasses, and culverts.
- Locate and clear all mines, obstacles, and barriers in the zone (within capability).
- Report reconnaissance information.
- Reconnoiter all terrain within the zone.
- Reconnoiter specific terrain within the zone.
- Locate bypass around built-up area, obstacles, and contaminated areas

Area reconnaissance is a form of reconnaissance that focuses on obtaining detailed information about the terrain, enemy or civilian activity within a prescribed area. An area may include a town, a ridgeline, woods, an airhead, an installation, or any other critical operational feature, basically just an NAI. The area may consist of a single structure, such as a bridge or a building. The primary difference between an area reconnaissance and a zone reconnaissance is that in an area reconnaissance, units conducting the reconnaissance, first move to the area in which the reconnaissance will take place. In a zone reconnaissance, the units conducting the reconnaissance start from a line of departure. Areas are smaller than zones, typically takes less time to complete, and not usually contiguous to other friendly areas targeted for reconnaissance. There are two ways of conducting area reconnaissance, by maneuvering elements through the area or by establishing observation posts within or external to the area of interest. Tasks for area reconnaissance are the same as for zone reconnaissance.

Special reconnaissance is characterized as reconnaissance and surveillance actions conducted as a special operation in hostile, denied, or politically sensitive environments to collect or verify information of strategic or operational significance employing military capabilities not normally found in conventional forces

A reconnaissance in force is a deliberate combat operation designed to discover or test the enemy's strength, dispositions, and reactions or to obtain other information. Squadron-size task forces or larger organizations usually conduct a reconnaissance in force. A commander assigns a reconnaissance in force when the enemy is operating within an area and the commander cannot obtain adequate intelligence by any other means. A reconnaissance in force is an aggressive reconnaissance, conducted as an offensive operation with clearly stated reconnaissance objectives. The overall goal of a reconnaissance in force is to identify and exploit enemy weaknesses. It differs from other reconnaissance operations as it is normally only to gain information about the enemy and not the terrain. The commander plans for both the retrograde or reinforcement of the force, in case it encounters superior enemy forces, and for the exploitation of its success in advance. During a reconnaissance in force, the subordinate elements of the Cavalry unit conduct zone, area, and route reconnaissance missions.

- Penetrate the enemy's security area and determine its size and depth.
- Determine the location and disposition of enemy forces.
- Attack enemy positions and attempt to force the enemy to react by using local reserves or major counterattack forces, employing fires, adjusting positions, and employing specific weapon systems.
- Determine weaknesses in the enemy's disposition for exploitation.
- Locate obstacles and create lanes as specified.
- Enter AOs in complex terrain not previously occupied by friendly forces, such as urban environments.

Reconnaissance missions

Route reconnaissance is a directed effort to obtain detailed information of a specified route and all terrain from which the enemy could influence movement along that route. It provides new or updated information on route conditions, such as obstacles, bridge classifications, enemy, and civilian activity along the route. The commander normally assigns this mission when wanting to use a specific route for friendly movement.

- Find, report, and—based on engagement criteria—clear within capabilities all enemy forces that can influence movement along the route.
- Reconnoiter and determine the trafficability of the route.
- Reconnoiter all terrain the enemy can use to affect movement along the route.
- Reconnoiter all built-up areas along route.
- Reconnoiter all lateral routes.
- Inspect and classify all bridges within the area.
- Reconnoiter defiles along the route. Clear them of enemy and obstacles (within capability), or locate a bypass
- Locate fords or crossing sites near all bridges on the route.
- Inspect and classify all overpasses, underpasses, and culverts.
- Locate and clear all mines, obstacles, and barriers on the route within capability.
- Locate bypasses around built-up areas, obstacles, and contaminated areas.
- Report route information.

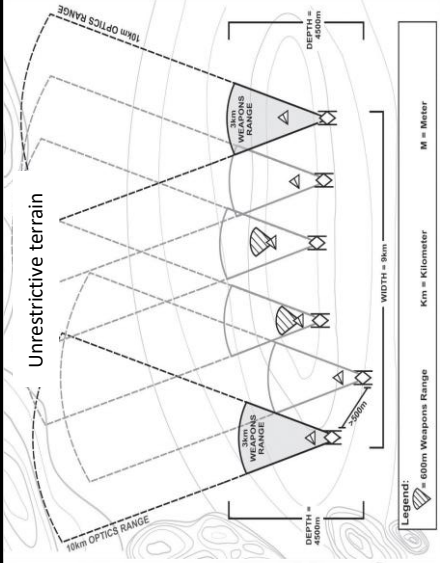
Screen

- Screen is a security task that primarily provides early warning to the protected force.
- A screening troop is a security element, which primarily observes, identifies, and reports information related to a commander's PIR while aggressively executing counter-reconnaissance, which impedes, harasses, or destroys the enemy's reconnaissance effort.
- Although it provides the least amount of protection of any security mission, a screen is appropriate when operations have created extended flanks, when gaps between forces exist that are not secured in force, or when early warning is needed over gaps that are not considered critical enough to require security in greater strength.
- Troops screen a stationary force to the front, flanks, and rear of the main body. Troops screen a moving force to the flanks or rear.
- Screening operations are not performed forward of a moving force. Cavalry troops conduct a zone reconnaissance, reconnaissance in force, or are part of a guard forward of the moving force.
- Cavalry troop commanders plan a series of observation posts, augmented with patrols to ensure surveillance of dead space to establish a screen.
- The 3 primary methods to move IOT occupy a screen are zone reconnaissance, infiltration, and tactical road march.

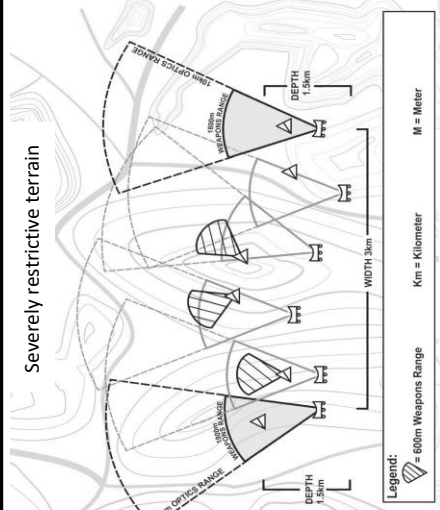
Screen

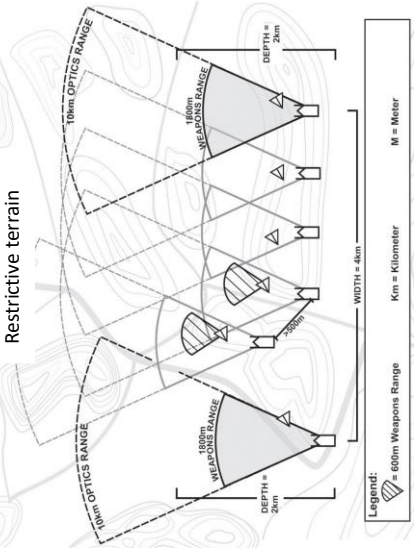
- Critical tasks of a screen include:
  - Allow no enemy ground element to pass through the screen undetected and unreported.
  - Maintain continuous surveillance of all avenues of approach that affect the main body's mission.
  - Conduct counter-reconnaissance to destroy, defeat, or disrupt all enemy reconnaissance elements, within capabilities and according to engagement criteria.
  - When facing an echeloned enemy force, locate and identify the lead elements that indicate the enemy's main attack, as prescribed in the enemy's order of battle based upon IPB.
  - Determine the direction of enemy movement, maintain contact, and report threat activities even while displacing.
  - Impede and harass the enemy within capabilities without becoming decisively engaged and while displacing to provide the protected force commander with additional time and maneuver space.
  - Detect and report all enemy elements attempting to pass through the screen, both ground and aerial, to provide the protected force commander early warning of enemy activities.

Screen operating distance diagrams



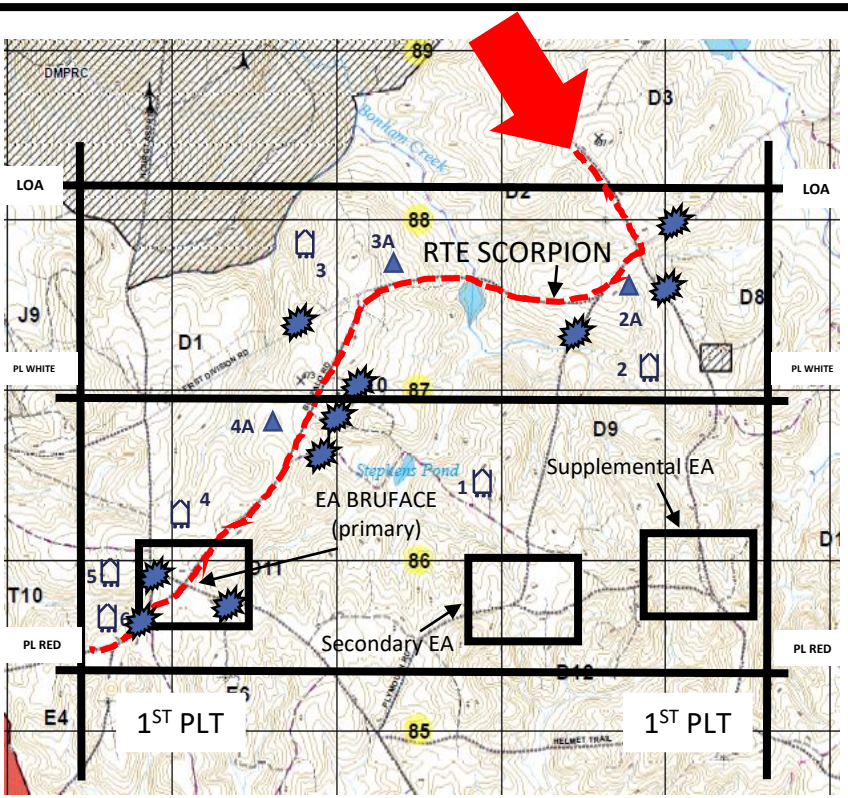
Note* these diagrams are just general rules of thumb, under perfect conditions, with 0 mission context, 0 eng/diseng/disp criteria context, and no information on the enemy. The screens you execute, will probably never look exactly as depicted.





Screen in depth

- Depth is critical in a screen. It allows for RHO of threat contact from one element to another without displacing.
- Troops plan screens in-depth. Depth prevents the threat from easily identifying and penetrating the screen, prevents gaps from occurring when observation posts displace, and facilitates the destruction of enemy reconnaissance elements without compromising critical operations
- Depth is achieved by positioning observations posts, UAS, and attached units between the front line trace and rear boundary of the security force. Depth is used to achieve the following results:
  - Prevent the threat from easily identifying and penetrating the screen.
  - Prevent gaps from displaced or destroyed outpost.
  - Facilitate the destruction of enemy reconnaissance elements without compromising critical observation posts.
  - Maintain contact with enemy elements without compromising OPs
    - ***Note***. When the term screen line is used, it describes only the trace along which security provides, not the linear positioning of assets.
- Dismount OPs need to be deployed forward of mounted OPs within supporting distance, IOT provide early warning to the vehicles. This provides depth within a vehicle squad. Each vehicle squad should repeat this same process, going from the front line trace (LOA) all the way back to the phase line that the TRP CO dictates.
- Leaders need to conduct time distance analysis for how long an enemy vehicle can travel from where the dismount OP is, to where the vehicle is. This amount of time will determine how long the mounted OP has IOT react to the contact.
- The dismount OP needs to take all precautions to remain undetected.
- The dismount OP has the ability to move along with and shadow the enemy, IOT maintain visual contact for as long as possible.
- The PL needs to exercise an intelligent thought process, as far as where he is going to emplace OPs. The OPs should be over watching areas where the enemy needs to make a decision for their direction of travel.
- EA DEV should be conducted for every single static position. If there is a dedicated EA where the PL or TRP CO wants to kill the enemy, then the PL needs to task org the right weapon systems (JAV/TOW/MGS/ATGM/50 CAL/FIRES TGTs) to support that EA.
- Obstacles should be emplaced on the routes that we don't want the enemy to travel on. The obstacles will be over watched, and have fires targets templated on them IOT deter enemy trying to breach them.



- In this scenario, 1st PLT has conducted a zone reconnaissance to a screen from PL red to the LOA. The reconnaissance focus was terrain and infrastructure IOT ID friendly BPs and EAs, and also determine the most feasible RTEs that the enemy, to the north; will take to their objective to the SW. This required the PLT to perform AREA recon for the BPs, and RTE recon on ALL RTEs within the zone. The CO's intent for the screen is to conduct counter reconnaissance by destroying the enemy's combat reconnaissance patrol.
- After conducting the zone reconnaissance, the PLT has determined that RTE Scorpion is the most feasible for the enemy. The terrain off of the road is severely restricted by forests and draws, thus canalizing all mounted elements to the roads. The PLT employs obstacles (mines, c-wire, cratering charges, abatises) on the other RTEs to ensure that the enemy takes RTE Scorpion. These obstacles will be over watched by dismounts (they can displace from their static OPs to regain contact on the obstacle) IOT CFF on enemy attempting to bypass or breach.
- The ENGAGEMENT CRITERIA for all elements north of PL White is IDF only if the enemy is trying to bypass or breach obstacles. Those elements need to take all precautions not to be compromised. They will have detailed exfil routes to link up with the platoon should compromise happen. If the enemy takes RTE Scorpion, there should be no direct fire engagement until they eventually enter EA BRUFACE.
- The EA has the 3 vehicles which have the most casualty producing weapons on them plus dismounts with javelins. DFCM for the EA needs to be well thought out, and positions of friendlies on the screen need to be verified.
- During the zone recon the PLT ID'd alternate BPs and EAs to maneuver to, should the enemy somehow bypass or breach an obstacle on the other RTEs.

Obstacle Stryker Dismount OP

Engagement Area Development

- EA dev goes hand in hand with IPB, and should always occur in some aspect during the execution of R&S operations. There should always be a plan to destroy templated enemy, while avoiding fratricide with DFCM.
- The engagement area is where we intend to engage and destroy an enemy force using the massed fires of all available weapons. The platoon combines natural and man-made obstacles to canalize the attacking force into engagement area.
- The success of engagements depends on how the leader can integrate the obstacle plan, indirect fire plan, and direct fire plan within the engagement area to achieve the platoon's tactical purposes.
- Engagement area development resembles a drill, and the platoon leader and his subordinate leaders use an orderly, standard set of procedures. The steps of engagement area development are not a rigid sequential process.
- Some steps may occur simultaneously to ensure the synergy of combined arms. Beginning with evaluation of METT-TC, the development process -
  - IDs all likely enemy avenues of approach
  - Determines likely enemy SoM
  - Determines where to kill enemy
  - Plans and integrates obstacles
  - Emplaces weapon systems
  - Plans and integrates IDF
  - Rehearses the execution of operations in EA

Passage of lines

- Passage of lines is an operation in which a force moves forward or rearward through another force's combat positions with the intention of moving into or out of contact with the enemy. A passage may be designated as a forward passage of lines (FPOL) or rearward passage of lines (RPOL).
- A passage of lines occurs under two conditions: FPOLS and RPOLs. FPOLs occur when a unit passes through another unit's positions while moving toward the enemy. RPOLs occur when a unit passes through another unit's positions while moving away from the enemy. A unit may participate in a passage of lines as either the passing or stationary force.
- A commander conducts a passage of lines to continue an attack or conduct a counterattack, retrograde security or main battle forces, and any time one unit cannot bypass another unit's position. The conduct of a passage of lines potentially involves close combat. It involves transferring the responsibility for an area of operations (AO) between two commanders. That transfer of authority usually occurs when roughly two-thirds of the passing force has moved through the passage point. If not directed by higher authority, the unit commanders determine—by mutual agreement—the time to pass command.
- RHOs or BHOs occur during a passage of lines, because there is a transfer of responsibility between units for the AO. There are three key elements in a passage of lines: the stationary unit, the passing unit, and the common commander.
- Conditions and criteria for conducting a passage of lines are normally found in the Commanders Reconnaissance or Security guidance for displacement criteria, located in the Troop Operations Order, Fragmentary Order, or Warning Order. The HQ directing the passage of lines is responsible for determining when the passage starts and finishes
- Control measures associated with a passage of lines are generally restrictive to prevent friendly fire incidents. At a minimum, they include the AO, assembly areas (AAs), attack positions, BHL, RHL, contact points, passage points, passage lanes, routes, gaps, phase lines, and recognition signals. The headquarters directing the passage designates or recommends contact points, passage lanes, AAs, routes, and start and end times for the passage. The commander may also use start points, release points, fire support coordination measures, such as coordinated fire lines (CFLs), and other control measures as necessary to conduct this task. Unless the higher headquarters of the two units establishes the necessary graphic control measures, the stationary unit establishes them for the passage. However, the stationary unit commander coordinates them with the passing unit commander.
- The stationary unit establishes these measures because it controls the terrain, knows where the obstacles are, and knows the tactical plan. If the control measures dictated by the higher headquarters are not sufficient—because they do not contain enough passage points, lanes, etc., the two units can agree to add the necessary measures.
- A forward passing unit's order of march is generally reconnaissance and security elements first. The ground combat force moves next, followed by functional and multifunctional support and sustainment units. The passing unit reverses this order of march in a rearward passage of lines.

Passage of lines (passing unit tasks)

- Establishing communications immediately, entering the command, intelligence, and FS nets of the stationary unit
- Collocating a unit or vehicle with the tactical command post (TAC) CP or main CP of the stationary unit as soon as possible to enhance communication and unity of effort
- Continuously reporting to the stationary unit during a rearward passage the location, size, composition, and current activity of all threat forces. If the threat is attacking, the passing unit reports the direction of movement, movement formation, and estimated rate of advance. If the threat is defending, the passing unit reports threat locations, orientation, composition, engagement area, reserves (if known), obstacle systems, and flanks
- Continuously reporting to the stationary unit the location, size, and activity of all parent unit elements, including augmentation, sustainment, and mission command assets
- Coordinating with the stationary unit based upon the current dispositions of the parent unit to determine contact points for subordinate elements (such as reconnaissance sections) to synchronize handover and passage of lines with representatives of the stationary unit. Once contact points are determined, the passing unit leader sends a FRAGORD to all elements specifying the location for the passage with the stationary unit. The passing unit confirms recognition signals used during passage
- Ensuring that subordinate elements acknowledge where to coordinate the passage and that representatives are dispatched to the assigned contact points. At the contact points, the representatives confirm recognition signals and exchange required information with their counterparts from the stationary unit
- Maintaining visual contact with all threat units in a rearward passage, conducting movement back to the RHL/BHL, and avoiding decisive engagement
- Displaying correct recognition signals and using the correct challenge and password as specified in the SOI during the passage
- Maintaining proper weapons orientation

Passage of lines (stationary unit tasks)

- Establishing communications, coordinating necessary contact points, and directing the passing unit to the contact points based on current dispositions of the designated units
- Exchanging fire support plans; this also includes target lists and FS contact frequencies
- Guaranteeing contact points are manned and secured, and that passing elements have established personal communication with their representatives
- Ensuring representatives at the contact points assign each passing element a passage point into the AO, and a route that extends from the passage points to the rear boundary or assembly area (in a rearward passage) or to the attack position (in a forward passage)
- Exchanging required information, including FBCB2, with the passing unit as outlined in their unit SOP
- Positioning elements to overwatch the RHL/BHL where they have the best possible observation of threat avenues of approach, adjusting as necessary during limited visibility
- Ensuring routes through an obstacle system are clearly marked and physically controlled by guides, or escorts are provided to the passing unit
- Guaranteeing all routes of withdrawal obligated to the passing unit are unobstructed and facilitate rapid movement to the rearward passage
- Ensuring obligated routes of advance, attack positions, and routes to the RHL/BHL are clear and facilitate rapid movement (forward passage)

Passage of lines graphic control measures

- Reconnaissance/battle handover line. The RHL/BHL is established by the common leader of the unit in consultation with both commanders. The stationary unit leader determines the location of the RHL/BHL and overwatches the line with direct fires.
- Fire support coordination measures. If necessary, these are established or identified.
- Contact points. These are established on identifiable terrain and are normally in the vicinity of the passage lanes. For rearward passage of lines, the contact points are established forward of the RHL/BHL. For forward passage, the contact points are established in the stationary unit's AO, rearward of the passage lanes.
- Passage points. Passage points are a specifically designated place where the passing units pass through the stationary unit. The location of this point is where the commander wants subordinate units to physically execute a passage of lines. In a forward passage of lines, the passage point marks the location where the passing unit is no longer bound by the restrictions placed on it by the stationary force. In a rearward passage of lines, the passage point marks the location where the stationary unit can restrict the movement and maneuver of the passing force. Between the contact point and the passage point, the stationary unit controls the passing force's movement.
- Passage lanes. The stationary unit establishes passage lanes to move the passing unit quickly through defending unit positions. This could include passing through gaps in friendly obstacles and moving near or through friendly engagement areas (EAs) and BPs. Lanes are restrictive and should be wide enough to allow the passing unit to move in a tactical formation. The passage lane begins at the passage point and ends at the rear of the stationary unit BPs. The passage is considered complete when the moving unit exits the lane.
- Routes. Routes are used to move the passing unit through the stationary unit. The number of routes designated varies based upon METT-TC but as a general rule, multiple lanes/routes should be planned to facilitate rapid passage of moving units and to avoid unnecessary massing of units. The stationary unit may escort or guide the passing unit along the lane/route
- Assembly area. An assembly area in the AO of the stationary unit allows the passing unit to conduct hasty reorganization and emergency sustainment actions. This assembly area is temporary in nature, and is always located behind the stationary unit (not in between the stationary unit and enemy).
- Exfiltration points. Leaders should plan infiltration points and lanes for personnel unable to complete the passage with their unit. Passing unit liaison officers may remain located with stationary unit CPs to serve as a point of contact for infiltrating personnel/equipment. Personnel who infiltrate must have some way of contacting the stationary unit before crossing into friendly territory.

Passage of lines GCM

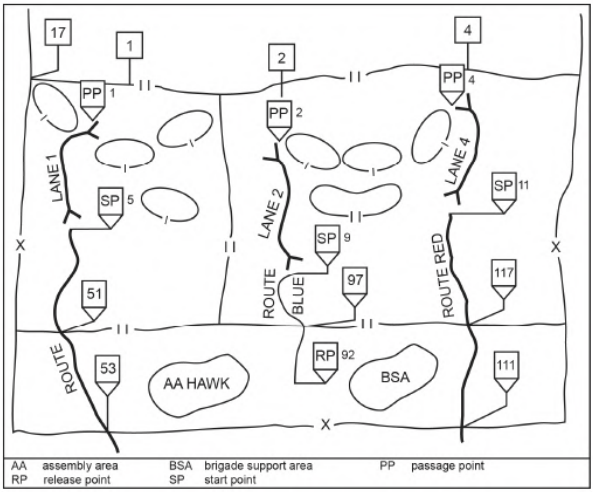


Figure 5-7. Rearward passage of lines

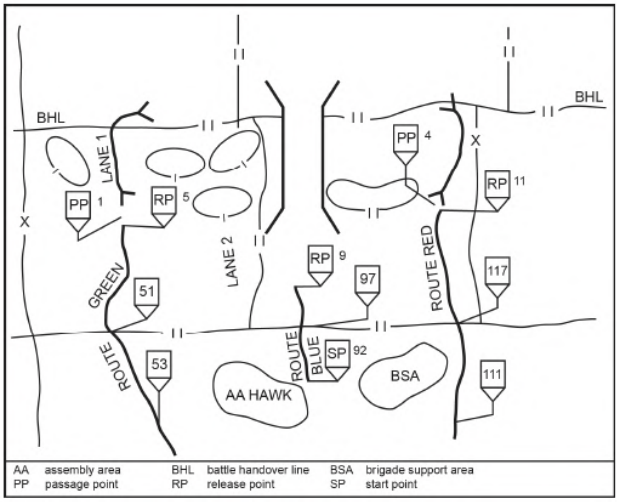


Figure 5-6. Forward passage of lines

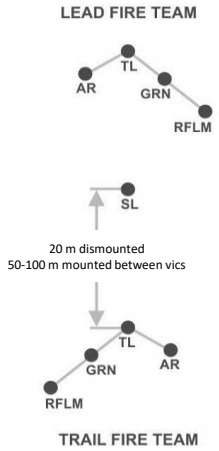
Formations and order of movement

- The Commander's Reconnaissance & Security guidance along with METT-TC conditions will dictate movement formations and movement techniques.
- If the TEMPO is STEALTHY, the implied understanding is that the Commander prioritized remaining undetected. The primary movement techniques while mounted are traveling overwatch or bounding overwatch to the next covered and concealed position OFF of the ROAD, while maximizing dismounts as much as possible to conduct reconnaissance within supporting distance of the vehicles. Stealthy reconnaissance is used when time is available, detailed reconnaissance and stealth is required, enemy forces are likely in a specific area, danger areas are encountered, and when restrictive terrain limits effectiveness of mounted reconnaissance.
- If the TEMPO is FORCEFUL, the implied understanding is that the Commander prioritized moving more aggressively in the AO instead of remaining undetected. Forceful reconnaissance is appropriate when time is limited, terrain is open, environmental conditions allow for mounted reconnaissance, and when dismounted reconnaissance cannot complete the mission within existing time constraints.
- For FORCEFUL, traveling or traveling overwatch is used until any of the forms of contact happen. Formations will change based on METT-TC conditions. This does not negate the Platoon's ability to perform local security measures such as utilizing cover/concealment or camouflage to increase our chances of survivability. Dismounts are still used within supporting range or supporting distance of the vehicles in order to develop the situation for the PL, before he commits to a COA. Scouts should not just drive/walk into an obvious enemy EA because the tempo was FORCEFUL.
- You can and should adjust the tempo in regards to the probable line of contact (PLOC) with the enemy. However once direct or indirect fire contact occurs, aggressive action must be taken within the confines of your engagement criteria.
- We will always prefer to make contact on our terms with the smallest element possible. This ensures the rest of the platoon has enough space and time to have the freedom of maneuver for the COA that the PL dictates. The only way to do this is by constantly adjusting the distance between vehicles or squads/sections, adjusting our movement formations, and adjusting our movement techniques whenever we come across METT-TC factors that forces the change.
- On the ground real time IPB should constantly be happening. The lead SL should be analyzing aspects of the terrain or enemy in front of him, and recommend changes to the movement formation or technique to the PL.

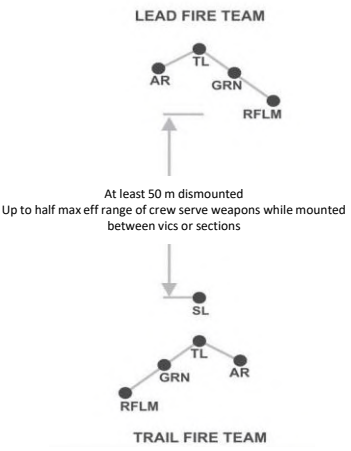
Formations and order of movement
Movement Techniques

MOVEMENT TECHNIQUES	WHEN NORMALLY USED	CHARACTERISTICS			
		CONTROL	DISPERSION	SPEED	SECURITY
Traveling	Contact not likely	More	Less	Fastest	Least
Traveling overwatch	Contact possible	Less	More	Slower	More
Bounding overwatch	Contact expected	Most	Most	Slowest	Most

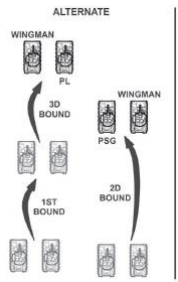
Traveling

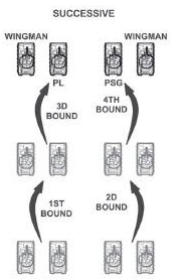


Traveling Overwatch



Bounding

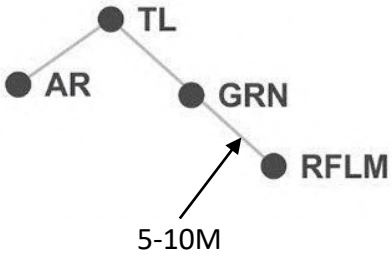


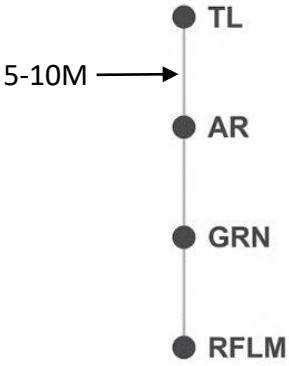


Overwatch

Formations and order of movement
Dismount Team

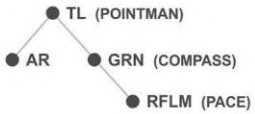
MOVEMENT FORMATION	WHEN MOST OFTEN USED	Movement Characteristics			
		CONTROL	FLEXIBILITY	FIRE CAPABILITIES AND RESTRICTIONS	SECURITY
Fire team wedge	Basic fire team formation	Easy	Good	Allows immediate fires in all directions	All-round
Fire team file	Close terrain, limited visibility, dense vegetation	Easiest	Less flexible than the wedge	Allows immediate fires to the flanks, masks most fires to the rear	Least

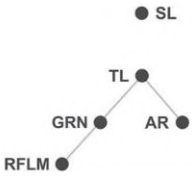


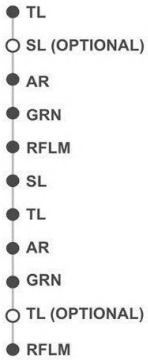


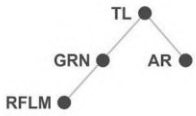
Formations and order of movement
Dismount Squad/Section

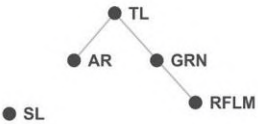
MOVEMENT FORMATION	WHEN MOST OFTEN USED	Movement Characteristics			
		CONTROL	FLEXIBILITY	FIRE CAPABILITIES AND RESTRICTIONS	SECURITY
Squad column	The main squad formation	Good	Aids maneuver, good dispersion laterally and in depth	Allows large volume of fire to the flanks but only limited volume to the front	All-round
Squad line	Fore maximum firepower to the front	Not as good as the column	Limited maneuver capability (both fire teams committed)	Allows maximum immediate fire to the front	Good to the front, little to the flank and rear
Squad file	Close terrain, dense vegetation, limited visibility conditions	Easiest	Most difficult formation to maneuver from	Allows immediate fire to the flanks, masks most fire to the front and rear	Least



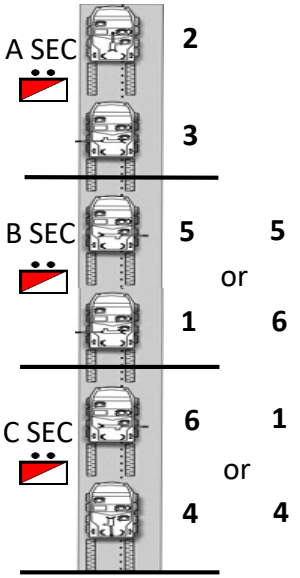




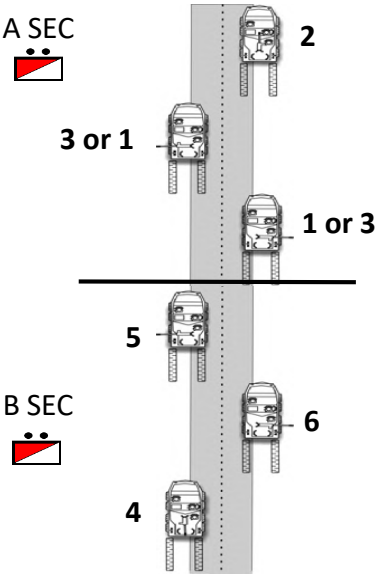




Formations and order of movement
Mounted

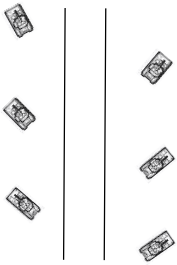


Column

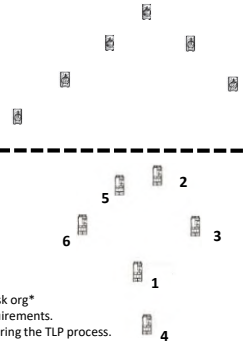


Staggered Column

Herring bone



PLT wedge



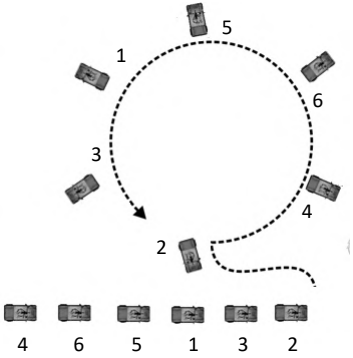
The PL has the authority to change task org
and order of movement to fit mission requirements.
Any differences from unit SOP needs to be briefed during the TLP process.

Formations and order of movement *Mounted*

Coil method / wagon wheel

Lead vehicle enters area and circles back around to the 6 o'clock position and sets. Each vehicle then staggers off the one in front of them 25-100 meters (or METT-TC) until a circle is formed. More control is afforded if you do this 1 vehicle at a time in order to ensure proper spacing and sectors of fire are enforced.

Once all vehicles are set, SLs ensure there are proper spacing, and interlocking sectors of fire between vehicles. Gunners complete range cards for their SL to proof, and PSG creates sector sketch off of the range cards.



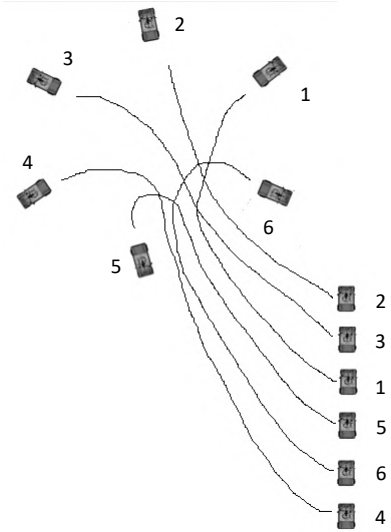
Coil method by clock position

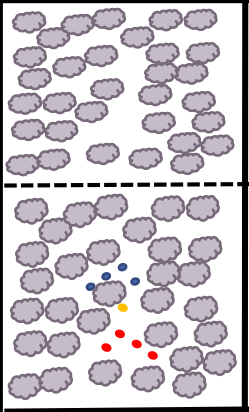
Another common way is to divide the security positions by the hours of a clock. In this example, A sec has the 3-9 by way of 12, and B sec has the 3-9 by way of 6.

This method works easiest in a 2 section concept. Lead vehicle in A section enters area and sets the 12 o'clock. 2nd vehicle in OOM sets to the left of lead, and 3rd vehicle sets to the right of lead.

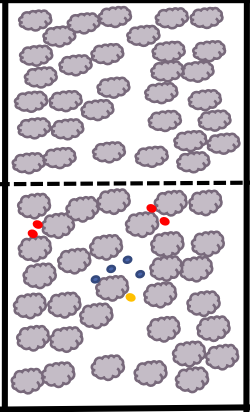
Bravo section will do the same thing simultaneously, facing the opposite direction.

Once all vehicles are set, SLs ensure there is proper spacing, and interlocking sectors of fire between vehicles. Gunners complete range cards for their SL to proof, and PSG creates sector sketch off of the range cards.

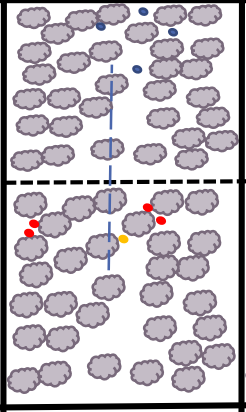




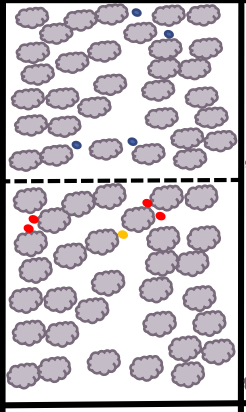
Lead TM (blue) ID's LDA and gives appropriate hand and arm signals, or radios up to rest of SQD. The SQD stops short in covered and concealed positions while conducting SLLS (STOP, LOOK, LISTEN, SMELL).



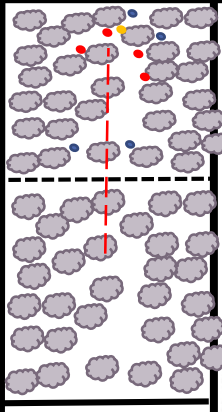
Trail team (red) provides security down both directions of LDA, preferably with MGs. They are behind cover and concealment, and far enough away from LDA where they won't become compromised by elements on LDA.



Lead TM crosses LDA in-between near side security to the far side 25-50 meters, and clover leafs an area out of visual contact with the road, ensuring it's safe and secure.



Lead TM sets a far side rally point with personnel, and pulls security on the far side oriented down both directions of LDA. TM leader radios up; or send hand and arm signals, to SQD LDR to cross.



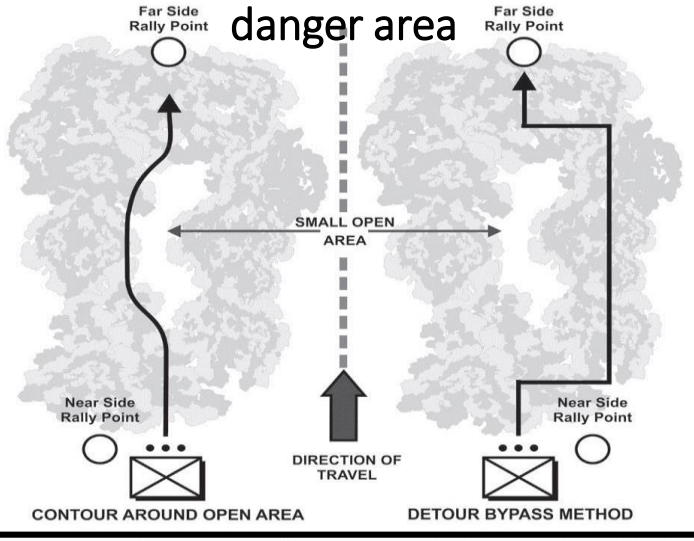
SQD leader accounts for M/W/E prior to crossing. SQD leader relays to trail team to cross. Trail TM + SL then cross in-between far side security, and link up at rally point set by lead TM. Far side LDA security collapses to rally point. SL gets accountability of M/W/E. SQD leader reorganizes OOM, and continues movement to objective.

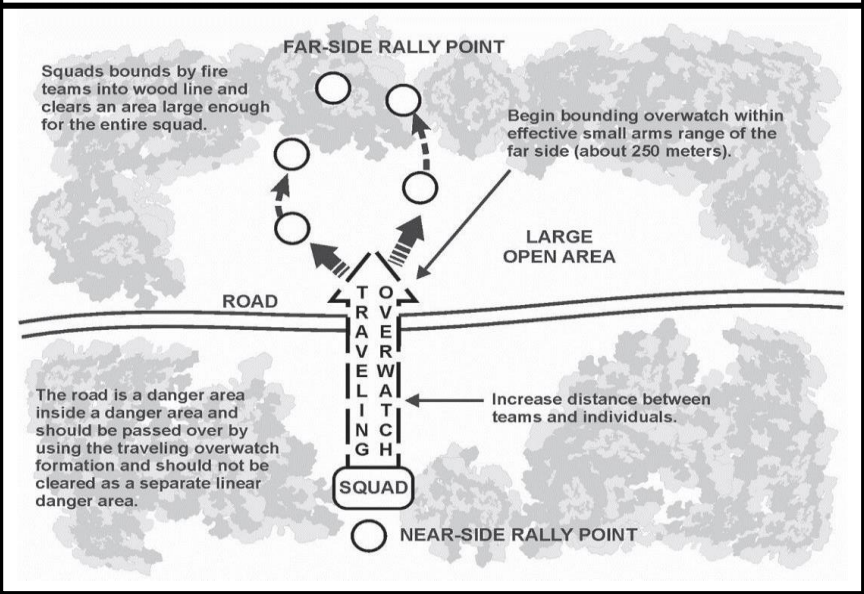
SQD/SEC LDA crossing

SLC

SOP

Small open danger area/Large open danger area





Actions on contact

Step 1 – Deploy and Report

- ❑ The unit that makes initial visual contact deploys to covered terrain w/ good observation and fields of fire.

Step 2 – Evaluate and Develop the Situation

- ❑ The scouts next concentrate on determining the composition and strength of the threat force. If they have not been detected and time is available, the scouts reconnoiter the threat position, emphasizing stealth, dismounted reconnaissance, and use of assets such as thermals, LLDR's, TRGRs, and SUAS.

Step 3 – Choose a COA

- ❑ Once the element in contact has developed the situation and the patrol has enough information to make a decision, the patrol leader selects a COA. He ensures the COA is within the capabilities of his patrol.

Potential COAs

- ❑ **Disengage from threat contact.** The unit should disengage from the threat as early in the contact as possible. This will allow for continuation of the mission and reduce the chance of any loss of combat power.
- ❑ **Break contact and bypass.** This COA may be selected when the platoon does not have the resources to leave an element in contact and still continue to accomplish its priority reconnaissance tasks. It may also be selected when the platoon has made contact with a threat force that cannot adversely affect the mission of the platoon's higher headquarters. You won't execute this unless higher tells you to.
- ❑ **Maintain contact and bypass.** This COA is appropriate when a threat force, based on its current disposition, is not in a position to influence the patrols higher commander. An element (normally a section or squad) will be left to maintain contact while the rest of the unit continues the reconnaissance mission.
- ❑ **Maintain contact to support a hasty attack.** This COA is appropriate when the platoon discovers threat elements the higher commander wants to destroy, but which the scouts cannot destroy, either because they lack sufficient combat power or because they have other tasks to perform. In this situation, the platoon maintains contact by leaving a section or squad in contact. The rest of the platoon continues on to establish far-side security, monitor any changes in the threat situation, and support the hasty attack by a friendly unit.
- ❑ **Attack an inferior force.** If the scouts are permitted to attack a threat, they should only attack lightly armored or unarmored reconnaissance vehicles, such as motorcycles or Soviet-style BRDMs and BTRs. They should not engage more heavily armored vehicles except in self-defense.
- ❑ **Establish a hasty defense.** The platoon will establish a hasty defense if it cannot bypass the threat, all the sections and/or squads are fixed or suppressed, and the platoon no longer has the ability to move forward. A hasty defense will also be used when the threat executes a hasty attack. (**NOTE:** Without the use of indirect fires in this situation, the platoon will fail.)
- ❑ **Conduct reconnaissance handover.** The platoon leader will attempt to hand over responsibility for the threat element. He does this for several tactical reasons: to continue operations as directed, to regain use of all his elements, or to pass reconnaissance responsibility to another friendly element. An example of this is a BRT platoon handing over a threat element to a task force reconnaissance platoon to maintain contact
- ❑ **Conduct battle handover.** This COA is applicable when a reconnaissance platoon hands over responsibility for a threat force to a friendly combat element. An example of battle handover is a task force reconnaissance platoon handing over a threat element to a tank company team for destruction.

Step 4 – Execute the COA

Step 5 – Recommend a COA to the Higher Commander

Battle drills

- **Direct fire**
  - Immediately return fire to attempt to gain fire superiority while seeking cover and concealment, utilizing Infantry battle drill "React to direct fire contact."
  - Develop the situation
    - If within engagement criteria, destroy enemy through IDF or SAF utilizing the Infantry battle drills "conduct PLT assault" or "conduct a SQD assault." If mounted, dismount personnel to clear through the objective and conduct BDA.
    - If outside of engagement criteria, temporarily break direct fire contact utilizing Infantry battle drill "Break contact", and maneuver to a position of advantage to regain visual contact. Use IDF to enable your maneuver out of contact. Prepare for RHO/BHO.

- **Indirect fire**
  - Dismounted
    - Any soldier screams "INCOMING!"
    - Soldiers immediately assume the prone position or move to immediate available cover during initial impacts.
    - Unit leader orders the unit to move to a rally point by giving direction and distance.
    - After the impacts, Soldiers move rapidly in the direction and distance to designated rally point.
    - Unit leader reports contact to higher.
  - Mounted
    - Any solder screams "INCOMING!"
    - VC's repeat the alert over the radio.
    - Unit leader gives distance and direction, terrain feature, or check point for the unit to move to.
    - Personnel ensure they are in turret defilade.
    - Drivers move rapidly out of impact area to the designated rally point.
    - Unit leader reports contact to higher.

- **Visual**
  - Seek cover and concealment without compromising yourself.
  - Determine if contact is friendly, enemy, or civilian.
  - Report information to higher.
  - Execute COA specified in order or dictated by higher.

Battle drills

- **React to obstacle**
  - If applicable, section identifying the obstacle alerts the platoon with a contact report.
  - In close direct fire contact situations, platoon takes immediate protective actions.
    - a. PL directs the platoon to deploy to a covered and concealed location.
    - b. As applicable, element in contact employs onboard smoke grenades and direct fire to obscure and suppress the enemy forces overwatching the obstacle.
  - In out of contact situations (platoon identifies obstacle from a position of advantage), platoon takes immediate protective actions.
    - a. PL directs the platoon to deploy to a covered and concealed location.
    - b. Element in visual contact with obstacle establishes an overwatch position.
    - c. As applicable, employs direct fire and/or indirect fire to obscure and suppress the enemy forces overwatching the obstacle.
  - PL/PSG take actions to develop the situation and report to the commander.
    - a. Sends contact report (FM or digital) to the company/troop commander.
    - b. Develops the situation by section (maneuver) to determine location, composition, and disposition of enemy forces overwatching the obstacle.
      - (1) Directs one section to establish a suitable overwatch position to allow platoon to continue to develop the situation.
      - (2) Directs the other section to perform reconnaissance of the obstacle to determine composition of the obstacle and to locate a bypass. NOTE: Reconnaissance may be performed mounted or dismounted.
    - c. Sends obstacle report (FM or digital) to the commander describing type, width, length, effect, and location of the obstacle.
    - d. Sends updated SITREPs (FM or digital) to the commander as necessary.
  - If a bypass is possible, PL reports the location of the bypass to the commander (FM or digital) and recommends bypassing the obstacle. NOTE: Once ordered to bypass, the platoon executes steps to bypass the obstacle. OR
  - If a bypass is not possible, PL reports to the Commander and recommends, based on obstacle composition, a point of breach and either platoon-level reduction or a company-level breach.

Battle drills

- Air
  - Immediately report contact.
  - Immediately increase dispersion between elements and seek top cover and concealment far away from all roads or trails.
  - Coordinate with elements in the platoon as to what direction the contact is.
  - Determine type (fixed wing/rotary wing/UAV/armed/unarmed) and if friendly, enemy, or civilian.
  - Orient most Crew served weapons, javelins, rifles, and machine guns in platoon on the contact until allegiance is determined. Appoint contingents within element to maintain local security.
  - The PLT should engage the aircraft as a last resort only. For slow-moving aircraft, the platoon will engage the aircraft head-on at 50 meters, and fast moving aircraft at 200 meters with all available weapon systems.
  - If the aircraft returns fire, increase dispersion and continuously seek better cover and concealment.

- Electronic
  - Before all operations, there should be a compromised communications plan, consisting of a PROWORD which initiates elements of the platoon jumping to a predesignated ALTERNATE frequency.
  - If jamming is suspected and obvious, and you cannot break squelch, a common SOP is for all elements in PLT to jump to TRP net to coordinate jumping to alternate frequency.
    - All elements should monitor the TRP net every time the minutes on a clock ends in “30” or “00”, if jamming is suspected and no radio communications have occurred on compromised frequency.
  - **DO NOT SAY ANY FREQUENCY NUMBERS OR ANYTHING ALLUDING TO FREQUENCY NUMBERS ON THE COMPROMISED NET BESIDES THE PROWORD TRIGGERING THE JUMP!!!!**
    - If suspected that comms have been compromised, unit leader will attempt to break squelch repeating proword.
    - Unit leader will monitor both compromised frequency and alternate frequency.
    - Subordinates will radio check in sequence on alternate frequency that they have jumped, until 100% accounted for.
    - Unit leader will report contact to higher
    - Example:

      On the command of ‘Ricky Bobby”, all radios will switch to the alternate frequency of SC PT 48.500. The PL will monitor both nets, and ensure all elements with a radio has jumped to the alternate frequency via radio checks in sequence.

AA Priorities of work

- Following occupation of the AA, the platoon prepares for future operations by conducting TLP and priorities of work according to the Troop OPORD. These preparations include the following:
  - Establish and maintain security (at the appropriate readiness level).
  - Develop a defensive fire plan. All gunners will create a range card and submit it to the VC for proofing, NLT 20 minutes after occupation of AA. PSG will create sector sketch of the defensive plan based off of range cards and submit to higher NLT 1 hour after occupation of AA.
  - Conduct dismounted security patrols to clear dead space and restrictive terrain.
  - Account for all assigned personnel, to include attachments and sensitive items.
  - Reapply personal and vehicular camouflage.
  - Perform maintenance on vehicles, weapons, and communications equipment.
  - Verify weapons system status, conduct boresight adjustment, prepare-to-fire checks, test-firing, and other necessary preparations.
  - Conduct resupply, refueling and rearming operations.
  - Conduct personal care and hygiene activities.
  - Adjust task organization as necessary.
  - Reestablish vehicle load plans as needed.
  - Conduct troop leading procedures.
  - Conduct precombat checks and a precombat inspection based on time available.
  - Conduct rehearsals and other training for upcoming operations.

Five point contingency plan
GOTWA

- GOTWAs will be issued every time elements separate from one another. It ensures that leaders and subordinates understand what is supposed to happen while they are separated.
- The elements of a GOTWA are:

- **G:** **Going – Where is the leader going?**
  "I am traveling in this North/South Draw using CPs 1, 2, and 3 to maneuver to NAI 1."

- **O:** **Others – Are others going with the leader and who?**
  "*I am taking all of Alpha team consisting of Maynard (MG), Barber (Grenadier), Sickelbaugh (Rifleman), and Bruder (RTO). We are taking a PAS-13, Binos, Vector, PRC-150, and a DAGR."*

- **T:** **Time – How long will the element be gone?**
  "I am SP'ing at 2000Z. It will take me 40 minutes to move to the NAI (2040Z), I plan on conducting reconnaissance on the NAI for 1 hour (2140Z), and it will take me 40 minutes to return (2220Z), for a total of 2 hours and 20 minutes."

- **W:** **What procedures are taken if the leader fails to return?**
  "I should be providing you SITREPS at every checkpoint up to the NAI, and any information gathered on the NAI related to PIR. If you receive no radio communications with me by 2100Z, we will initiate the PACE plan of employing HF via the PRC-150. If I do not return within 2 hours and 20 minutes (2220Z), we will conduct link-up at Rally Point Bravo. If my team has not provided SITREPS and is not at Rally Point Bravo, seek guidance from TRP CO. Assume I've been captured/KIA/WIA, and assume comms have been compromised."

- **A :** **Actions – What actions does the departing element and main body plan to execute on enemy contact?**
  "Should I come into contact outside of engagement criteria before PL Charlie, I will break contact to the west to avoid leading the enemy to the main body. BPT support my maneuver if I take casualties.

  Should I come into contact within engagement criteria before PL Charlie, I will eliminate the threat and continue movement to the NAI. BPT support my maneuver if I take casualties.

  If I take contact at the NAI, BPT support me with mounted elements using crew served weapons. I will move to the SW quadrant of the NAI, plan the DFCM accordingly.

Objective Rally Points

- An objective rally point (ORP) is where the patrol halts to prepare for actions on its objective. The ORP can be used in either a mounted (commonly referred to as a VDO (vehicle drop off)) or dismounted fashion. It is located near the objective, and is out of sight and sound range so that the patrol's activities at the ORP are not detected by the enemy. This is normally at least one terrain feature from the objective, out of small arms range of enemy forces, and far enough from the objective that it cannot be overrun if the patrol is forced off the objective.
- Generally for a platoon ORP it is the PSG who is in charge and left at the ORP with a small contingent of security, while the rest of the platoon conducts reconnaissance or priorities of work. For section level ORPs, generally it is the JUNIOR SL that is in charge of the ORP and it's security while the SENIOR SL goes forth to conduct reconnaissance. At the end of the day, whatever the decisive point of the operation is (dismount reconnaissance VS maneuvering of vehicles/C2) will dictate who is left at the ORP. The ORP is tentative until pinpointed, and is used as a base for conducting the following actions:
    - Make final preparations before continuing operations, such as applying or replenishing camouflage, preparing equipment and OP bags, caching rucksacks for quick recovery, verbal rehearsals for actions on the objective prior to performing reconnaissance, inspecting weapons, and preparing enemy prisoner of war (EPW) bindings, first aid kits, and litters.
    - Issue GOTWA prior to R&S teams deploying to objective.
    - Issue FRAGORDs that effect SoM up to and on the objective.
    - Reconnoiter the objective.
    - Disseminate information from reconnaissance if contact was not made.
    - Account for Soldiers and equipment after actions on the objective are complete.
    - Reestablish the chain of command after actions on the objective are complete.
    - Battle tracking elements.
    - Relay station that reports information to higher.
- Deliberate occupation of an ORP is almost identical to occupying a patrol base. The exception is that there is no requirement to enter the ORP at a 90-degree turn. Reconnaissance by a small contingent will be performed on the tentative ORP site to ensure it meets the criteria for size, natural cover/concealment, avoidance of natural lines of drift, and is out of visual contact/direct fire range from enemy forces. Once the criteria is confirmed, the platoon or section will move to occupy and establish security with sectors of fire and DFCM. This method although preferred, is highly time consuming.
- Hasty occupation of an ORP is merely occupying by force a tentative location that seems to meet the ORP criteria, with little to no reconnaissance performed on the site. Sectors of fire and DFCM are still dictated by PLT leadership. This method is used only if there is good situational awareness of where the enemy is, and time is very limited.
- While mounted, the PL needs to template a PLOC and offset the mounted ORP far enough away where the vehicles won't be detected by audio signature or visual contact. The vehicles should be away from all roads and trails in a covered and concealed position. From there, the dismounts deploy to conduct actions on the objective after receiving final instructions from the PL/SLs. The mounted elements need to be within supporting range/distance of the objective in order to support the dismount R&S teams if needed. The leader that remains at the ORP is responsible for battle tracking dismounted movements, maintaining ORP security, and reporting to higher.
- If time allows, a leader's reconnaissance of the objective will occur once the platoon or squad establishes the ORP. Before departing, the leader issues a five-point contingency plan. During reconnaissance, the leader pinpoints the objective; selects reconnaissance, security, support, and assault positions for the elements; and adjusts the plan based on observation of the objective. The leader plans time to return to the ORP, complete the plan, disseminate information, issue orders and instructions, and allow the squads to make any additional preparations.

Observation Posts

- OPs are used in both Reconnaissance and Security missions.
- At a minimum there should be 2 scouts in an dismount OP team. If there are only 2 scouts, the effectiveness of that OP will diminish quickly depending on the duration of the OP. The 2 scouts should switch jobs every 20-30 minutes, because the observers effectiveness decreases quickly after that time.
- The optimal OP number is 3-4. 3-4 is optimal, because it affords enough Scouts to have an R team to recon/observe the NAI and an S team to provide security for the R team. Additionally, there are enough personnel to react to any viable form of contact, ground CASEVAC wounded personnel while still being able to fight as a team, and carry all necessary equipment to observe, report, and engage the threat. Any higher than 4 in or near a single OP increases your chance of compromise.
- At a minimum there should be 2 scouts in a single mounted OP. The 2 personnel (driver and gunner) should stay in those positions at all times during the operation, unless there is a plan to rotate them off those duties with extra dismounts who know how to operate the vehicle, optics, and weapon systems.
- A SET OP, is an OP that is secure and can observe the assigned NAI, TRP, and Avenue of Approach.
- An ESTABLISHED OP, is an OP where mounted / dismounted elements have HIDE/fighting positions, range cards/sector sketches are complete, TRPs are coordinated with other OPs, positions are camouflaged, EA development has been conducted, and the OP is more defendable. Battle drills for viable forms of contact should be planned and verbally rehearsed. OP teams should work towards transforming a SET OP to an ESTABLISHED OP. The PL/SL should dictate a time for the OP to be established after set, based off of his ICM.
- For Reconnaissance missions, you should set multiple short duration surface OPs utilizing cover and concealment on the outskirts of the NAI. Ensuring you have multiple vantage points for redundancy, multiple OPs for cueing, and different asset capabilities for mixing.
- During Reconnaissance missions, if the PLT or SEC does not have enough personnel to have multiple OPs on the objective, a single OP team will have to clover leaf around the NAI IOT view the entire area with multiple vantage points.
- For long duration Security missions, OPs should be sub-surface and within supporting range/distance of other dismounted or mounted elements. More Surveillance is conducted than Reconnaissance for a static sub-surface OP.

Observation Post Selection

- Based on the commander's guidance, the platoon leader selects the general location for the platoon OP's after analyzing the factors of METT-TC. From this analysis, the platoon leader determines how many OP's he must establish. The dismounted team and squad leaders select the exact position for each OP when they are physically on the ground. An OP should have the following characteristics:
- Good observation of the assigned area or sector. Ideally the fields of observation of adjacent OP's overlap to ensure full coverage of the sector.
- Effective cover and concealment. Scouts may need to pass up a position with favorable observation capability but no cover and concealment to get a position that provides better survivability.
- Covered and concealed routes to and from the OP. Scouts must be able to enter and leave their OP without being seen by the enemy.
- A location that will not attract attention. OPs should not be located along natural lines of drift.
- A location that does not skyline the observers. Avoid hilltops. Position OPs further down the slope of the hill or on the side, provided there are covered and concealed routes into the position. Stay away from the most obvious and highest hill in the area, they will be key terrain for the enemy reconnaissance.
- A pneumonic device to remember OP selection is BLUES:
  - B- Blend in with the surrounding area
  - L- Low to the ground construction techniques must be used
  - U- Unexpected sites should be use
  - E- Evacuation routes must be planned during site selection
  - S- Avoid silhouetting of the site

Observation Post equipment

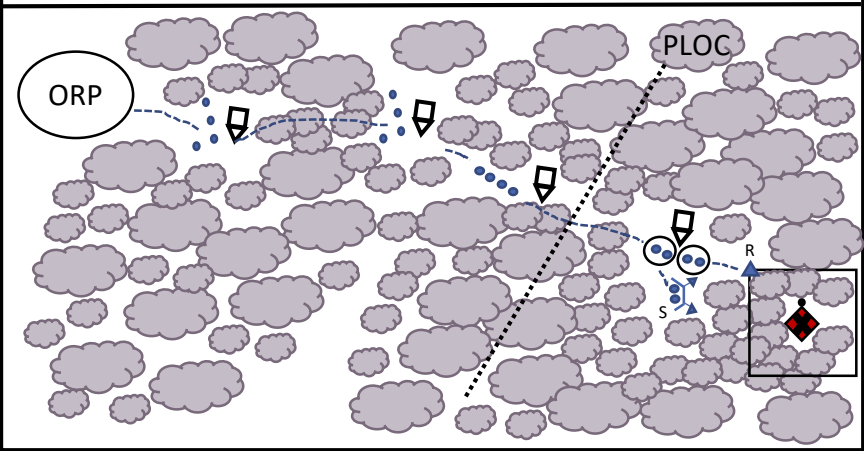
- Essential equipment for the OP includes the following:
  - Compass
  - Weapons consisting of rifles, machine guns, mines, and AT4/javelins.
  - Optics consisting of NODS, Vectors, TRGRs, spotting scopes, binos, laser range finders, and PAS-13.
  - Radios that are specified in the PACE plan. Also the accompanying SOI, report formats, and means to construct field expedient antennas.
  - Map of the area with graphics.
  - Seasonal equipment/sustainment.

Dismount movement to and occupation of an OP

- When an objective is templated with threat, stealth is the biggest security measure that dismounts possess. The closer you get to the objective, the higher your chances of compromise. The more people you have near the objective, the higher your chances of compromise.
- Deliberate thought needs to be given as to what the mission essential equipment is and how many personnel you actually need on an NAI. The NAI should have just enough OP teams to fully develop the situation, and maintain threat contact without becoming compromised.
- There should always be a PLOC templated that triggers a change from movement to maneuver up to the objective.
- If mission requirements dictate moving as a platoon or section and setting multiple OPs, a release point needs to be templated prior to the PLOC where the teams will disperse to their templated OPs. This avoids “herd” mentality of following the man in front of you, and massively decreases the chance of compromise.
- Leading up to and beyond the PLOC, the team will transition into a file and attempt to stay perpendicular to the objective. The reason for this, is it will be more difficult (from the point of view of the objective) to detect a perpendicular line of Scouts compared to a parallel line of scouts
- The team should attempt to avoid vegetation which would cause an audio signature. If there is no way to avoid such vegetation, the movement through it should be slow and methodical to minimize the noise.
- The team will utilize terrain to mask their movement. This involves staying in the shadows, bounding to the next piece of cover and concealment, walking in micro terrain, and staying in the dead space.
- The team will conduct SLLS (stop, look, listen, smell) halts habitually for up to 5-10 minutes while moving to the tentative OP, paying close attention to any audio signatures the enemy might inadvertently show.

Dismount movement to and occupation of an OP

- Once just outside of the NAI, the TL or SL will conduct one last SLLS halt. After that's completed, he will emplace the Security team in a covered and concealed position that will afford observation of the Recon team while they push up to a tentative OP location.
- The Recon team will issue the Security team a GOTWA prior to deploying. Both teams should have radios. They will also prepare all necessary equipment prior to going forward to observe the NAI.
- The Security team will act as a rally point for the Recon team if they have to displace. They will also serve as a support by fire and early warning element to the Recon team. Claymores should be setup to enable displacement of both R&S if under direct fire contact.



Actions on the short and long halt

- Units conducting tactical movement frequently make temporary halts. These halts range from brief to extended periods. For short halts, platoons use a cigar-shaped perimeter intended to protect the force while maintaining the ability to continue movement.
- When the platoon leader decides not to immediately resume tactical movement, he transitions the platoon to a perimeter defense. The perimeter defense is used for longer halts or during lulls in combat.
- DISMOUNTED short halt. This typically takes one to two minutes. Scouts seek immediate cover and concealment and take a knee facing outward. Leaders assign sectors of fire.
- DISMOUNTED long halt. This typically takes more than TWO MINUTES. Scouts assume the prone position behind cover and concealment facing out. Leaders ensure scouts have clear fields of fire, and assign sectors of fire.
- MOUNTED short halt. This typically takes one to two minutes. Vehicles form a herring bone formation while on the road, and the Senior SL or PSG ensures sectors of fire are covered for 360.
- MOUNTED long halt. This typically takes more than TWO MINUTES. The PSG or SL will keep track of time, and direct all mounted elements to move off of road into a covered and concealed position after two minutes. Dismounts will be deployed to provide local security, and perform reconnaissance on dead space. Leaders assign sectors of fire, and ensure they are overlapping. Leadership will determine if a short-count is necessary.

READINESS CONDITIONS

REDCON LEVEL	ACTIONS – Readiness conditions (REDCON)
REDCON-1 Full alert; unit ready to move and fight	• All equipment stowed; OPs pulled in. • All personnel alert and mounted on vehicles; weapons manned. • Engines started; platoon ready to move immediately. • All digital and FM links operational. **NOTE:** The level of REDCON-1(-) is the same as REDCON-1 except vehicles are not started.
REDCON-2 Reduced alert; unit ready to move in 15 minutes	• All equipment stowed; OPs pulled in (may still have local dismounted security). • All personnel alert and weapons manned. • All digital and FM links operational. • Status reports submitted IAW company/troop SOP.
REDCON-3 Reduced alert; unit ready to move in 30 minutes	• 50 percent of platoon executes work/rest plans. • Remainder of platoon executes security plan, to include manning OPs, weapons, and monitor radios/phones.
REDCON-4 Minimum alert; unit ready to move in 1 hour	• OPs manned; one man per platoon designated to monitor radio and one man on weapons. • Remainder of platoon executes work/rest plans. • Digital/FM links maintained.

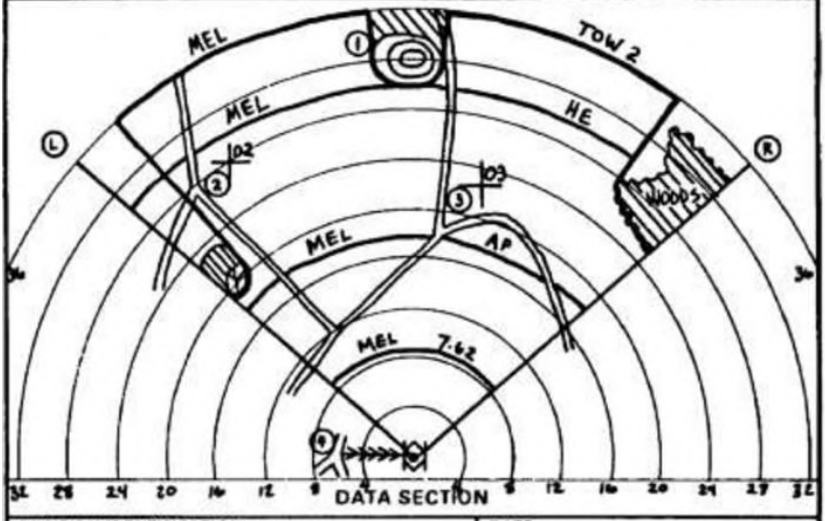
STANDARD RANGE CARD

For use of this form see FM 7-8. The proponent agency is TRADOC.

SQD A/T
PLT 2
CO C

May be used for all types of direct fire weapons

MAGNETIC NORTH



POSITION IDENTIFICATION: PRIMARY
DATE: 3 MAR / 1140 HRS
WEAPON: MZ C-21
EACH CIRCLE EQUALS METERS: 400

NO.	DIRECTION DEFLECTION	ELEVATION	RANGE	AMMO	DESCRIPTION
L	350°/5800 MILS	Ø MILS	2000 M	TOW 2	FARM HOUSE
R	105°/920 MILS	+ 10 MILS	2600 M	TOW 2	R/SIDE WOODLINE
1	6400 MILS	+ 30 MILS	3200 M	TOW 2	RP - HILLTOP
2	6910 MILS	+ 10 MILS	2700 M	TOW 2	TRP - AB002 RJ
3	60 MILS	- 10 MILS	1800 M	TOW 2	TRP - AB002 RJ

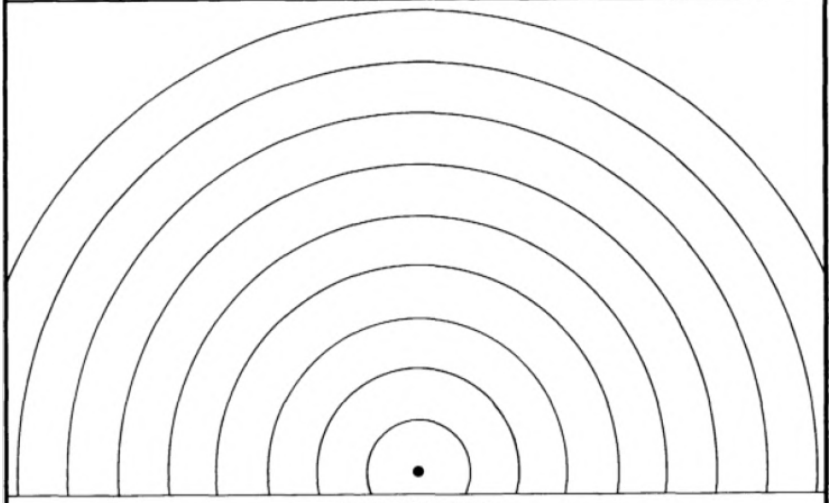
REMARKS: 4 WRP - RJ AT 13629411, 100° AT 320 M

DA FORM 5517-R, FEB 86

STANDARD RANGE CARD

For use of this form see FM 7-8. The proponent agency is TRADOC

SQD ____ PLT ____ CO ____	May be used for all types of direct fire weapons.	MAGNETIC NORTH

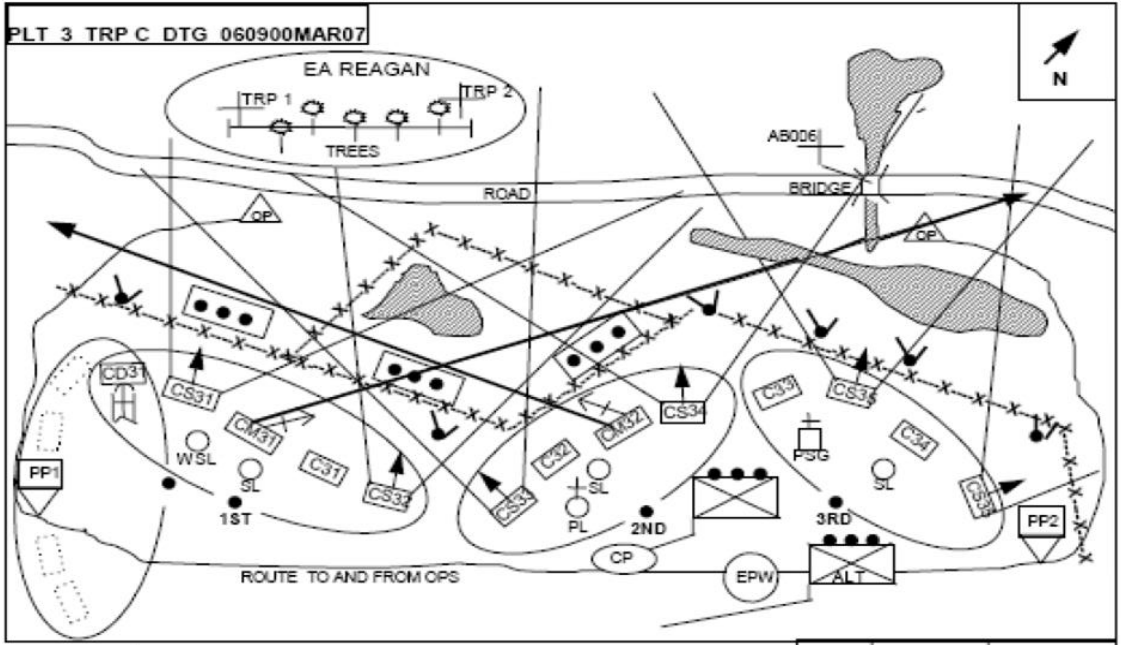


DATA SECTION

POSITION IDENTIFICATION			DATE		
WEAPON			EACH CIRCLE EQUALS _____ METERS		
NO.	DIRECTION/ DEFLECTION	ELEVATION	RANGE	AMMO	DESCRIPTION

REMARKS:

DA FORM 5517-R, FEB 86



SQD	RGT LMT	LFT LMT
1ST	40	0
2ND	25	285
3RD	70	325

Sector Sketch

PLT	TRP	DTG

N

Range Card Checklist

- -Ind and Crew-served wpns
- -240B FPLs and dead space
- -Dead space to front
- -LP/OP positions
- -Javelin positions
- -Anti-armor EAs
- -TRPs, FPFs and TGTs
- -Wire and mine fields
- -Adjacent units
- -Platoon CP
- -Medevac & supply routes
- -Supplementary and Alternate positions
- -Passage lines

SQD	RGT LMT	LFT LMT

TERRAIN INDEX REFERENCE SYSTEM (TIRS)

- TIRS is a tool that can be used routinely to maneuver the platoon. It should be used during combat operations. It can be used to identify battle positions (BP), to quickly pass out control measures (such as the LD, PLs, and boundaries), or to report friendly unit locations. It is not a method of encrypting information. Repeated use of TIRS "in the clear" can compromise unit security and safety.
- The parent unit normally issues the TIRS points to be used for the operation with the initial overlay received during the warning order. If the overlay with TIRS does not come with the warning order, the platoon leader should actively seek out the TIRS list. (TIRS should be transferred to graphics or directly onto a map as soon as possible. The written list of TIRS points must be kept for future reference.)
- Each TIRS point is designated by a mark, in the shape of a cross or plus sign, located on a grid line intersection. Each point is given a designator of one letter and two numbers; the designator is placed in the upper-right quadrant of the mark. TIRS point designators are a matter of SOP. Units may assign specific letters and numbers for specific unit sectors or areas of operations. For example, a TIRS point could be identified with the designator X56 and marked on a map at PA130620 (using six-digit grid coordinates).
- Referencing a location from a TIRS point is done in kilometers. For example, 500 meters is given as "POINT FIVE," 1,000 meters as "ONE," and 3,500 meters as "THREE POINT FIVE." For shifts from the TIRS point, cardinal directions are used rather than "left," "right," "up," or "down." Shifts to the east or west are given first, followed by shifts to the north or south.
- Consider the following transmission: "FROM X-RAY FIVE SIX-EAST ONE POINT EIGHT-NORTH ONE POINT SEVEN." This means, "From the tick mark for TIRS point X56, shift east 1,800 meters and north 1,700 meters."
- When a TIRS point is placed on a grid intersection, the use of shifts makes the TIRS point as accurate as a six-digit grid.
- The enemy will quickly figure out the TIRS locations if they are continually used in the clear on an unsecure net. Try not to use the same TIRS point more than twice. Instead, use a different TIRS point to reference the same location. The points can be encrypted using the numerical cipher/authentication system (authentication tables) and the operations code from the signal operation instructions (SOI). The letter in the TIRS point designator is given in the clear. The two-digit numerical portion is then encoded, making the designator for the TIRS point into a three-letter group. If the same TIRS point is used again, change the two-digit numerical designator. TIRS should never be used to give enemy locations.

Hearing distances

Source	Distance			
Cannon shot	0.0	to	15.0	kilometers
Single shot from a rifle	2.0	to	3.0	kilometers
Automatic weapons fire	3.0	to	4.0	kilometers
Tank movement				
On a dirt road	0.0	to	2.0	kilometers
On a highway	3.0	to	4.0	kilometers
Motor vehicle movement				
On a dirt road	0.0	to	500.0	meters
On a highway	0.0	to	1.0	kilometers
Movement of troops on foot				
On a dirt road	0.0	to	300.0	meters
On a highway	0.0	to	600.0	meters
Small-arms weapon loading	0.0	to	500.0	meters
Metal on metal	0.0	to	300.0	meters
Conversation between a few men	0.0	to	300.0	meters
Steps of a single Soldier	0.0	to	40.0	meters
Axe blow, sound of saw	0.0	to	500.0	meters
Blows of shovels and pickaxes	0.0	to	1,000.0	meters
Screams	0.0	to	1,500.0	meters
Oars on water	0.0	to	2,000.0	meters

Base camp sizes by echelon

Table E-1. Base camp sizes and planning factors

Base Camp Size	*Approximate Population*	*Dimension*	*Surface Area Required (not including standoff)*	*Length of Perimeter (nominal)*
Platoon	50	150 meters by 250 meters	37,500 square meters	800 meters
Company	300	300 meters by 450 meters	135,000 square meters	1,500 meters
Battalion/battalion landing team	1,000	500 meters by 1,200 meters	600,000 square meters	3,400 meters
Brigade/regimental combat team	3,000	To be determined by base camp planners	To be determined by base camp planners	To be determined by base camp planners
Support area	6,000 or greater	To be determined by base camp planners	To be determined by base camp planners	To be determined by base camp planners

Vehicle fighting position data

	Vehicle Types	Position Dimension (feet)[2]			Equipment Hours[4]	Minimum Berm Thickness at Base (feet)[5]
		Length	Width	Depth[3]	D7 Dozer/M9 ACE/MCT	
Hasty[1]	Stryker vehicle (all variants) with slat armor	32	19	9	1.6	8
	M113 series carrier	22	14	6	0.6	8
	M577 command post vehicle	22	14	9	0.8	8
	M106 and M125 mortar carrier	22	16	7	0.7	8
	AAV with armor kit	33	19	11	2.0	8
	LAV with armor kit	27	25	9	1.7	8
Deliberate	Hull Deflade					
	M113 series carrier	22	14	6	0.6	NA
	M577 command post vehicle	22	14	9	0.8	NA
	M106 and M125 mortar carrier	22	16	7	0.7	NA
	M2 and M3 fighting vehicle	26	16	7	0.8	NA
	M1 main battle tank	32	18	5.5	0.9	NA
	AAV with armor kit	33	19	11	2.0	NA
	LAV with armor kit	27	25	9	1.7	NA

	Vehicle Types	Position Dimension (feet)[2]			Equipment Hours[4]	Minimum Berm Thickness at Base (feet)[5]
		Length	Width	Depth[3]	D7 Dozer/M9 ACE/MCT	
Deliberate	Access Route	Each access route between positions or hide locations must have the same width as the hull deflade. Clearing times are planned using FM 5-34/MCRP 3-17A. Production time is determined by calculating the volume of soil needed to be moved (in cubic yards) and dividing by 100 bank cubic yards per 0.75 hour.				
	Hide Location	Hide locations are made using natural terrain and concealment. Ground clearing times are planned with the use of FM 5-34/MCRP 3-17A. The minimum width of the hide location is the same as the deliberate hull deflade. The hide position depth requirement is calculated by increasing the depth given in the deliberate turret deflade position by 15 percent.				
	Turret Deflade					
	Stryker vehicle (all variants) with slat armor	32	19	9	1.6	NA
	M113 series carrier	22	14	7.5	0.7	NA
	M2 and M3 fighting vehicle	26	16	10	1.2	NA
	M1 main battle tank	32	18	9	1.5	NA
	AAV with armor kit	33	19	13	2.3	NA
	LAV with armor kit	27	25	12	2.3	NA

[1] Hasty positions for tanks and infantry fighting vehicles not recommended.
[2] Position dimensions provide an approximate 3-foot clearance around vehicle for movement and maintenance and do not include access ramp(s).
[3] Total depth includes any berm height. All depths are approximate and will need adjustment for surrounding terrain and fields of fire.
[4] This column provides rules of thumb which are useful (in the absence of actual production rate data) as a starting point to estimate time required to prepare fighting positions. These equipment hours are based on a production rate of 100 bank cubic yards per 0.75 hour. Divide construction time by 0.85 for rocky or hard soil, night conditions, or closed hatch operations (M9). Use of natural terrain features will reduce construction time. See TM 3-34.62 for more information about estimating production rates.
[5] Berms are not recommended for hull and turret deflade positions.

Legend:
AAV – assault amphibious vehicle
ACE – armored combat earthmover
FM – field manual
LAV – light armored vehicle
MCRP – Marine Corps reference publication
MCT – medium crawler tractor
NA – not applicable

Vehicle data

VEHICLE	MLC	FORD	RANGE
M1A2 ABRAMS	82	48"	504g tank/220 miles HW
M2A3 BRAD	36	36-48"	197g tank/300 miles HW
M3 BRAD	25	36-48"	197g tank/300 miles HW
M109A5 PALADIN	28	42"	133g tank/217 miles HW
M113	12	40"	95g tank/300 miles HW
M88A2 HERCULES	71	56"	413g tank/314 miles HW
M977 HEMMT	18/28	48"	155g tank/300 miles HW
M978 FUELER	32 FILLED	48"	155g tank + 2500g fuel
M984 WRECKER	19	48"	155g tank/300 miles HW
M1070 HET+M1A2	96	28"	250g tank/325 miles HW
M1083 LMTV	10/16	36"	56g tank/300 miles HW
STRYKER MCV	21	53"	53g tank/280 miles HW
STRYKER SINGLE V	21	53"	53g tank/280 miles HW
STRYKER MGS SLAT	25	53"	53g tank/280 miles HW
M1151 HMMWV	6	30/60" w kit	25g tank/250miles HW

HEMMT TURNING RADIUS 29 M
HET+TRAILER TURNING RADIUS 24.03-24.7M

FORD DEPTH BASED OFF OF HARD FORDING SURFACE

HIGHEST MLC'S GIVEN FOR MOST COMMON VARIANTS. 2 MLC'S WERE GIVEN TO SIGNIFY EMPTY/LOADED. STRYKER SINGLE V MLC IS ICV/RV WITH SLAT ARMOR, MCV MLC IS SINGLE V W/O SLAT.

Always remember the purpose of route reconnaissance is to determine trafficability of the route for follow on forces. If your vehicle can barely travel on the route due to width/height/road composition, chances are follow on forces can barely travel on it too.

Weapon data

WEAPON	M249	M240-SERIES	M2/M1A2	MK19
Field Manual	FM 3-22.68	FM 3-22.68	FM 3-22.65	FM 3-22.27
Description	5.56-mm gas-operated automatic weapon	7.62-mm gas-operated medium machine gun	.50-caliber recoil-operated heavy machine gun	40-mm air- cooled, blowback-operated automatic grenade launcher
Weight	16.41 lbs. (gun with barrel) 16 lbs. (tripod)	27.6 lbs. (gun with barrel) 20 lbs. (tripod)	128 lbs. (gun with barrel and tripod)	140.6 lbs. (gun with barrel and tripod)
Length	104 cm	110.5 cm	156 cm	109.5 cm
SUSTAINED RATE OF FIRE Rounds/Burst Interval Minutes to Barrel Change	50 RPM 6-9 rounds 4-5 seconds 10 minutes	100 RPM 6-9 rounds 4-5 seconds 10 minutes	40 RPM 6-9 rounds 10-15 seconds Change barrel end of day or if damaged	40 RPM
RAPID RATE OF FIRE Rounds/Burst Interval Minutes to Barrel Change	100 RPM 6-9 rounds 2-3 seconds 2 minutes	200 RPM 10-13 rounds 2-3 seconds 2 minutes	40 RPM 6-9 rounds 5-10 seconds Change barrel end of day or if damaged	60 RPM

WEAPON	M249	M240-SERIES	M2/M1A2	MK19
Cyclic Rate of Fire	850 RPM in continuous burst Barrel change every 1 minute	650-950 RPM in continuous burst Barrel change every 1 minute	450-550 RPM in continuous burst	325-375 RPM in continuous burst
Maximum Effective Ranges	Bipod/point: 600 m Bipod/area: 800 m Tripod/area: 1,000 m Grazing: 600 m	Bipod/point: 600 m Tripod/point: 800 m Bipod/area: 800 m Tripod/area: 1,100 m Suppression: 1,800 m Grazing: 600 m	Point: 1,500 m (single shot) Area: 1,830 m Grazing: 700 m	Point: 1,500 m Area: 2,212 m
Maximum Range	3600 m	3725 m	6764 m	2212 m

Weapon data

	M16A2	*M4*
Weight	7.78 lbs	6.49 lbs
Maximum effective rate of fire:		
• Semiautomatic (rounds per minute).	45	45
• Burst (3 rounds per minute).	90	90
• Sustained (rounds per minute).	12-15	12-15
Range:		
• Maximum range (meters).	3,600 meters	3,600 meters
• Maximum effective range.		
□ Point target (meters).	550 meters	500 meters
□ Area target (meters).	800 meters	600 meters
Operational Characteristics:		
• Barrel (rifling-right hand 1-inch twist).	7	7
• Muzzle velocity.	3,100 ft/sec	2,970 ft/sec
• Cyclic rate of fire.	700-900 rds/sec	700-900 rds/sec
References:		
• FM 3-22.9.		
• TM 9-1005-319-10.		

SHOULDER-LAUNCHED MUNITION	*M136 AT4 DODIC C995*	*M136A1 (AT4CS) DODIC HA35*	*M72A2/A3 LAW DODIC H557*
Field Manual	TM 3-23.25	TM 3-23.25	TM 3-23.25
Carry Weight	15.0 lbs.	17.0 lbs.	5.0 lbs.
Length:	40 inches	41 inches	25 inches
Carry Extended:	N/A	N/A	35 inches
Caliber	84-mm	84-mm	66-mm
Muzzle Velocity	290 m/s 950 f/s	225 m/s 738 f/s	144.8 m/s 475 f/s
Operating Temperature	-40 to 60 C -40 to 140 F	-40 to 60 C -40 to 140 F	-40 to 60 C -40 to 140 F
Maximum Effective Range	300 m	300 m	Stationary – 200 m Moving - 165 m
Maximum Range	2100 m	2100 m	1000 m
Minimum Arming Range	10 m	10 m	10 m

Weapon data

Javelin

Type of System	Fire and forget	
Crew	One- to three-Soldier teams based on TOE	
Missile Mode	Top attack (default)	
	Direct attack	
Minimum Effective Range	Top attack mode	150 m
	Direct attack mode	65 m
Maximum Effective Range	Direct attack and top attack modes	2,500 m
Backblast Area	Primary danger zone	Extends out 25 m at a 60-degree (cone-shaped) angle
	Caution zone	Extends the cone-shaped area out to 100 m
NOTE: See Figure 1-5 and Appendix A for safety factors.		
Propulsion–Two-Stage Motor	Launch motor ejects the missile about 15 ft from the LTA	
	Flight motor propels the missile to the target	
Firing From Inside Enclosures	Minimum room length	15 ft
	Minimum room width	12 ft
	Minimum room height	7 ft

Dimensions and Weight	CLU with Battery, Carry Bag, and Cleaning Kit	
	Weight	14.99 lb (6.80 kg)
	Length	19.29 in (49.00 cm)
	Height	13.00 in (33.02 cm)
	Width	16.50 in (41.91 cm)
	Carry Bag Only	
	Width	0.60 lb (0.27 kg)
	CLU with Carry Bag and Cleaning Kit	
	Weight	12.77 lb (5.79 kg)
Sights	Daysight	
	Magnification	4x
	FOV	6.4° x 4.8°
	NVS	
	WFOV--magnification	4x
	WFOV	6.11° x4.58°
	NFOV--magnification	12x
	NFOV	2° x 1.5° (approximately)
Battery	Type	*Lithium sulfur dioxide battery, BA-5590/U (Non-rechargeable) **Nickel metal hydride battery, BB-390A/U rechargeable (training use only)
	Number required	1
	National stock number (NSN)	*6135-01-036-3495 ** 6140-01-490-4317
	Weight	2.22 lb (1.01 kg)
	Life (NIGHT mode)	4.0 hr below 120°F (49°C)
		3.0 hr between 50°F to 120°F (10°C to 49°C)
		1.0 hr between -20°F to 50°F (-49°C to 10°C)
		0.5 hr above 120°F (49°C)

Round, Complete LTA With Missile BCU Installed	Weight and Dimensions	
	Weight	34.16 lb (15.50 kg)
	Length	47.60 in (120.90 cm)
	Diameter	
	Across end caps	11.75 in (29.85 cm)
	Across LTA	5.515 in (14.00 cm)
Missile Only	Weight and Diameter	
	Weight	22.328 lb (10.128 kg)
	Length	42.626 in (108.27 cm)
	Diameter	5.000 in (12.70 cm)
	Seeker FOV	
	FOV magnification	9x
	FOV	1° x 1°
BCU	Weight and Diameter	
	Weight	2.91 lb (1.32 kg)
	Length	8.160 in (20.726 cm)
	Width	4.627 in (11.752 cm)
	Battery Section	
	Type	Lithium iron disulfide (non-rechargeable)
	Life Expectant	4 min minimum
	Coolant Gas Section	
	Type	Argon

Raven data

Parameter	Characteristic
Wingspan	55 in
Length	36 in.
Structure	modular, Kevlar™ composite
EO Payload Weight	6.5 oz. (0.4 lb.)
Air Vehicle Weight (with EO Payload	4.4 lb.
IR Payload Weight	11.5 oz. (0.7 lb.)
Air Vehicle Weight (with IR Payload)	4.7 lb.
Gimbaled Payload Weight	13 oz. (0.8 lb.)
Air Vehicle Weight (with Gimbaled Payload)	4.8 lb.
Normal Operating Altitude	150 - 1,000 ft. above ground level (AGL)
Cruise Speed	26 kts
Range	10 km line of sight (LOS)*
Climb Rate	800 ft./min at 2,000 ft. mean sea level (MSL)
Turn Rate	90° in 6 seconds
Motor	Direct drive electric
Air Vehicle Batteries	Li-Ion (rechargeable)
Flight Duration	60-90 min.
Launch	Hand launch
Landing	Deep stall Autoland
Navigation	P(y)-code Global Positioning System/Selective Availability Anti-Spoofing Module (GPS/SAASM) (WGS84) and electronic compass
Flight Control	Manual or autonomous

* Link range is greater with directional antenna than with omni antenna. Link range can be temporarily limited by terrain, weather, obstructions, antenna orientation, or interfering transmitters.

-Maximum Launch Altitude: 10,000 ft. MSL. Launching above 10,000 ft. MSL can be accomplished but with reduced climb rate and thus increased risk of impact with nearby obstacles.
-Maximum Flight Altitude: 300-500 ft. AGL. Operating above 500 ft. AGL can be accomplished but with reduced video sensor performance.
-Wind speed maximum is 20 knots. The Raven can be operated in winds higher than 20 knots but with reduced mission capability and higher risk of damage during launch, landing
and recovery.
-Operational temp range is -29 deg Celsius to 50 deg Celsius.

RAVEN PER SQDN IN BCTS

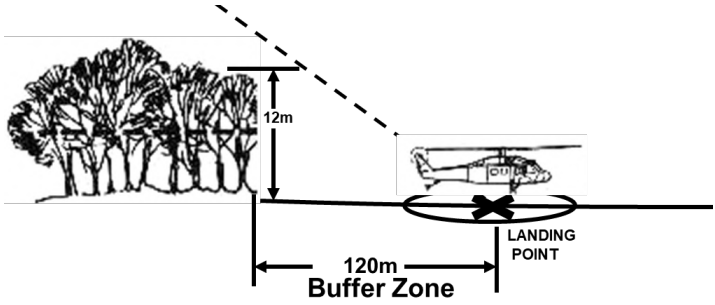
IBCT	SBCT	ABCT
3x Ravens	3x Ravens	5x Ravens

HLZ data

Landing Point	Minimum Diameter Of Landing Point	Type of Helicopter/Operation
Size 1	25m (ARMY)	A/M/OH-6, UH-72A
Size 2	35m (MARINE)	AH-1W/Z , UH-1Y /N
Size 3	50m	AH-64, UH-60A/L/M, SH-60, MH-60
Size 4	80m	All CH A/C, to include MV/CV-22B
Size 5	100m	All Slingload A/C (Daytime), A/C of unknown origin
Size 6	125m	All Slingload A/C using long lines
Size 7	150m	All Slingload A/C (Night time)

Qualified PF or AA may have authority to reduce TDP by 1 size if coordinated with Aviation unit CO. Reducing TDP Is a last resort measure.

Standard obstacle ratio is 10:1. Qualified PF or AA may have authority to reduce ratio to 5:1 if coordinated with Aviation unit CO. Reducing obstacle ratio is a last resort measure, second to TDP reduction



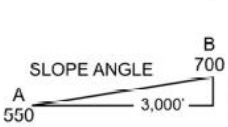
HLZ surface conditions

- **SURFACE -** Pathfinders choose a landing point with a hard surface to support the weight of the aircraft to prevent helicopters from becoming mired, creating excessive dust, or blowing snow. The surface of the landing point must allow a fully-loaded helicopter to land, restart, and leave again, all without sinking into the ground.
- **CLEAR TO GROUND -** Pathfinders must clear the entire landing point of any loose material that the rotors could blow up. The term is "cleared to ground level." Unless a fire risk exists, they need not clear grass less than 0.3 meter (1 foot) high, as long as the field is level.
- **OBSTACLES -** Ground troops must do everything they can to improve landing point surfaces so aircraft can land. In general, an obstacle is a stump, rock, hole, or other object, 18 inches or larger, that might damage the aircraft or impede aircraft landing. No obstacles can be in a TDP in which an aircraft is going to land. 4 R's include:
  - Remove
  - Reduce
  - Red
  - Radio
- **GROUND SLOPE -** Pathfinders choose landing sites with relatively level ground. For the helicopter to land safely, the slope should not exceed 7 degrees. Whenever possible, pilots should land upslope rather than downslope. All helicopters can land where ground slope measures 7 degrees or less and no advisory is required. When the slope exceeds 7 degrees, observation and utility helicopters that utilize skids for landing must terminate at a hover to load or off-load personnel or supplies. When the slope measures between 7 and 15 degrees, large utility and cargo helicopters that use wheels for landing are issued an advisory, and they land upslope. When the slope exceeds 15 degrees, all helicopters must be issued an advisory and terminate at a hover to load or off-load personnel or supplies.

How to determine ground slope in degrees

GROUND SLOPE EXPRESSED IN DEGREES

The approximate slope angle may be calculated by multiplying the gradient by 57.3. This method is reasonably accurate for slope angles under 20 degrees.

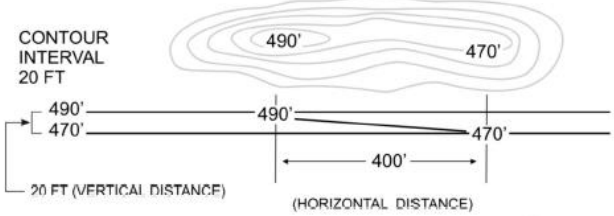


GROUND SLOPE EXPRESSED AS PERCENTAGE

To determine the percent of ground slope, divide the vertical distance (VD) by the horizontal distance (HD) and multiply by 100.

$$\text{PERCENT of SLOPE} = \frac{VD}{HD} \times 100$$

Verticle distance is the difference in field elevation between the two ends of the landing site. Always round number up to the next whole number.



$$400 \overline{)\,20.00}^{\,.05} \qquad .05 \times 100 = 05.00 = 5 \text{ PERCENT}$$

PATHFINDER SLOPE LANDING RULES

Do not land small utility and observation aircraft on slopes exceeding 7 degrees.
Give large utility and cargo aircraft an advisory if ground-slope is between 7 and 15 degrees.
Always advise pilot when landing wheeled aircraft on a sideslope.

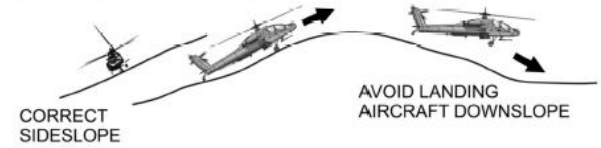


Table 27. Field Artillery Cannons / Naval Surface Fire Support (cont'd)

	Ammunition		Range (kilometers)			Rate of Fire (rounds per minute)	
	Projectile	Fuze	Max	DPICM	RAP	Sust	Max
155mm M109A5[1]/ A6	HE, WP, ILLUM, APICM, DPICM, M825 Smoke, SCATMINE	PD, VT, MT, ET, MTSQ, Delay	18.2 or 21.7w/ M795 HE, M825 Smoke 24.5w/ M982 Block 1-1a1	17.9 or 28.1 w/ M864	30.0	1	4 for 2 minutes then 2
155mm M777-series	HE, WP, ILLUM, APICM, DPICM, M825 Smoke, SCATMINE	PD, VT, MT, ET, MTSQ, Delay	22.2 w/ M201A1 Change 8S or 22.5 w/ M232, Zone 5; 24.5 w/ M982 Block 1-1a Smoke; 24.5 w/ M982	N/A	30.0	2	4 for 2 minutes then 1
5-inch/ 54[2]	HE, ILLUM	PD, VT, CVT, Delay	21.9 (full charge) 12.2 (reduced charge)	N/A	N/A	16–20	

Notes:
1. Excalibur rounds are not authorized for the M109A5.
2. There are two NSFS-type ships: the USS Arleigh Burke-class guided-missile destroyer (DDG), a one-gun ship; and the USS Ticonderoga-class, guided-missile cruiser (CG) a two-gun ship. The biggest limitation to NSFS is the hydrography, the average draft of an NSFS ship is 29 feet.
3. See Appendix H, Risk Estimate Distances, for a detailed discussion of danger close.

Legend:

APICM—antipersonnel improved conventional munition
CVT—controlled variable time
DPICM—dual purpose improved conventional munition
ET—electronic time
HE—high explosive
ILLUM—illumination
max—maximum
mm—millimeter
MT—mechanical time
MTSQ—mechanical time superquick
NSFS—naval surface fire support
PD—point detonating
RAP—rocket assisted projectile
SCATMINE—scatterable mine
sust—sustained
VT—variable time
WP—white phosphorous

Table 28. Mortars

Weapon	Ammunition		Range (m)		Rate of fire (rounds per minute)
	Model	Type	Min.	Max.	
60mm M224	M720	HE	70	3,489[1]	30 for 4 minutes[2], then 20. Diameter of illumination: M721–500m M83A3–300m
	M888	HE	70	3,489	
	M722	WP	70	3,489	
	M721	ILLUM	200	3,489	
	M302A1	WP	35	1,830	
	M83A3	ILLUM	725	950	
	M49A4	HE	45	1,830	
81mm M29A1	M374A2	HE	70	4,600	25 for 2 minutes, then 8 Diameter of illumination: 360m
	M374A3	HE	73	4,800	
	M375A2	WP	70	4,595	
	M301A3	ILLUM	100	3,150	
81mm M252	M821	HE	80	5,800	30 for 2 minutes, then 15 Diameter of illumination: 1500m
	M889	HE	83	5,800	
	M374A3	HE	73	4,800	
	M819	RP	300	4,875	
	M375A2	WP	73	4,595	
	M853A1	ILLUM	300	5,060	
	M301A3	ILLUM	100	3,950	
120mm M120	M57	HE	200	7,200	16 for 1 minute, then 4 Diameter of illumination: 1500m
	M68	WP	200	7,200	
	M91	ILLUM	200	7,100	
	M933	HE / PD	200	7,200	
	M934	HE / MOF	170	7,200	
	M929	WP	170	7,200	
	M930	ILLUM	170	7,200	
120mm (smoothbore) M327 (EFSS)	M934A1	HE	478	6,700	4 for 1 minute, then 2
	M929	SMOKE	478	6,800	
	M930	ILLUM	1,342	6,600	
120mm (rifled) M327 (EFSS)	M1101	HE	1,222	7,900	4 for 1 minute, then 2
	M1103	SMOKE	1,222	7,900	
	M1105	ILLUM	1,222	7,900	

Notes:
1. Bipod-mounted, charge 4, maximum handheld range is 1,300m.
2. This applies to charge 2 and over. Thirty rounds per minute can be sustained with charge 0 or 1.

Legend:

EFSS—Expeditionary Fire Support System
HE—high explosive
ILLUM—illumination
m—meter
max—maximum
min—minimum
mm—millimeter
MOF—multi-option fuze
PD—point detonating
RP—red phosphorous
WP—white phosphorous

IDF ranges and risk estimate distance

IDF ranges and risk estimate distance

Risk estimate distances (REDs) describe the likelihood (1 in 1000 chance) in terms of distance from point of impact of soldiers being incapacitated in increments of 1/3rds, 2/3rds, and max range of system firing. It is different from DANGER CLOSE, as "Danger Close" is a warning of the proximity of friendly forces and possibility of increased risk. "Danger close" does not restrict ground force maneuver or fires employment. Therefore you are able to CFF within "danger close", up to the limit of the risk estimate distance. However once the point of impact crosses the distance laid out in REDs, you start running the chance of fratricide.

Table 81. Unguided Mortar Risk Estimate Distances

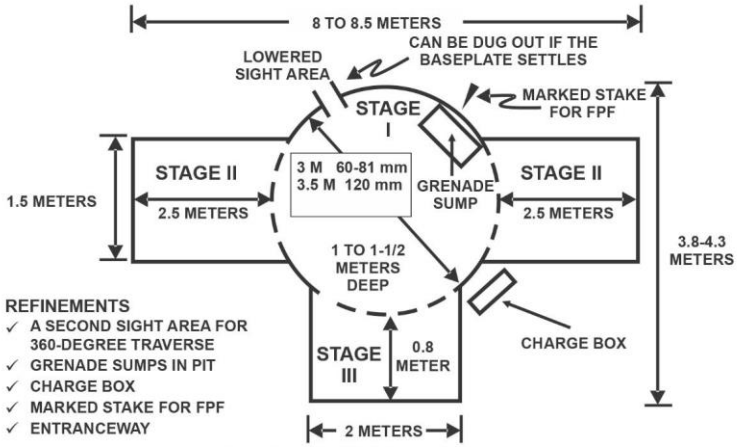
System	Description	Danger Close (in meters)	Range	0.1% Probability of Incapacitation (in meters)	
				Standing	Prone
M224	60 millimeter (mm) Mortar	600	1/3	115	115
			2/3	125	120
			Max	145	145
M252	81mm Mortar	600	1/3	170	160
			2/3	195	190
			Maximum	195	185
M120/ M327	120mm Mortar	600	1/3	280	260
			2/3	395	365
			Maximum	430	410

Table 82. Unguided Cannon Risk Estimate Distances

System	Description	Danger Close (in meters)	Range	0.1% Probability of Incapacitation (in meters)	
				Standing	Prone
M119/M1 19A2	105mm Howitzer HE (M1 Comp B/M760)	600	1/3	290	270
			2/3	300	285
			Maximum	455	430
	105mm Howitzer HERA (M913 HERA/ M927 HERA)	600	1/3	250	230
			2/3	410	395
			Maximum	650	620
M109A6/ M777A2	155mm Howitzer HE (M107 Comp B/M795)	600	1/3	300	285
			2/3	460	440
			Maximum	695	665
	155mm Howitzer DPICM (M483A1)	600	1/3	270	260
			2/3	325	310
			Maximum	510	490
	155mm Howitzer DPICM (M864)	600	1/3	325	305
			2/3	500	485
			Maximum	825	775
	155mm Howitzer RAP (M945A1 RAP)	600	1/3	360	360
			2/3	530	520
			Maximum	1,045	965

Legend:
DPICM—dual purpose improved conventional munition
HE—high explosive
HERA—high explosive rocket assisted
RAP—rocket assisted projectile

MFP dimensions and selection criteria



Example only. Actual construction is METT-TC dependent.

LEGEND	
FPF	FINAL PROTECTIVE FIRE
METT-TC	MISSION, ENEMY, TERRAIN AND WEATHER, TROOPS AND SUPPORT AVAILABLE, TIME AVAILABLE, AND CIVIL CONSIDERATIONS
mm	MILLIMETER

For mounted mortar platforms reference the vehicle fighting positions.

MFP dimensions and selection criteria

- Mortar-firing positions are selected based on mission accomplishment (the most important factor), tactical situation, target range criteria, target area coverage, survivability, overhead and mask clearance, surface conditions, communications, and routes.
- Mission accomplishment is the most important factor. The position must permit a mortar section or platoon to accomplish its primary mission. Mortar unit leaders ensure that the potential position can support the mission.
- A mortar leader must understand the tactical situation, the supported unit's mission, the location of friendly units, and potential enemy threats.
- Maximum and minimum mortar ranges determine whether mortars can support from selected firing positions. Good mortar position selection allows the mortar to fire at least one-third of the weapon's range behind the forward line of their own troops to support retrograde, and two-thirds of their range to the front of the forward elements of the supported friendly force.
- Mortar positions give maximum coverage of the battalion or company AO. To do this, the mortar platoon leader begins by analyzing the defensive plan, locations of priority targets, and the enemy avenues of approach. To cover the supported unit, the mortar unit often positions itself near the center of the unit's position.

MFP dimensions and selection criteria

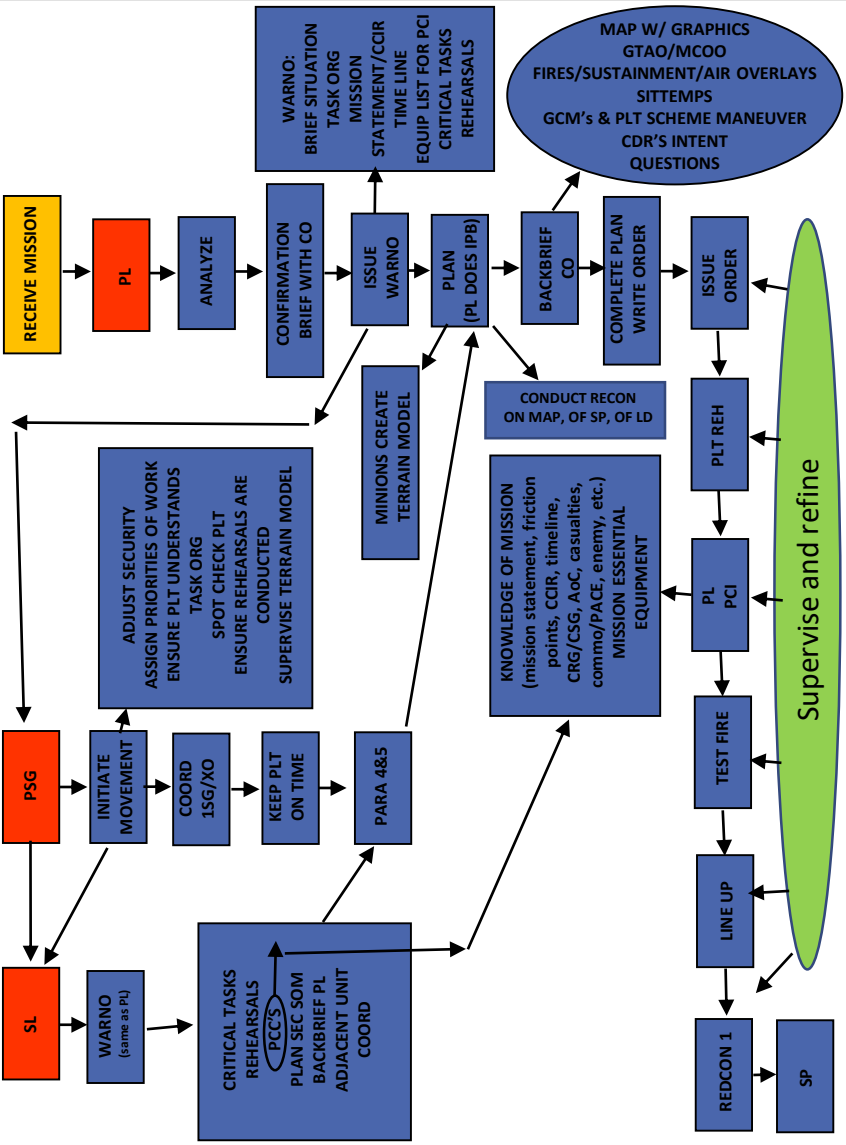
- Mortar crews face many threats on the battlefield, including CBRN hazards, counter-mortar fire, ground attacks, and air attacks. These are all considered when a mortar position is selected. The position facilitates both active and passive defense measures so it:
  - Cannot be hit by direct or low-angle indirect fire (defilade)
  - Can be entered without enemy observation.
  - Offers good cover and concealment.
  - Avoids obvious avenues of approach.
  - Has more than one entrance and exit route.
  - Takes advantage of existing terrain features and natural obstacles.
- For survivability, mortar systems are mounted in defilade whenever possible. When in defilade there is mask (intervening object that screens the mortars from view of the enemy or target) such as a hill, trees, buildings, a courtyard, solid fences, or a rise in the ground. There may also be overhead interference from roofs or overhanging tree branches. When selecting the exact mortar position, the squad leader quickly checks for mask clearance and overhead clearance. All mortar leaders ensure that the concealment and positioning of the mortars does not interfere with their effective operation.
- Soil at each mortar position must be well-drained and firm so that mortar baseplates do not sink into the ground when the mortars are fired. If mortars are mounted on carriers, the soil must be firm for the carriers to remain stable when mortars are fired. Sandbags and other material can be used when firing from a hard surface, such as a road or other areas found in urban terrain

MFP dimensions and selection criteria

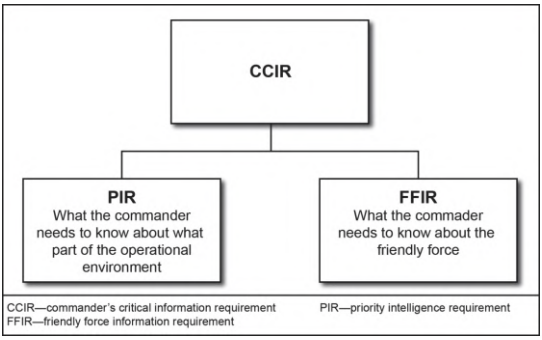
- The mortar element must be able to communicate with a supported unit, and platoon mortar squads must be able to communicate with an FDC. During reconnaissance, radio checks are made at the position to be occupied. Outside interference can degrade the radius that mortars can communicate with line-of-sight based radios. Terrain features and heavily populated areas are examples of outside interference.
- Mortar positions may be close to access routes to speed resupply and displacement as long as the position does not prevent concealment or limit mortar element survivability. When required, helicopter landing zones are identified for sustainment/logistics or maneuver purposes.

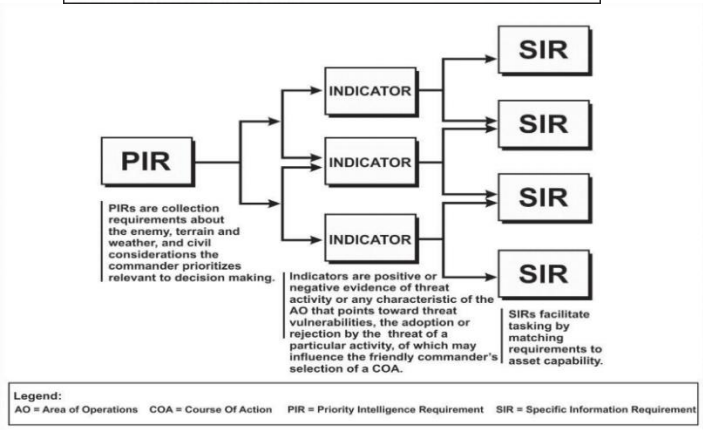
Mandated PCC list

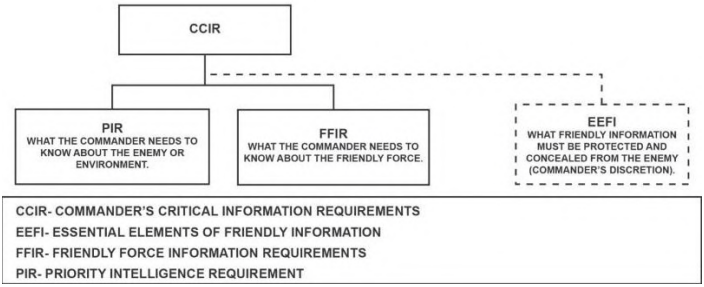
- All soldiers and leaders will ensure the criteria below is accounted for and completed prior to SP for missions.
- Students may/should add to this IOT account for additional measures when conducting PCCs and PCIs to enable mission success.
- Meeting this criteria during operations will mitigate risk to mission and ensure our formations are “Fit to fight.”
  - **Vehicle/equipment PMCS complete (faults labeled on 2404)**
  - **Load plan complete (equipment stowed and tied down)**
  - **Weapon systems and optics secured and double checked (.50 CAL, LRAS, ITAS, M240, ETC)**
  - **Restraint systems present and operational (gunners restraint, seatbelts, TC hatch)**
  - **Internal/External COMMs**
  - **Fuel topped off**
  - **1 DOS of CL 1**
  - **CLS bag present**
  - **Rollover/Fire drills complete**
  - **Green 2 complete**


RECEIVE MISSION
PL
ANALYZE
CONFIRMATION BRIEF WITH CO
ISSUE WARNO
WARNO: BRIEF SITUATION TASK ORG MISSION STATEMENT/CCIR TIME LINE EQUIP LIST FOR PCI CRITICAL TASKS REHEARSALS
PLAN (PL DOES IPB)
BACKBRIEF CO
MAP W/ GRAPHICS GTAO/MCOO FIRES/SUSTAINMENT/AIR OVERLAYS SITTEMPS GCM's & PLT SCHEME MANEUVER CDR'S INTENT QUESTIONS
COMPLETE PLAN WRITE ORDER
ISSUE ORDER
MINIONS CREATE TERRAIN MODEL
CONDUCT RECON ON MAP, OF SP, OF LD
PLT REH
ADJUST SECURITY
ASSIGN PRIORITIES OF WORK
ENSURE PLT UNDERSTANDS TASK ORG
SPOT CHECK PLT
ENSURE REHEARSALS ARE CONDUCTED
SUPERVISE TERRAIN MODEL
KNOWLEDGE OF MISSION (mission statement, friction points, CCIR, timeline, CRG/CSG, AoC, casualties, commo/PACE, enemy, etc.) MISSION ESSENTIAL EQUIPMENT
PL PCI
Supervise and refine
PSG
INITIATE MOVEMENT
COORD 1SG/XO
KEEP PLT ON TIME
PARA 4&5
TEST FIRE
LINE UP
SL
WARNO (same as PL)
CRITICAL TASKS REHEARSALS
PCC'S
PLAN SEC SOM
BACKBRIEF PL
ADJACENT UNIT COORD
REDCON 1
SP

Information requirements







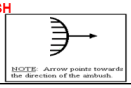
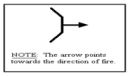
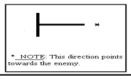
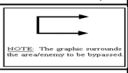
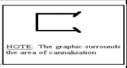
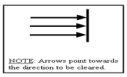
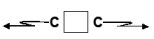
Information requirements

- Commanders base their initial information requirements on known decision points and the critical gaps identified during IPB in the mission analysis step of the MDMP.
- Early employment of reconnaissance assets oriented on the BCT's PIR will aid the brigade commander in understanding and visualizing the operating environment and inform course of action (COA) development and the targeting process as the BCT staff continues their MDMP.
- Commanders limit the number of PIRs and link them to decision points to focus the efforts of limited information collection assets. CCIRs tie directly to the scheme of maneuver and decision points.
- **IR** is any information element the commander and staff require to successfully conduct operations.
- **PIR** is an intelligence requirement, stated as a priority for intelligence support that the commander and staff need to understand the adversary or other aspects of the operational environment. Always linked to a decision point for the Commander.
- **Friendly force information requirements** identify the information the commander considers most important about the mission, troops and support available, and time available for friendly forces.
- **Essential elements of friendly information** are what commanders describe as information they want protected. An essential element of friendly information is a critical aspect of a friendly operation that, if known by the enemy, would subsequently compromise, lead to failure, or limit success of the operation and therefore protected from enemy detection. Although EEFIs are not CCIRs they have the same priority.
- **Indicators** in intelligence usage, is an item of information which reflects the intention or capability of an adversary to adopt or reject a course of action (JP 2-0). Indicators are positive or negative information regarding threat activity or any characteristic of the AO that—
  - Points toward threat capabilities and vulnerabilities.
  - Points toward the adoption or rejection by the threat of a particular course of action or activity.
  - May influence the commander's selection of a course of action.
- **SIRs** are developed for each information collection asset based on the capabilities of the asset and the expected threat activity. SIRs provide specific information about specific threat activity (or lack thereof) at specific locations. SIRs help collection assets provide information specific and timely enough to make a difference in answering the PIRs.
- The **NAI** is the geographical area in which an indicator and its associated SIR to resides. NAIs must link to at least one PIR.
- **LTIOV** is time by which an intel organization or staff must deliver information to the requester in order to provide decision makers with timely intelligence. This must include the time anticipated for processing and disseminating that information as well as for making the decision.

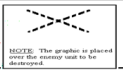
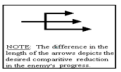
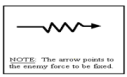
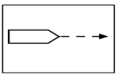
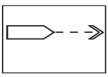
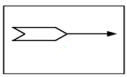
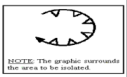
DP	PIR	INDICATOR	NAI	TM	SEC	PLT	ASSET	ASSET	FIRES	LTIOV
Decision Point	Broad questions that ID info about enemy/terrain/weather/ civil considerations the CO considers important, tied to DP	yes/no/numerical evidence of threat or things that may influence CO's COA (DP) selection	Named Area of Interest	TEAM	SEC	PLT	SIGINT Prophet TM	TRP Raven (Triggered upon visual contact)	Our nearest Fires TGT #'s and type	Last Time Information is of value
7A	1. Is Russian Mech Inf BAT staging for imminent counter attack past PL Clown Shoes in A-TRP 1-91 CAV's AO?	20 or more BMP's in TRP AO	NAI 1A	A	A	1st		X	AB 0005	2230 Local
			NAI 1A	B	A	1st		X	GA 123-456/Linear HE	
			NAI 1B	A	B	1st		X	2x120mm	
			NAI 1B	B	B	1st		X		
			NAI 2A	A	A	2nd		X	AB 0010	
			NAI 2A	B	A	2nd		X	GA 098-765/Linear Smoke	
			NAI 2B	A	B	2nd		X	2x120mm	
			NAI 2B	B	B	2nd		X		
			NAI 3A	A	A	3rd		X	AB 0015	
			NAI 3A	B	A	3rd		X	GA 345-678/Linear HEDP	
			NAI 3B	A	B	3rd		X	3x155	
			NAI 3B	B	B	3rd		X		
		ID of 1 ACV BMP-1KSh	ALL	X	X	X		X		
		CO/STAFF vehicle	ALL	X	X	X		X		
			ALL	X	X	X		X		
		BMP's massed	ALL	X	X	X		X		
			ALL	X	X	X		X		
			ALL	X	X	X		X		
			ALL	X	X	X		X		
		MFP's set within range of our FLOT	ALL	X	X	X		X		
			ALL	X	X	X		X		
			ALL	X	X	X		X		
			ALL	X	X	X		X		
		Enemy Radio traffic	ALL				X			
			ALL				X			
		8 man dismounted patrols	ALL	X	X	X		X		
			ALL	X	X	X		X		
			ALL	X	X	X		X		
			ALL	X	X	X		X		

DP	PIR	INDICATOR	NAI	TEAM	SEC	PLT			FIRES	LTIOV

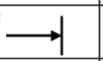
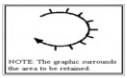
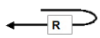
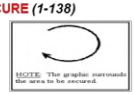
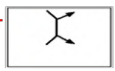
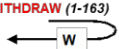
Tactical Mission Tasks

AMBUSH *(1-8)* 	A surprise attack by fire from concealed positions on a moving or temporarily halted enemy.
ATTACK BY FIRE *(1-13)* 	Fires (direct and indirect) employed to destroy the enemy from a distance, normally used when the mission does not dictate or support occupation of the objective. This task is usually given to the supporting element during the offensive and as a counterattack option for the reserve during defensive operations. An attack by fire is not done in conjunction with a maneuvering force. When assigning this task the commander must specify the intent of fire – either to destroy, fix, or suppress.
BLOCK *(1-20)* 	A tactical task assigned to a unit that requires it to deny the enemy access to a given area or to an enemy advance in a given direction or avenue of approach. It may be for a specified time. Units assigned this mission may have to retain terrain and accept decisive engagement. 2. An obstacle effect that integrates fire planning and obstacle effort to stop an attacker on a specific avenue of approach or to prevent an enemy from exiting an engagement area.
BREACH *(1-23)* 	A tactical task where any means available are employed to break through or secure a passage through an enemy defense, obstacle, or minefield, or fortification.
BYPASS *(1-23)* 	A tactical task that involves maneuvering around an obstacle, position or enemy force to, maintain the momentum of advance. Bypassed obstacles and enemy forces are reported to higher headquarters.
CANALIZE *(1-23)* 	To restrict operations to a narrow zone by use of existing or reinforcing obstacles or by fire or bombing. (Army) – A tactical task used to restrict operations to a narrow zone by the use of obstacles, fires, or unit maneuvering or positioning.
Clear *(1-28)* 	A tactical task to remove all enemy forces and eliminate organized resistance in an assigned zone, area, or location, by destroying, capturing, or forcing the withdrawal of enemy forces such that they cannot interfere with the friendly unit's ability to accomplish its mission. 2. To eliminate transmissions in a tactical zone on a tactical radio net in order to allow a higher precedence transmission to occur. 3. The total elimination or neutralization of an obstacle that is usually performed by follow-on engineers and in not done under fire. (Marine definition n/incl).
CONTAIN *(1-37)* 	(JP 1-02) To stop hold, or surround the forces of the enemy or to cause the enemy to center an activity on a given front and to prevent his withdrawing any part of his forces for use elsewhere. (Army) A tactical task to restrict enemy movement.
COUNTERATTACK *(1-39)* 	(JP 1-02) Attack by all or part of a defending force against an enemy attacking force for such specific purposes as regaining lost ground, or cutting off or destroying enemy advance units, and with the general objective of denying to the enemy the attainment of his purpose in attacking. In sustained defensive operations, it is undertaken to restore the battle position and is directed at limited objectives. (Army) – An attack with a reserve or lightly committed forward element that is launched after the enemy begins his attack, after the commander has identified the enemy's effort, or when resolute defense creates an assailable flank.
COUNTERATTACK BY FIRE 	***No definition listed in 101-5-1***
COVER *(1-41)* 	(JP 1-02) -- 1. The action by land, air, or sea forces to protect by offense, defense, or threat of either or both. [Joint definitions 2-5 non applicable] (Army) – 1. Shelter or protection from enemy observation that reduces the effects of enemy direct and indirect fire. 2. A type of security operation that protects the force from surprise, develops the situation, and gives the commanders time and space in which to respond to the enemy's actions.
DEFEAT *(1-47)* ***(No graphic available in 101-5-1)***	A tactical task to either disrupt or nullify the enemy force commander's plan and subdue his will to fight so that he is unwilling or unable to further pursue his adopted course of action and yields to the will of his opponent.

Tactical Mission Tasks

DELAY *(1-48, 1-49)* 	**Delay in sector**: Used to slow and defeat as much of the enemy as possible without sacrificing the tactical integrity of the unit; presents low risk to a unit. Delay in sector can be done by forces in the covering force area or in the main battle area. **Delay from successive battle positions:** Performed when a sector is so wide that available forces cannot occupy more than a single tier of positions at a time. Maneuver units delay continuously on and between positions throughout their sectors fighting rearward from one position to another, holding each as long as possible or for a specified time.
(1-51) **DESTROY** 	A tactical task to render an enemy force combat ineffective unless it is reconstituted. 2. To render a target so damaged that it cannot function as intended nor be restored to a usable condition without being entirely rebuilt.
(1-55) **DISRUPT** 	A tactical task or obstacle that integrates fire planning and obstacle effort to break apart an enemy's formation and tempo, interrupt the enemy's timetable, or cause premature commitment of enemy forces, or the piecemealing of his attack.
FIX *(1-68)* 	A tactical task in which actions are taken to prevent the enemy from moving any part of his forces either from a specific location or for a specific period of time by holding or surrounding them to prevent their withdrawal for use elsewhere. 2. A tactical obstacle effect that integrates fireplanning and obstacle effort to slow an attacker within a specified area – normally an engagement area.
FOLLOW *(1-69)* 	A term used to broadly define the order of movement of committed or uncommitted combat, combat support, and combat service support forces in a given combat operation. The term is a tactical task in which maneuver control measures must be used.
FOLLOW & ASSUME *(1-69)* 	An operation in which a committed force follows a force conducting an offensive operation and is prepared to continue the mission of the force it is following when that force is fixed, attrited, or otherwise unable to continue. Such a force is not a reserve but is committed to accomplish specified tasks.
FOLLOW & SUPPORT *(1-69)* 	An operation in which a committed force follows and supports the mission accomplishment of a force conducting an offensive operation. Such a force is not a reserve but is committed to accomplish any and all assigned tasks: destroy bypassed units, relieve in place any direct pressure or encircling force that has halted to contain the enemy; block movement of enemy reinforcements; secure line of communication; guard prisoners, key areas and installations; secure key terrain; and control refugees.
GUARD *(1-74)* 	(JP 1-02) – a security element whose primary task is to protect the main element by fighting to gain time, while also observing and reporting information. (Army) – A form of security operation whose primary task is to protect the main force by fighting to gain time, while also observing and reporting information, and to prevent ground observation of and direct fire against the main body by reconnoitering, attacking, defending, and delaying. A guard force normally operates within range of the main body's indirect fire weapons.
INTERDICT *(1-84)* 	Using fire support or maneuver forces; 1. To seal off an area by any means; to deny use of a route or an approach. 2. A tactical task which is oriented on the enemy to prevent, hinder, or delay the use of an area or route by enemy forces.
(1-86) **ISOLATE** 	A tactical task given to a unit to seal off (both physically and psychologically) an enemy from his sources of support to deny an enemy freedom of movement, and to prevent an enemy unit from having contact with other enemy forces. An enemy must not be allowed sanctuary within his present position.

Tactical Mission Tasks

NEUTRALIZE *(1-109)* 	(JP 1-02) As pertains to military operations, to render ineffective or unusable. (Army) – 1. To render enemy personnel or material incapable of interfering with a particular operation. 2. To render safe mines, bombs, missiles, and booby traps. 3. To make harmless anything contaminated with a chemical agent.
OCCUPY *(1-113)* 	1. A tactical task in which a force moves onto an objective, or other man-made or natural terrain area without opposition, and controls that entire area. 2. To remain in an area and retain control of that area.
PENETRATE *(1-120)* 	(JP 1-02) – In land operations a form of offensive, which seeks to break though the enemy's defense and disrupt the defensive system. (Army) – A choice of maneuver.
RELIEF IN PLACE *(1-132)* 	(JP 1-02) – An operation in which, by higher authority, all or part of a unit is replaced in an area by an incoming unit. The responsibilities by the replaced elements for the mission and the assigned zone of operations are transferred to the incoming unit. The incoming unit continues the operation as ordered.
(1-133) **RETAIN** 	(JP 1-02) When used in the context of deliberate planning, the directed command will keep the referenced operation plan, operation plan in concept format, or in concept summary and any associated Joint Operational Planning System or Joint Operational Planning and Execution System automated data processing files in an inactive library or status. That plan and its associated files will not be maintained unless directed by follow-on guidance. (Army) – A tactical task to occupy and hold a terrain feature to ensure it is free of enemy, occupation, or use.
RETIREMENT *(1-134)* 	(JP 1-02) An operation in which a force out of contact moves away from the enemy. (Army) – A form of retrograde operation; a directed rearward movement by a force that is not in contact with the enemy and does not anticipate significant contact with the enemy.
SCREEN *(1-137)*	(JP 1-02) 1. An arrangement of ships, aircraft, and/or submarines to protect a main body or convoy. [Joint definitions 2&3 non applicable] 4. A security element whose primary task is to observe, identify, and report information, and which only fights in self defense. (Army) -- A task to maintain surveillance; provide early warning to the main body; or impede, destroy, and harass enemy reconnaissance within its capability without becoming decisively engaged.
SECURE *(1-138)* 	(JP 1-02) In an operational context, to gain possession of a position or terrain feature with or without force and to make such disposition, as will prevent, as far as possible, its destruction or loss by enemy action. (Army) – A tactical task to gain possession of a position or terrain feature with or without force and to deploy in a manner which prevents its destruction or loss to enemy action. The attacking force may or may not have to physically occupy the area.
SEIZE *(1-138)* 	A tactical task to clear a designated area and obtain it for control of it.
SUPPORT BY FIRE *(1-147)* 	A tactical task in which a maneuver element moves to a position on the battlefield where it can engage the enemy by direst fire to support a maneuvering force by either support by fire, or by overwatching, or by establishing a base of fire. The maneuver element does not attempt to maneuver to capture enemy forces or terrain.
WITHDRAW *(1-163)* 	**Listed for both types of withdraw**: (JP 1-02) -- A planned operation in which a force in contact disengages from an enemy force. (Army) – A type of retrograde where a force in contact plans to disengage from the enemy and move in a direction away from the enemy.
 **WITHDRAW UNDER PRESSURE** *(1-163)*	

Refuel on the move

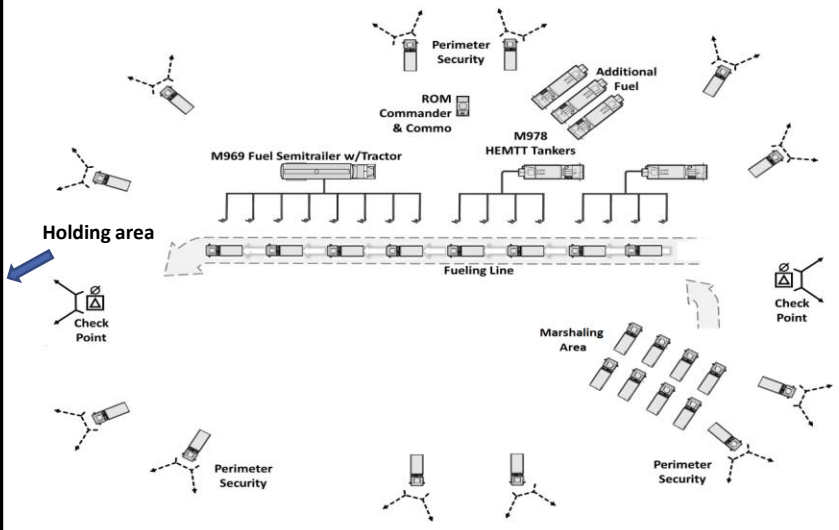
- The Army's highly mobile force depends on fuel to sustain it on the battlefield more than it ever has in the past. A mobile and maneuverable force needs large amounts of fuel in a timely fashion to maintain its offensive posture. Combat forces must be refueled efficiently, rapidly, and safely. For combat forces to remain maneuverable, fuel resupply must be flexible and innovative.
- Although ROM can be tailored to other tactical situations, the two primary purposes of a ROM is to:
  - Provide a "fuel splash" for convoy movements to extend maneuverability to reach the intended destination when complete refueling operations are either not practical or unneeded.
  - Provide fuel between engagements to extend the time that U.S. forces can spend on the objective.

Establishing the ROM site

- Prior to selecting the site layout for the ROM, the information gathered from the METT-TC analysis should be considered. Make the most use of natural cover and concealment. Consider all environmental safety and mishaps when selecting the site to mitigate the risk.
- Ensure there is enough room in the site to allow minimum spacing between vehicles. Ensure the vehicles being refueled by the ROM have the most efficient entry and exit lane possible.

Refuel on the move

- Set up the vehicle holding/marshalling areas at locations before and after the ROM site. ROM site executors establish these areas using the following criteria.
  - Coordinate areas prior to the execution of the operation.
  - Use the area prior to the ROM site to organize the march column into serials of vehicles equal to the number of refueling points available.
  - Move the vehicles forward out of the holding area one serial at a time into position to receive the predetermined amount of fuel using "follow me" vehicles.
  - When each serial has received its allotted fuel, it moves to the holding area, after the ROM site. In the second holding area, organize the vehicles back into their convoy march elements or combat formations



Contact & Blue reports (operations)

Contact report

A contact report is issued immediately upon contact with a threat or unknown force in the area of operations. This alert, which can be very brief, takes priority over all other communications traffic and is primarily sent by radio.

State "CONTACT," followed by a description of the threat or unknown force, distance, and the cardinal direction from the Call Sign sending. **A BLUE 1 will be sent within 1 minute of initial contact report.**

BLUE 1/SPOTREP/SALUTE

LINE ALPHA:

Callsign: _____

LINE BRAVO:

Size: _____

_____

Activity: _____

_____

Location: _____

_____

Unit: _____

_____

Time: _____

Equipment: _____

_____

LINE CHARLIE:

Your actions:

_____

_____

_____

Your recommendations:

_____

_____

_____

LINE DELTA:

Self authentication: _____

Contact & Blue reports (operations)

BLUE 2/SITREP

(Only update line 1/8 & and the line that changed when sending a BLUE 2)

LINE 1 (As of DTG): _____

LINE 2 (Enemy Activity):

_____
_____
_____
_____

LINE 3 (Friendly Locations):

_____
_____
_____
_____

LINE 4 (Combat Vehicles):

_____
_____

LINE 5 (Defense Obstacles):

_____
_____

LINE 6 (Personnel Status): **GREEN- 100%-90% / AMBER 89%-80% / RED 79%-60% / BLACK 59% & BELOW**

LINE 7 (Class 3 and Class 5 by color code):

LINE 8 (Summary of intentions):

_____
_____
_____
_____
_____
_____
_____

Contact & Blue reports (operations)

BLUE 4/BRIDGEREP (bridge, overpass, culvert, underpass, tunnel)

LINE ALPHA (Type and location [for a long tunnel, include both entrance and exit locations]. Use either a TIRS point or grid coordinates):

_____
_____
_____

LINE BRAVO (Overall length):

_____
_____
_____

LINE CHARLIE (Width of roadway):

_____
_____
_____

LINE DELTA (Height restrictions):

_____
_____
_____

LINE ECHO (Length and number of spans):

_____
_____
_____

LINE FOXTROT (Computed classification):

_____
_____
_____

LINE GOLF (Bypass locations and conditions. Use a Blue 5 report if necessary):

_____
_____
_____

Contact & Blue reports (operations)

BLUE 5/CROSSREP (ford, ferry, other crossing site)

LINE ALPHA (Type and location. Use either a TIRS point or grid coordinates):

_____

_____

LINE BRAVO (Length of crossing in meters):

_____

LINE CHARLIE (Usable width):

_____

LINE DELTA (Current speed in MPS):

_____

LINE ECHO (Maximum depth in Meters):

_____

LINE FOXTROT (Bottom material and condition):

_____

_____

LINE GOLF (Capacity classification of any existing ferry equipment):

_____

_____

LINE HOTEL (Slope of entry bank):

_____

LINE INDIA (Slope of exit bank):

_____

LINE KILO (Other comments as necessary):

_____

_____

_____

_____

_____

_____

_____

Contact & Blue reports (operations)

BLUE 7/ROUTEREP

(Scouts should send an initial route reconnaissance report (lines ALPHA & BRAVO) at the SP. At a minimum, the initial report should be followed by updates at any obstructions, at each phase line, and whenever a route change becomes necessary.)

LINE ALPHA (From location using GCM or TIRS):

_____

LINE BRAVO (To location using GCM or TIRS):

_____

LINE CHARLIE (Type of route): **HIGHWAY "#1" / ROAD "#2" / TRAIL "#3" / X COUNTRY "#4"**

_____

LINE DELTA (Classification of route [incorporates MLC, height, and width]):

All squadron vics (70 MLC minimum) "#1" / Tracked vics only "#2" / CFVs (35 MLC minimum) "#3"

_____

LINE ECHO (Seasonal limitations): **All weather (usable year-round) "X" / Limited all weather (use limited during bad weather) "Y" / Fair weather (may be impassable during bad weather)"Z"**

_____

LINE FOXTROT (Rate of movement the route supports): **Fast "1" / Slow "2"**

_____

LINE GOLF (Location and type of any critical reports [send the applicable report] report the following obstructions):

Curves with a radius of 45m or less:

_____

_____

Uphill slopes with grades of 5% or greater:

_____

_____

Width restrictions of 6M or less for one-way, 10M or less for two-way:

_____

_____

Overhead clearance of 4.3M or less:

_____

_____

Contact & Blue reports (operations)

BLUE 9/OBSTACLE REPORT

LINE ALPHA (Type of obstacle OR Obstruction):

_____
_____
_____
_____

LINE BRAVO (Location using Grid [for large & complex obstacles, send coordinates of the ends and turns):

_____
_____
_____
_____

LINE CHARLIE (Dimensions and orientation):

_____
_____
_____
_____

LINE DELTA (Composition):

_____
_____

LINE ECHO (Threat weapons influencing obstacle):

_____
_____
_____

LINE FOXTROT (Observers actions):

_____
_____
_____
_____
_____
_____
_____

Contact & Blue reports (operations)

BLUE 10/BYPASS REPORT

LINE ALPHA (Observer or source):

_____
_____
_____
_____

LINE BRAVO (Length, width, surface type, grade):

_____
_____
_____
_____

LINE CHARLIE (From and to coordinates):

_____
_____
_____
_____

LINE DELTA (Seasonal limitations [same as line 7 in ROUTEREP X/Y/Z]):

_____
_____

LINE ECHO (Bypass markings):

_____
_____
_____

LINE FOXTROT (Observers actions):

_____
_____
_____
_____
_____
_____
_____

Green reports (intelligence)

GREEN 2/SENSITIVE ITEMS REPORT/SENSEREP

The sensitive items report (SENSEREP) is sent daily at prescribed times (before and after significant movement, after significant events, and after any consolidation or reorganization). Items covered include machine guns, personal weapons, night vision devices, binoculars, nuclear, biological, and chemical (NBC) equipment, communications-electronics operating instructions (CEOI) materials, maps/graphics, and special equipment assigned to platoons for particular missions.

LINE ALPHA (Reporting unit):

_____
_____
_____
_____

LINE CHARLIE (Results of SI check, use the term "UP"):

_____
_____
_____
_____

LINE ECHO (Initials of person sending report):

_____
_____
_____
_____

Yellow reports (logistics)

YELLOW 1/EQUIPMENT STATUS REPORT/ESTAT

(Reported using the terms OPERATIONAL/INOPERATIVE/COMBAT LOSS)

WEAPONS

Line 1: Bayonet knife with scabbard, for M16 variants.
Line 2: Pistol, 9 mm, automatic, M9.
Line 3: Rifle, 5.56 mm, with equipment.
Line 4: Launcher, grenade, 40 mm, single shot, rifle-mounted, detachable, with equipment.
Line 5: Machine gun, M2, caliber .50, heavy barrel (HB).
Line 6: Machine gun, 7.62 mm.
Line 7: Squad automatic weapon, M249.
Line 8: Grenade launcher, 40 mm, MK19.
Line 12: Command launch unit, AAWS-M.
Line 13-16: Used as needed for additional weapons assigned

VEHICLES & VEHICLE EQUIPMENT

Line 17: CFV, M3.
Line 18: Carrier, 107-mm mortar, self-propelled (less mortar), M106.
Line 19: Carrier, personnel, full-tracked, armored, M113.
Line 20: HMMWV, M1025/M1026.
Line 21: Tank, M1/M1A1/M1A2/M8-AGS.
Line 22-24: Used as needed for additional vehicles and vehicle equipment assigned

RADIOS

Lines 46-48: Used as needed for the different types of radios

MISCELLANEOUS EQUIPMENT

Line 52: Night vision goggles
Line 56: Binoculars, modular construction, military scale reticle, 7x50 mm, with equipment.
Line 57: Telescope, straight, military.
Line 61-63: Used as needed for additional equipment assigned

YELLOW 2/AMMUNITION STATUS REPORT

Reported using COLOR coded terms GREEN/AMBER/RED/BLACK.
BLACK status requires an immediate follow-up with a YELLOW 2A

YELLOW 2A/AMMUNITION REQUEST REPORT

Line 1: Report as of DTG

Line 9: 50 Caliber

Line 11: 7.62mm

Line 25: 5.56mm ball

Line 26: 5.56mm tracer

Line 29: Smoke grenade

Line 34: Javelin

Line 35: AT4

Line 37: TOW

Line 41: Claymore mine

Line 45+: Additional ammunition requested

Yellow reports (logistics)

YELLOW 3/POL STATUS REPORT

Reported using COLOR coded terms GREEN/AMBER/RED/BLACK.
BLACK status requires an immediate follow-up with a YELLOW 2A

YELLOW 3A/POL REQUEST REPORT

Line 1: Report as-of DTG.

Line 2: MOGAS (gal).

Line 3: Diesel (gal).

Line 4: Oil, OE-10 (gal).

Line 5: Oil, OE-30 (gal).

Line 6: Oil, OE-50 (gal).

Line 7: Oil, OE-90 (gal).

Line 8: Antifreeze (gal).

Line 9: Brake fluid (gal).

Line 10: Hydraulic fluid, OHA (qt).

Line 11: Hydraulic fluid, OHT (qt).

Line 12: Hydraulic fluid, FRH (qt).

Line 13: Oil, penetrating (qt).

Line 14: Oil, PL-special (qt).

Line 15: Oil, PL-medium (qt).

Line 16: Bore cleaner (gal).

Line 17: Oil, LSA (qt).

Line 18: Grease, GAA (lb).

Line 19: Grease, wheel bearing (lb).

Line 20: Solvent (gal).

Line 21+: Addition POL products required

Red 3 (Air MEDEVAC)

LINE 1 (LOCATION (SIX DIGIT GRID) OF PICKUP SITE):

_____

LINE 2 (REQUESTER'S FREQUENCY, CALL SIGN, AND SUFFIX):

_____

LINE 3 (NUMBER OF PATIENTS BY CATEGORY PRECEDENCE):

A-URGENT (evac required within 2 hours to save life)
B-PRIORITY (patients medical condition will deteriorate, becoming urgent within 4 hours)
C-ROUTINE (evacuation required, but patients condition is not expected to deteriorate for several hours)

_____

_____

LINE 4 (SPECIAL EQUIPMENT REQUIRED): **A-NONE / B-HOIST / C-EXTRACTION EQUIPMENT / D-VENTILATOR**

_____

LINE 5 (NUMBER OF PATIENTS BY TYPE): **L+ # OF LITTER / A+ # OF AMBULATORY**

_____

_____

LINE 6 (SECURITY OF PICKUP SITE):

N-NO ENEMY
P-POSSIBLE ENEMY (APPROACH WITH CAUTION)
E-ENEMY TROOPS IN AREA (APPROACH WITH CAUTION
X-ENEMY TROOPS IN AREA (ARMED ESCORT REQUIRED)

_____

LINE 6 (PEACETIME) NUMBER AND TYPE OF WOUND, INJURY, OR ILLNESS:

_____

LINE 7 (METHOD OF MARKING SITE): **A–PANELS / B–PYROTECHNIC / C–SMOKE / D–NONE / E – OTHER**

_____

LINE 8 (PATIENTS BY NATIONALITY AND STATUS):

A-U.S. MILITARY / B-U.S. CIVILIAN / C-NON U.S. MILITARY / D-NON U.S. CIVILIAN / E-EPW

_____

LINE 9 (NBC CONTAMINATION): **N–NUCLEAR / B–BIOLOGICAL / C-CHEMICAL**

_____

Mechanism of injury _____
Injury _____
Signs & symptoms _____
Treatment _____

Red 3 (Ground MEDEVAC)

LINE 1 (State EVAC):

_____

LINE 2 (Location for pickup):

_____

LINE 3 (# of casualties):

_____

LINE 4 (Category of patient condition, encoded by letter designation):

A-URGENT (evac required within 2 hours to save life)
B-PRIORITY (patients medical condition will deteriorate, becoming urgent within 4 hours)
C-ROUTINE (evacuation required, but patients condition is not expected to deteriorate for several hours)

_____

_____

References

- ATP 3-20.98 Reconnaissance Platoon
- ATP 3-20.97 Cavalry Troop
- ATP 3-20.96 Cavalry Squadron
- FM 3-98 Reconnaissance & Security OPs
- FM 3-55.93 Long-Range Surveillance Unit OPs
- ATP 3-21.8 Infantry Platoon
- TC 3-21.76 Ranger Handbook
- ST 3-20.983 Reconnaissance Handbook
- ATP 3-09.32 JFIRES
- FM 17-98 Scout Platoon dated 1994
- ATP 3-21.90 Tactical employment of mortars
- FM 3-21.38 Pathfinder operations
- ATP 3-37.34 Survivability Operations
- ATP 4-43 Petroleum Supply Operations