ATP 3-20.15 (FM 3-20.15)

Tank Platoon

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Tank Platoon

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Preface

ATP 3-20.15 provides principles, tactics, techniques, and procedures for the employment of tank platoons. It also provides the framework and technical employment principles for tank platoons of the Armored and Rifle Company Teams and Combined Arms Battalions (CAB).

ATP 3-20.15 also provides doctrinal guidance for commanders, staff, and leaders who are responsible for planning, preparing, executing, and assessing operations of tank platoons. This ATP serves as an authoritative reference for personnel developing doctrine (fundamental principles and tactics, techniques, and procedures [TTP]), material and force structure, institutional and unit training, and tank platoon standard operating procedures (SOP).

The doctrinal principles and procedures contained within this ATP are intended to be used as a guide and not to be considered prescriptive. ATP 3-20.15 outlines the framework in which tank platoons will operate, either by themselves or together as part of the combined arms company team. ATP 3-20.15 also includes discussions of doctrine that is applicable to all tank platoons.

This publication applies to the Active Army, the United States Army National Guard (ARNG)/Army National Guard of the United States (ARNGUS), and the United States Army Reserve (USAR) unless otherwise stated.

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Unless otherwise stated in this publication, masculine nouns and pronouns refer to both men and women.

Chapter 1

Tactical Fundamentals

The fundamental mission of the tank platoon is to close with and destroy the enemy. The platoon's ability to move, shoot, and communicate and do so with the armored protection provided by the Abrams tank is a decisive factor on the modern battlefield. The tank platoon is capable of conducting offensive, defensive, and stability tasks in support of unified land operations.

This chapter discusses the doctrine that is the basis for platoon techniques and drills. It also provides discussion of planning consideration for the platoon's operational missions.

SECTION I – TEXT REFERENCES

Table 1-1. Guide for subjects referenced in text

Subject	*References*
Operational Environment	ADP 3-0
Unified Land Operations	ADP 3-0
Mission Command	ADP 6-0
Leadership	FM 6-22
Planning Considerations	ADP 5-0
Composite Risk Management	FM 5-19

SECTION II – OVERVIEW

OPERATIONAL ENVIRONMENT

1-1. An operational environment is a composite of the conditions, circumstances, and influences that affect the employment of capabilities and bear on the decisions of the commander (refer to ADP 3-0 for more information). The operational environment of a tank platoon includes; the understanding of the physical environment, (air, land, maritime, and space domains), the information environment (which includes cyberspace), the state of governance, technology, local resources, and the culture of the local population. The operational environment for each operation is different, and it evolves as the operation progresses.

THREATS

1-2. The platoon leader and platoon sergeant must ensure that every member of the platoon is trained and prepared to defend against threats commonly identified on the battlefield. Threats can arise from divergent interests or competition among states, groups, or organizations in an operational environment. Threats include regular forces, irregular forces, terrorist forces, criminal elements, or a combination of these forces. (Refer to ADP 3-0 or TC 7-100 for more information.)

UNIFIED LAND OPERATIONS

1-3. The Army's warfighting doctrine is unified land operations. Unified land operations describes how the Army will seize, retain and exploit the initiative to gain and maintain a position of relative advantage in sustained land operations in order to create the conditions for favorable conflict resolution. This is executed through decisive action.

1-4. Decisive action is the continuous, simultaneous combinations of offensive, defensive, and stability or defense support of civil authorities' tasks. The tank platoon must be prepared to conduct any combination of these primary tasks either independently or part of a larger force. The types of tasks are defined as follows:

- **Offensive.** These are combat operations conducted to defeat and destroy enemy forces and seize terrain, resources, and population centers. They impose the commander's will on the enemy. Even when conducting defensive operations, seizing and retaining the initiative requires executing offensive operations at some point.
- **Defensive.** These are combat operations conducted to defeat an enemy attack, gain time, economize forces, and develop conditions favorable for offensive or stability operations. Successful defenses are aggressive, and commanders use all available means to disrupt enemy forces.
- **Stability.** These include various missions, tasks, and activities conducted outside the U.S. in coordination with other instruments of national power to maintain or reestablish a safe and secure environment, restore essential government services, and provide emergency infrastructure reconstruction and humanitarian relief.
- **Defense Support of Civil Authorities.** Defense support of civil authorities includes tasks that address the consequences of natural or man-made disasters, accidents, terrorist attacks, and incidents in the United States and its territories. Army forces conduct defense support of civil authorities tasks in support of homeland defense when the size and scope of events exceed the capabilities or capacities of domestic civilian agencies.

COMBAT POWER

1-5. Combat power is the total means of destructive, constructive, and information capabilities that a military unit/formation can apply at a given time.

Army forces generate combat power by converting potential into effective action. Commanders conceptualize capabilities in terms of combat power. Combat power has eight elements: leadership, information, mission command, movement and maneuver, intelligence, fires, sustainment, and protection. Commanders apply leadership and information through, and multiply the effects of, the other six elements of combat power. The Army collectively describes these six—mission command, movement and maneuver, intelligence, fires, sustainment, and protection—as the warfighting functions. Commanders apply combat power through the warfighting functions using leadership and information.

LEADERSHIP

1-6. Leadership is the process of influencing people by providing purpose, direction, and motivation, while operating to accomplish the mission and improving the organization. (Refer to FM 6-22 for more information.)

INFORMATION

1-7. Information is a powerful tool in the operational environment. In modern conflict, information has become nearly as important as lethal action in determining success or failure in operations at all levels. Every engagement, battle, and major operation requires complementary inform and influence activities to inform a global audience, to influence audiences, and to affect moral within the operational area. Commanders use information to understand, visualize, describe, and direct the warfighting functions. They also depend on data and information to increase the effectiveness of the warfighting functions.

WARFIGHTING FUNCTIONS

1-8. Warfighting functions are a group of tasks and systems (people, organization, information, and processes) united by a common purpose that commanders use to accomplish missions and training objectives. Additionally, all warfighting functions possess scalable capabilities to mass lethal and nonlethal effects. No warfighting function is exclusively decisive, shaping, or sustaining, but may contain elements of more than one type of operation.

MISSION COMMAND

1-9. The mission command warfighting function develops and integrates those activities enabling a commander to balance the art of command and the science of control. Mission command focuses on empowering subordinate leaders by creating a shared understanding of an operational environment and commander's intent. Through disciplined initiative in dynamic conditions within the commander's intent, subordinates adapt and act decisively.

Movement and Maneuver

1-10. The movement and maneuver warfighting function is the related tasks and systems that move forces to achieve a position of advantage in relation to the enemy. Direct fire is inherent in maneuver, as is close combat. Maneuver is the means by which commanders mass the effects of combat power to achieve surprise, shock, and

momentum. Effective maneuver requires close coordination with fires. Movement is necessary to disperse and displace the force as a whole or in part when maneuvering.

Intelligence

1-11. The intelligence warfighting function is the related tasks and systems that facilitate understanding of the operational environment, enemy, terrain, weather, and civil considerations.

Fires

1-12. The fires warfighting functions are the related tasks and systems that provide collective and coordinated use of Army indirect fires and joint fires through the targeting process.

Sustainment

1-13. The sustainment warfighting function is the related tasks and systems that provide support and services to ensure freedom of action, extend operational reach, and prolong endurance.

Protection

1-14. The protection warfighting function is the related tasks and systems that preserve the force so the commander can apply maximum combat power. Preserving the force includes protecting personnel (combatant and noncombatant), physical assets, and information of the U.S. and multinational partners.

SECTION III – MISSION COMMAND

1-15. Mission command is the exercise of authority and direction by the commander using mission orders to enable disciplined initiative within the commander's intent to empower agile and adaptive leaders in the conduct of decisive actions. It is commander-led and blends the art of command and the science of control to integrate the warfighting functions to accomplish the mission. Mission command gives subordinates the greatest possible freedom of action. Commanders focus their orders on the purpose of the operation rather than on the details of how to perform assigned tasks.

COMMAND

1-16. Command is the authority that a commander lawfully exercises over subordinates by virtue of rank or assignment. Command includes the authority and responsibility for effectively using available resources and for planning the employment planning, organizing, directing, coordinating, and controlling military forces for the accomplishment of assigned missions. It also includes responsibility for health, welfare, morale, and discipline of assigned personnel. Leaders possessing command authority strive to use it with firmness, care, and skill. The elements of command are authority, decision making, and leadership. This understanding helps commanders visualize and describe their commander's intent and develop focused planning guidance.

1-17. Authority refers to the right and power to judge, act, or command. It includes responsibility, accountability, and delegation. Commanders rely on their education, experience, knowledge and judgment in applying authority as they decide (plan how to achieve the end state) and lead (direct their forces during preparation and execution).

1-18. Competent, confident leadership inspires Soldiers, instilling in them the will to win and providing them with purpose, direction, and motivation in combat. The platoon leader (PL) must possess the following personal principles and traits, to lead effectively:

- Taking responsibility for decisions.
- Exemplifying and demanding loyalty.
- Inspiring and directing the platoon toward mission accomplishment.
- Fostering a climate of teamwork that will engender success.
- Demonstrating moral and physical courage in the face of adversity and danger.

CONTROL

1-19. Control is the regulation of forces and warfighting functions to accomplish the mission in accordance with the commander's intent. It is fundamental to directing operations.

1-20. The Army's model for the exercise of mission command is the operations process. The operations process consists of the major mission activities performed during operations: plan, prepare, execute, and continuously assess the operation.

- Planning is the process by which commanders (and the staff, if available) translate the commander's visualization into a specific course of action (COA) for preparation and execution, focusing on the expected results.
- Preparation consists of activities performed by units to improve their ability to execute an operation. Preparation includes, but is not limited to, plan refinement; rehearsals; intelligence, surveillance, and reconnaissance; coordination; inspections; and movement.
- Execution is putting a plan into action by applying combat power to accomplish the mission and using situational understanding (SU) to assess progress and make execution and adjustment decisions.
- Assessment refers to the continuous monitoring and evaluation of the current situation, particularly the enemy, and progress of an operation.

SECTION IV – COMMAND AND SUPPORT RELATIONSHIPS

1-21. Command and support relationships provide the basis for unity of command and unity of effort in operations. Command and support relationships are the basis for task-organizing. A task organization is a temporary grouping of forces designed to accomplish a particular mission.

1-22. Nonorganic combat and sustainment assets can significantly enhance the platoon's combat capability. These elements support the company team and platoon under established command and support relationships.

COMMAND RELATIONSHIPS

1-23. The command relationships define superior and subordinate relationships between unit commanders. The platoon is under command of the company commander. However, within the platoon, command relationships exist between the PL, platoon sergeant (PSG), and the tank commanders (TCs). Command relationships unify effort and give the PL the ability to employ the platoon with maximum flexibility.

ORGANIC

1-24. Organic forces are those assigned to and forming an essential part of a military organization. The Army establishes organic command relationships through organizational documents such as tables of organization (TOEs) and equipment and tables of distribution and allowances (TDAs).

ASSIGNED

1-25. Assigned units remain subordinate to the higher headquarters (HQ) for extended periods, typically years.

ATTACHED

1-26. Attached units are temporarily subordinated to the gaining HQ, and the periods may be lengthy, often months or longer. They return to their parent HQ (assigned or organic) when the reason for the attachment ends. The tank platoon may be attached to a variety of units. One example would be; a tank platoon being attached to an Infantry company for a specific mission and/or a specified time period.

OPERATIONAL CONTROL

1-27. Commanders normally provide a unit under the operational control (OPCON) to a gaining HQ for a given mission, lasting perhaps a few days. The OPCON lets the gaining commander task-organize and direct forces.

TACTICAL CONTROL

1-28. Commanders normally provide a unit under the tactical control (TACON) to a gaining HQ for a given mission, lasting perhaps a few days.

SUPPORT RELATIONSHIPS

1-29. Support relationships are not a command authority. Commanders establish support relationships when subordination of one unit to another is inappropriate. Support relationships are—

- Direct support (DS).
- General support (GS).
- Reinforcing support (RS).
- General support-reinforcing (GS-R).

SECTION V – PLANNING CONSIDERATIONS

1-30. Planning is the process by which platoon leader translates the commander's visualization into a specific COA for preparation and execution, focusing on the expected results. Planning begins with the analysis and assessment of the conditions in the operational environment, with particular emphasis on the enemy, to determine the relationship among the mission variables. It involves understanding and framing the problem, and envisioning the set of conditions that represent the desired end state. Based on the commander's guidance, planning includes formulating one or more suitable course of action to accomplish the mission. (Refer to ADP 5-0 for more information.)

1-31. Planning continues as necessary during preparation and execution. When circumstances are not suited for troop-leading procedures, commanders rely on intuitive decision making and direct contact with subordinate leaders to integrate activities.

OPERATIONAL VARIABLES

1-32. Army forces use operational variables to understand and visualize the broad environment in which they are conducting operations. Operational variables are those broad aspects of the environment, both military and nonmilitary, that may differ from one operation area to another and affect major operations. Operational variables describe not only the military aspects of an operational environment, but also the population's influence on it. Joint planners analyze the OE in terms of six interrelated operational variables. To these variables, Army doctrine adds two more: physical environment and time. As a set, these operational variables often are abbreviated as PMESII-PT. They are—

- Political.
- Military.
- Economic.
- Social.
- Information.
- Infrastructure.
- Physical environment.
- Time.

MISSION VARIABLES

1-33. Army forces use mission variables to focus analysis on specific elements of the environment that apply to their mission. Upon receipt of a warning order (WARNORD) or mission, Army tactical leaders narrow their focus to six mission variables. Mission variables are those aspects of the operational environment that directly affect a mission. They outline the situation as it applies to a specific Army unit. The mission variables are mission, enemy, terrain and weather, troops and support available, time available, and civil considerations (METT-TC). The PL analyzes the mission using the factors of METT-TC. The PL carefully analyzes the company operations order (OPORD) to identify the platoon's purpose, (the specified, implied, and essential tasks) it must perform, and the time line for accomplishing those tasks. The following outline of METT-TC factors will assist the PL in analyzing the mission and creating a time line.

MISSION

1-34. Platoon leaders analyze the higher HQ WARNORD or OPORD to determine their task and purpose. They examine the following information that affects their mission:

- Higher HQ (two levels up) mission and commander's intent.
- Higher HQ (two levels up) concept of operations.
- Specified, implied, and essential tasks.
- Constraints.

1-35. Platoon leaders determine details that will affect their operations, such as control measures and execution times.

1-36. From WARNORDs and the OPORD, leaders extract the specified and implied tasks assigned to their unit. From the specified and implied tasks, leaders identify essential tasks. These tasks must be completed to accomplish the mission. Failure to complete an essential task results in mission failure.

1-37. The product of this part of the mission analysis is the restated mission. The restated mission is a simple, concise expression of the essential tasks the unit must accomplish and the purpose to be achieved. The mission statement states who (the unit), what (the task), when (either the critical time or on order), where (location), and why (the purpose of the operation).

ENEMY

1-38. Platoon leaders need to know about the enemy's composition, disposition, strengths, recent activities, ability to reinforce, and possible COAs. Much of this information comes from higher HQ. Additional information comes from adjacent units and other leaders.

TERRAIN AND WEATHER

1-39. This aspect of mission analysis addresses the military aspects of terrain: observation and fields of fire, avenue of approach, key terrain, obstacles, and cover and concealment (OAKOC).

- Observation is the condition of weather and terrain that permits a force to see the friendly, enemy, and neutral personnel and systems, and key aspects of the environment. Platoon leaders identify the aspects of weather that can affect the mission. They focus on factors whose effects they can mitigate. For example, leaders may modify the SOPs for uniforms and carrying loads based on the temperature. A field of fire is the area which a weapon or a group of weapons may cover effectively with fire from a given position. Observation and fields of fire apply to both enemy and friendly weapons.
- Avenue of approach is an air or ground route of an attacking force of a given size leading to its objective or to key terrain in its path. Avenues of approach include overland, air, and underground avenues. Underground avenues are particularly important in urban operations.
- Key terrain is any locality, or area, the seizure or retention of which affords a marked advantage to either combatant.
- An obstacle is any obstruction designed or employed to disrupt, fix, turn, or block the movement of an opposing force, and to impose additional losses in personnel, time, and equipment on the opposing force. Obstacles can exist naturally or can be man-made, or can be a combination of both.
- Cover is protection from the effects of fires. Concealment is protection from observation and surveillance. Terrain that offers cover and concealment limits fields of fire. Leaders consider friendly and enemy perspectives.

TROOPS AND SUPPORT AVAILABLE

1-40. Perhaps the most important aspect of mission analysis is determining the combat potential of one's own force. The platoon leadership must know the status of their Soldiers' morale, their experience and training, and the strengths and weaknesses of subordinate leaders.

TIME AVAILABLE

1-41. Platoon leaders not only appreciate how much time is available, they understand the time-space aspects of preparing, moving, fighting, and sustaining. They view their own tasks and enemy actions in relation to time. Most important, leaders monitor the time available. Timelines list all events that affect the platoon.

CIVIL CONSIDERATIONS

1-42. Civil considerations are the influence of man-made infrastructure, civilian institutions, and attitudes and activities of the civilian leaders, populations, and organizations within an area of operation (AO) on the conduct of military operations. Based on information from higher headquarters and their own knowledge and judgment, PLs identify civil considerations that affect their mission.

Civil considerations are analyzed in terms of six factors known by the memory aid, ASCOPE:

- Areas.
- Structures.
- Capabilities.
- Organizations.
- People.
- Events.

TROOP-LEADING PROCEDURES

1-43. Troop-leading procedures (TLP) are a dynamic process used by small-unit leaders to analyze a mission, develop a plan, and prepare for an operation. Troop-leading procedures begin when the platoon receives a new mission, or is alerted by a warning order that a new mission is imminent. The PL initiates troop-leading procedures, after receiving orders from the commander. These procedures enable the platoon to maximize available planning time while developing plans and preparing for operations. Troop-leading procedures consist of eight steps and are supported by risk management (RM). (Refer to ADP 5-0 for more information.)

1-44. Time management is the key; the PL maximizes available planning time by starting as soon as he receives the first bit of information about the upcoming operation. Some of the following steps are done concurrently, and others are continuous throughout the operation.

STEP 1: RECEIVE THE MISSION

1-45. Receive the mission may occur in several ways. It may begin with the initial WARNORD or OPORD from higher headquarters or when a leader anticipates a new mission.

1-46. Upon receipt of the WARNORD, fragmentary order (FRAGORD), or OPORD, the PL's first task is to extract his mission from the commander's overall plan. The key to understanding the platoon mission as part of the company team mission lies in two elements of the plan: the commander's intent and the concept of operations. The platoon leader's understanding of the commander's intent, as well as his task and purpose, allows him to use his initiative, exploit battlefield opportunities, and accomplish the commander's plan. If he does not understand the intent or purpose, he must ask the commander for clarification.

STEP 2: ISSUE A WARNING ORDER

1-47. The PL alerts his platoon to the upcoming operation by issuing a WARNORD. The amount of detail included in a WARNORD depends on the available time, the platoon's communications capability, and the information subordinates need to initiate proper planning and preparation. The WARNORD may include the following information:

- Changes to task organization.
- Updated graphics (platoons equipped with Force XXI Battle Command Brigade and Below [FBCB2] send new overlays).

- Enemy situation.
- Company mission.
- Commander's intent.
- Platoon mission.
- Specified tasks and implied tasks.
- A tentative timeline, to include the following:
  - Earliest time of movement.
  - Readiness condition (REDCON) and vehicle preparation schedule.
  - Reconnaissance.
  - Rehearsal schedule.
  - Time and location at which the platoon OPORD will be issued.
  - Time of precombat check (PCC)/precombat inspection (PCI).

STEP 3: MAKE A TENTATIVE PLAN

1-48. Once the platoon leader has issued his WARNORD he develops at tentative plan. To form the tentative plan the platoon leader performs mission analysis utilizing the mission variable METT-TC.

STEP 4: INITIATE MOVEMENT

1-49. Many company-level operations require movement to forward assembly areas and battle positions (BPs) during the planning phase of an operation. The PL addresses movement in his time line; he orders the platoon to begin moving in accordance with the company plan. Activities may include sending platoon representatives to an assembly area with the company quartering party or beginning priorities of work.

STEP 5: CONDUCT RECONNAISSANCE

1-50. Whenever time and circumstances allow, or as directed by higher headquarters, leaders personally observe the AO for the mission prior to execution. The minimum action desired is a thorough map reconnaissance supplemented by imagery and intelligence products. As directed, subordinates or other elements (such as scouts) may perform the reconnaissance for the leader while the leader completes other TLP steps.

STEP 6: COMPLETE THE PLAN

1-51. The PL refines the plan based on the results of the reconnaissance and coordination. He then completes the plan using these results and any new information from his commander, other PLs, and members of his platoon. He should keep the plan as simple as possible, at the same time, ensuring that the platoon scheme of maneuver supports the commander's intent.

STEP 7: ISSUE THE ORDER

1-52. If possible, the PL issues the order from a vantage point overlooking the terrain on which the platoon will maneuver. If not, he uses a terrain model, sand table, sketches, or his map to orient the platoon. If time permits, the PL should lead the TCs in a walk-through using a sand table.

1-53. To ensure complete understanding of the operation, the PL and TCs can conduct confirmation briefings immediately after the OPORD is issued.

STEP 8: SUPERVISE AND REFINE

1-54. Flexibility is the key to effective operations. The PL must be able to refine his plan whenever new information becomes available. If he adjusts the plan, he must inform the platoon and supervise implementation of the changes. Once the operation has begun, the PL must be able to direct his platoon in response to new situations and new orders.

Rehearsals

1-55. A rehearsal is a practice session conducted to prepare units for an upcoming operation or event. The PL should never underestimate the value of rehearsals. They are his most valuable tools in preparing the platoon for the upcoming operation. Effective rehearsals require crewmen to perform required tasks, ideally under conditions that are as close as possible to those expected for the actual operation. Participants maneuver their actual vehicles or use vehicle models or simulations while interactively verbalizing their elements' actions.

1-56. In a platoon-level rehearsal, the PL selects the tasks to be practiced and controls execution of the rehearsal. He usually designates someone to role-play the enemy elements he expects to face during the operation.

1-57. Each rehearsal type achieves a different result and has a specific place in the preparation timeline. The four types of rehearsals are—

- Back brief.
- Combined arms rehearsal.
- Support rehearsal.
- Battle drill or SOP rehearsal.

RISK MANAGEMENT

1-58. Risk Management is the Army's primary decision-making process for identifying hazards and controlling risks across the full spectrum of missions, functions, operations, and activities. This process is used to mitigate risks associated with all hazards that have the potential to injure or kill personnel, damage or destroy equipment, or otherwise impact overall mission accomplishment. Commanders, PLs and Soldiers at all levels must understand the guiding principles to prevent unnecessary loss.

1-59. The PLs and Soldiers must ensure RM is used in all phases of mission and operations in conjunction with TLPs, the military decision-making process (MDMP), operational planning, preparation, execution, and recovery.

1-60. The PLs and Soldiers must make risk decisions at the appropriate level. The RM decision-making tool is only effective when the information is passed to the appropriate level of command for decision.

1-61. The PLs and Soldiers must accept no unnecessary risk unless the potential gain or benefit outweighs the potential loss.

1-62. The PLs and Soldiers must continuously identify and assess hazards, develop and implement controls, and evaluate outcomes throughout all functions, operations, and activities.

1-63. The PLs and Soldiers must not be risk averse. They must identify and control hazards to accomplish mission safely. The five steps of RM are—

- Identify hazards.
- Assess the hazard to determine risks.
- Develop controls and make risk decisions.
- Implement controls.
- Supervise and evaluate.

1-64. Leaders of the tank platoon must always remember that the effectiveness of the RM process depends on situational awareness (SA). Each hazard the platoon faces requires a solution tailored to the particular hazard. The PSGs and noncommissioned officers (NCOs) in the tank platoon will most likely have the experience necessary to assist the PL in identifying hazards associated with the mission. (Refer to FM 5-19 for more information.)

FRATRICIDE AVOIDANCE

1-65. Fratricide is the employment of friendly weapons and munitions with intentions of killing the enemy, which results in unforeseen and unintentional death or injury to friendly force personnel. The commander is overall responsible for fratricide avoidance in his unit. Everyone in his unit has a responsibility for fratricide avoidance. All leaders must ensure that eliminating the risk of fratricide is a critical training standard. Leaders must avoid any reluctance to employ, integrate, and synchronize all required operating systems at the critical time and place. They must avoid becoming tentative out of fear of fratricide and must strive to eliminate fratricide risk through tough, realistic, combined arms training in which each Soldier and unit achieves the established standard. Two fundamentals of fratricide avoidance are SA and target identification.

Situational Awareness

1-66. All crewmen, particularly the PL, must exercise SA to achieve mission success and survival, in any tactical situation. It is critical that leaders know where other friendly elements are operating. With this knowledge, they must anticipate dangerous conditions, and take steps to either avoid or mitigate them.

1-67. The PL has the capability to maintain SA using digital technologies. However, he cannot solely depend on those technologies and must have an awareness of how the different units are moving. The PL must always be vigilant to

changes and developments in the situation that may place his elements in danger. When he perceives a potential fratricide situation, he must personally coordinate directly with the friendly elements involved, using the appropriate voice communications.

Target Identification

1-68. A key role of the tank platoon training program is to teach crews which targets to engage, and when to engage them. Just as important, crews must learn and practice restraint in what and when to engage. To do this, every TC must confirm the target as hostile before issuing and executing any fire command.

Fratricide Avoidance Principles

1-69. The lack of positive target identification is, in many situations, the primary cause of fratricide. Commanders and leaders at all levels must ensure positive target identification before they issue fire commands, to prevent fratricide incidents. In addition, all units must accurately report their locations during combat operations and all battalion tactical operations centers (TOCs) and company command posts (CPs) must carefully track the location of each subordinate element in relation to all friendly forces.

Fratricide Avoidance Measures

1-70. Commanders, leaders, and crewmen should adhere to the following guidelines, considerations, and procedures in ensuring fratricide avoidance:

- Recognize the signs of battlefield stress. Maintain unit cohesion by taking quick, effective action to alleviate stress.
- Conduct individual, leader, and collective (unit) training covering fratricide avoidance, target identification and recognition, and direct fire discipline.
- Develop a simple, decisive plan.
- Give complete and concise mission orders.
- To simplify mission orders, use SOPs that are consistent with doctrine. Periodically review and update SOPs as needed.
- Strive to provide maximum planning time for leaders and subordinates.
- Use common language/vocabulary and doctrinally correct standard terminology and control measures, such as fire support coordination line (FSCL), zone of fire, and restrictive fire lines (RFLs).
- Ensure that thorough coordination is conducted at all levels.
- Plan for and establish effective communications.
- Make sure the rules of engagement (ROE) are clear.
- Conduct rehearsals whenever the situation allows the platoon adequate time to do so.
- Be in the right place at the right time. Use position

location/navigation devices—global positioning system (GPS) and positioning navigation (POSNAV); know your location, and the locations of adjacent units (left, right, leading, and follow-on); and synchronize tactical movement. If the platoon or any element becomes lost or disoriented, leaders must know how to contact higher headquarters immediately for instructions and assistance.

- Include a discussion of fratricide incidents in all after action reports (AARs).

Leadership Responsibilities

1-71. In all situations involving the risk of fratricide and friendly fire, leaders must be prepared to take immediate actions to prevent casualties as well as equipment damage or destruction. Proper training in fratricide avoidance measures, can improve leader responses to possible hazards.

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Chapter 2

Tank Platoon

The tank platoon is a unified team; all tanks crews work together to achieve mission success. A single tank can be vulnerable in the face of diverse battlefield hazards, such as enemy forces or unfavorable terrain and situations. These vulnerabilities are significantly reduced when tanks are employed as platoons or sections**.** The platoon mission accomplishment is dependent upon being properly trained to conduct decisive actions, receiving sound leadership, and the motivation of its Soldiers. Crews must be aggressive, and their tactics must reflect the tempo and intensity of maneuver warfare. The tank platoon provides capabilities that do not exist elsewhere in the U.S. Army, and the proper application of those capabilities ensures that it is a devastating force on the modern battlefield.

This chapter discusses the role of the tank platoon, its organization and capabilities, and the duties and responsibilities of key personnel found in the platoon.

SECTION I – TEXT REFERENCES

Table 2-1. Guide for subjects referenced in text

Subject	***References***
Mechanized Infantry Company	FM 3-90.1
Armor Company	FM 3-90.1

SECTION II – ROLE OF THE TANK PLATOON

2-1. The fundamental mission of the tank platoon is to close with and destroy the enemy. The platoon's ability to shoot, move, and communicate is a decisive factor on the modern battlefield. In accomplishing its assigned missions, the tank platoon employs firepower and maneuver, synchronizing its capabilities with those of other maneuver elements and warfighting functions. The platoon conducts offensive, defensive, and stability operations in support of the company team. In the offense, the tank platoon is an integral part of company team maneuver. The platoon conducts tactical movement, actions on contact, attacks, and may serve as the company reserve in support of higher operations. It can destroy, fix, or bypass an

enemy as required by the commander's intent and the tactical situation. In the defense, the tank platoon participates in the company team defense by performing one or more of the following operations: defend a BP, sector, strongpoint, or perimeter. It may be ordered to conduct a counterattack, or perform as company reserve. During stability operations tank platoons participate in a wide variety of missions such as reserve operations, traffic control points, convoy escorts and proofing/breaching operations.

SECTION III – ORGANIZATION AND CAPABILITIES

2-2. The tank platoon is organic to armor companies of a combined arms battalion. The platoon may be attached to a number of organizations, commonly a Rifle company, to create company teams. It may also be placed under the control of an Infantry organization. The exact amount of control the gaining unit would have is determined by the command relationship established by its higher headquarters. (Refer to FM 3-90.1 for more information.)

ARMOR COMPANY

2-3. The armor company is organized, equipped, and trained to fight with organic assets, or as a task organized company team. The armor company consists of a headquarters and three tank platoons.

2-4. The company headquarters consists of (see Figure 2-1):

- Two tanks with full crews, commanded by the company commander and the executive officer (XO).
- An M113A3 armored personnel carrier (APC) with crew under the command of the first sergeant (1SG).
- Two M998 highly-mobile multipurpose wheeled vehicles (HMMWV) with drivers. These vehicles carry the company master gunner and the company CBRN NCO.
- One cargo truck with 400-gallon water trailer. Manning this vehicle is the company supply section, which is comprised of the supply sergeant and the unit armorer. (Refer to FM 3-90.1 for more information.)

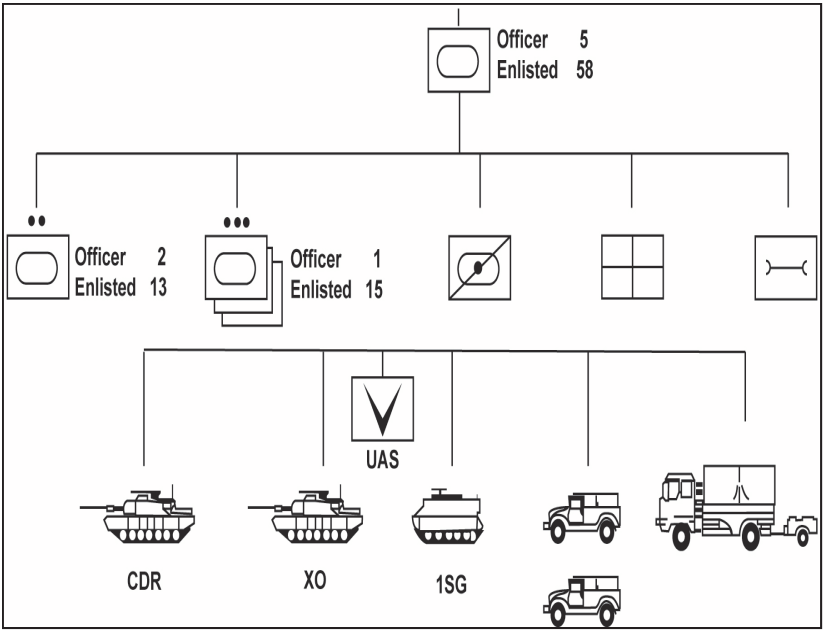

Figure 2-1. Armor company

TANK PLATOON

2-5. A tank platoon consists of four main battle tanks organized into two sections, with two tanks in each section (see Figure 2-2). Section leaders are the PL, who is the tank commander of the vehicle designated as Tank 1, and the PSG, who is the tank commander of Tank 4. Tank 2 is the PL's wingman, and Tank 3 is the PSG's wingman.

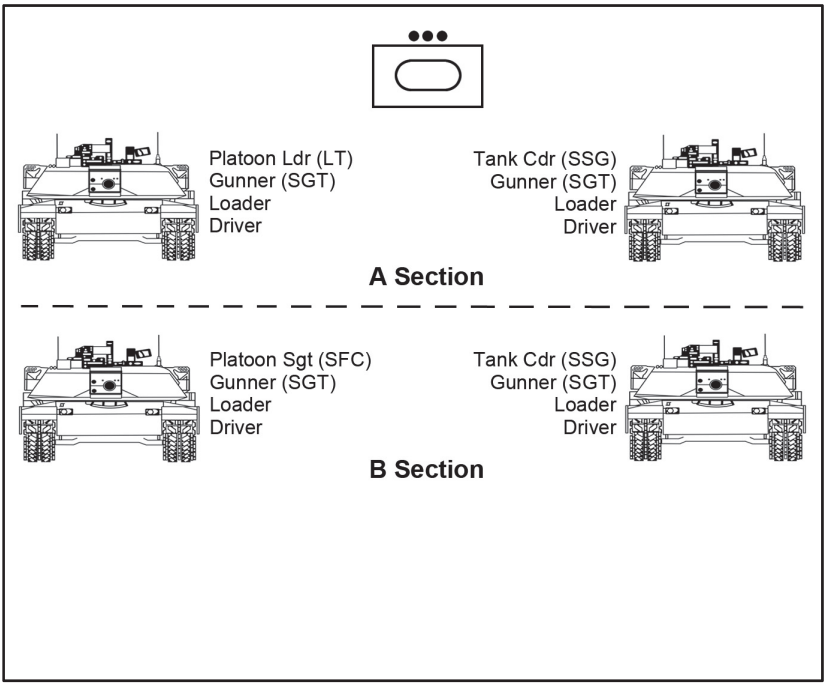

Figure 2-2. Tank platoon

2-6. The wingman concept facilitates control of the platoon under battlefield conditions. The concept requires that individual tanks orient off the tank to its left or right side. In the tank platoon, Tank 2 orients off the PL's tank, while Tank 3 orients off the PSG's tank. The PSG orients off the PL's tank.

CAPABILITIES

2-7. Leaders must have a clear understanding of the capabilities and limitations of their equipment, to ensure mission accomplishment.

2-8. The tank platoon has the following capabilities:

- Conducts operations requiring firepower, mobility, armor protection, and shock effect.
- Sophisticated communications, digital equipment, GPSs, and inertial POSNAV systems.
- Onboard optics and sighting systems enable crews to acquire enemy either day or night.
- Can carry up to 42 rounds of ready and semi-ready 120-mm main gun ammunition, 900 rounds of .50 caliber ammunition and up to 11,400 rounds of 7.62-mm.

- It can destroy enemy vehicles during the day, night, or during periods of limited visibility at extended ranges, while on the move.
- Machine guns allow crews to engage, suppress, and destroy enemy positions, personnel, and lightly armored targets.
- Assaults enemy positions.
- Defends by repelling enemy attacks with fires.
- Secures terrain.
- Conducts mounted patrols.
- Provides support, in the form of armor protection and fires, to Infantry and engineer elements in restricted terrain or during an assault.
- Suppresses enemy positions with machine gun and/or main gun fire.
- Operates in a CBRN environment.
- Reduces mine and wire obstacles when equipped with mine rollers and mine plows.
- Fords water obstacles up to four feet in depth.

2-9. The tank platoon has the following limitations:

- Require extensive maintenance, proficient operators, and skilled mechanics, as well as daily resupply of large quantities of petroleum, oils, and lubricants (POL) products.
- The ability to maneuver, move, and fire is more limited when operating in built-up areas, dense woods or other restricted terrain.
- If operating with closed hatches, the dead space immediately around the vehicle is increased. Reduced visibility leaves them vulnerable to dismounted Infantry attacks.
- Reduced visibility may restrict tanks to trails, roads, or streets; severely limiting maneuverability and observation, and increasing their vulnerability to enemy Infantry antiarmor weapons.
- The 120-mm main gun can depress only to -10 degrees and elevate only to +20 degrees, which creates considerable dead space in an urban environment.
- Existing or reinforcing obstacles can restrict or stop movement.

SECTION IV – DUTIES AND RESPONSIBILITIES OF KEY PERSONNEL

2-10. Tank crews are a tightly integrated team, each member has primary duties; however, success depends on them working together as a crew. They must work together to maintain and service their tank and equipment and function as one in combat. Crews must cross-train so each member can function at any of the other crew positions.

PLATOON LEADER

2-11. The PL bears the responsibility for all that the platoon does or fails to do. He is responsible for the tactical employment, collective training, administration, personnel management, and logistics of the platoon. The PL must know each Soldier's capabilities, and how to employ the platoon and its equipment.

2-12. The PL must—

- Be responsible to the commander for the discipline and training of his platoon, the maintenance of its equipment, and its success in combat.
- Inform the commander of his actions when operating without orders.
- Plan operations with the help of the PSG, section leaders, and other key personnel.
- Stay abreast of the situation and go where needed to supervise, issue FRAGORDs, and accomplish the mission.
- Request from the company commander any support needed to help the platoon perform its mission.
- Assist the PSG in planning and coordination of sustainment for the platoon.
- Receive on-hand status reports from the PSG, section sergeants, and gunners during planning.
- Review platoon requirements based on the tactical plan.
- Develop the fire support plan with the PSG and tank commanders.
- Coordinate the obstacle plan.
- Analyze tactical situations, disseminate, and filter information, and employ the full capabilities of his platoon's equipment (digital or analog) to accomplish the mission.
- Ensure situation reports (SITREPs) are accurately prepared and sent forward to the company team commander.
- Analyze and disseminates pertinent tactical friendly and enemy updates to subordinates.
- Employ all available assets during limited visibility to designate targets for the direct and indirect fire weapons and for situational updates.
- Monitor his commander's tactical display for friendly position updates, overlay updates, and digital reports.
- Be responsible for the accomplishment of all assigned missions in accordance with the commander's intent.
- Be a subject matter expert in the tactical employment of the platoon, both independently or as part of a company team.
- Understand troop-leading procedures and develop his ability to apply them quickly and efficiently on the battlefield.

- Know the capabilities and limitations of the platoon's personnel and equipment.
- Be well versed in enemy organizations, doctrine, and equipment.
- Be prepared to assume duties of the company commander in accordance with the succession of command.
- Be flexible and capable of using sound judgment to make correct decisions quickly, and at the right times, based on his commander's intent and the tactical situation.
- Know and understand the mission and the commander's intent, during decentralized operations.
- Assist other crew members as necessary.

PLATOON SERGEANT

2-13. The PSG is second in command of the platoon and the most experienced Soldier in the platoon. The PSG performs all duties of the PL in his absence. The PSG—

- Assists and advises the PL.
- Mentors crewmen, other NCOs, and the PL on tactical and technical employment of the platoon's assigned equipment.
- Supervises the platoon's administration, logistics, and maintenance.
- Supervises individual training.
- Advises the PL on appointments, promotions and reductions, assignments, and discipline of NCOs and enlisted Soldiers in the platoon.
- Updates the PL on appropriate reports, and forwards any reports needed by company HQ.
- Takes charge of task organized elements in the platoon during tactical operations, including quartering parties, support elements.
- Serves as a tank commander/section leader when the platoon operates mounted.
- Monitors the morale, discipline, and health of platoon members.
- Ensures Soldiers maintain all equipment.
- Coordinates and supervises company-directed platoon resupply operations.
- Collects, prepares, and forwards logistic status updates and requests to the company 1SG.
- Ensures ammunition and supplies are properly and evenly distributed after the platoon consolidates on the objective and while the platoon reorganizes.
- Ensures support supplies are present.
- Directs the platoon's casualty evacuation (CASEVAC) process.

- Maintains platoon strength information, consolidates, and forwards the platoon's casualty reports, and receives and orients replacements.
- Monitors his commander's tactical display to maintain awareness of the platoon's positions relative to the company formation.
- Maintains accountability to the PL for the training, discipline, and welfare of the Soldiers in the platoon.
- Coordinates the platoon's sustainment requirements and handles the personal needs of individual Soldiers.
- Performs actions on the battlefield which complement those of the PL.
- Assists other crew members as necessary.

TANK COMMANDER

2-14. The tank commander is responsible to the platoon leader and platoon sergeant for training his crew on crew drills and individual tasks that support the platoon's mission. The tank commander has the following responsibilities:

- Trains his crew on the maintenance and accountability of assigned equipment, and the tactical employment of his tank.
- Briefs his crew, directs the movement of the tank, submits all reports, and supervises initial first-aid treatment and evacuation of wounded crewmen.
- Understands his equipment and is an expert at using the tank's weapon systems, requesting indirect fires, and executing land navigation using both digital systems and more traditional methods, such as terrain association.
- Controls vehicle fires.
- Ensures the welfare of the crew.
- Issues fire commands.
- Lays the gun for direction.
- Know and understand the company mission and company commander's intent. These requirements demand that the tank commander maintain SA. He does this by using all available optics for observation, monitoring radio transmissions, and digital display.
- Assists other crew members as necessary.

GUNNER

2-15. The gunner has the following duties:

- Searches for targets, aims, and fires both the main gun and the coaxial machine gun.
- Responsible to the TC for the maintenance of the tank's armament and fire control equipment.

- Serves as the assistant TC and assumes the responsibilities of the tank commander as required.
- Assists other crew members as needed.
- Maintains the tank's communications and internal control systems.
- Assists other crew members as necessary.

LOADER

2-16. The loader has the following duties:

- Stows and cares for ammunition, loads the main gun and the coaxial machine gun ready box.
- Aims and fires the loader's machine gun.
- Accountable to the tank commander for the maintenance of communications equipment.
- Ensures that communication equipment is inspected and is operating properly.
- Loads frequencies and conducts radio checks as part of routine maintenance.
- Searches for targets, maintains rear security, and acts as air guard or antitank guided missile (ATGM) guard, before engagement actions are initiated.
- Assists the tank commander as needed by providing directions to the driver, so the tank maintains its position in formation.
- Assists other crew members as necessary.

2-17. Because the loader is ideally positioned both to observe around the tank and to monitor the tank's digital displays, PLs and TCs should give strong consideration to assigning their second most experienced crewman as the loader.

DRIVER

2-18. The driver has the following duties:

- Moves, positions, and stops the tank.
- While driving, searches for covered and concealed routes and for covered positions to which he can move if the tank is engaged.
- Maintains his tank's position in formation and watches for visual signals.
- Monitors the steer-to indicator, if the tank is equipped, and selects the best tactical route.
- Assists the gunner and tank commander by scanning for targets and sensing fired rounds during engagements.
- The driver is responsible to the tank commander for the vehicle maintenance.
- Assists other crew members as needed.

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Chapter 3

Offense

Offensive tasks are conducted to defeat and destroy enemy forces and seize terrain, resources, and population centers. They impose the commander's will on the enemy. Offensive tasks may also be conducted to deprive the enemy of resources, seize decisive terrain, deceive or divert the enemy, develop intelligence, or hold an enemy in position. The tank platoon leader must understand the fundamentals of offense and apply troop-leading procedures during the planning and preparation phases of the operation to ensure the successful execution of the offense.

This chapter discusses the fundamentals, planning, preparation, and execution of the offense.

SECTION I – TEXT REFERENCES

Table 3-1. Guide for subjects referenced in text

Subject	*References*
Offensive	FM 3-90
Forms of maneuver	FM 3-90.1
Movement formations and battle drills	TC 3-20.15
Tempo	ADP 3-0
Movement to contact	JP 1-02

SECTION II – FUNDAMENTALS OF THE OFFENSE

3-1. This section discusses the fundamentals of the offense. The fundamentals discussed in this section apply to all types of offensive tasks.

CHARACTERISTIC OF OFFENSE TASKS

3-2. Surprise, concentration, tempo, and audacity characterize the offense. (Refer to FM 3-90 for more information.)

SURPRISE

3-3. Surprise is achieved by attacking the enemy at a time or place he does not expect or in a manner for which he is unprepared. Platoons achieve surprise by following operational security procedures and making the best possible use of vehicle speed, covered and concealed routes, vehicle optics, firepower, and stand-off capabilities during tactical movement.

CONCENTRATION

3-4. Concentration is the massing of overwhelming effects of combat power to achieve a single purpose. Platoons achieve concentration by massing the effects of their weapon systems without necessarily massing platoon vehicles at a single location.

TEMPO

3-5. Tempo is the relative speed and rhythm of military operations over time with respect to the enemy. The PL must understand the different rates of speed when comparing dismounted forces to mounted forces. He must ensure that his platoon's movement is synchronized with the movement of other maneuver and sustainment elements involved in the operation to maintain the proper tempo to support the commander's scheme of maneuver.

AUDACITY

3-6. Audacity is a simple plan of action, boldly executed. Audacity inspires Soldiers to overcome adversity and danger. At the platoon level, audacity is marked by violent execution of the mission and a willingness to seize the initiative. The PL must have knowledge of the commander's intent two levels up. This allows him to take advantage of battlefield opportunities whenever they present themselves.

OFFENSIVE TASKS

3-7. The four primary types of offensive tasks are movement to contact, attack, exploitation, and pursuit. (Refer to FM 3-90 for more information.)

MOVEMENT TO CONTACT

3-8. Movement to contact is an offensive task designed to develop the situation and establish or regain contact. It also creates favorable conditions for subsequent tactical actions. The platoon conducts a movement to contact (MTC) when the enemy situation is vague or not specific enough to conduct an attack. A movement to contact may result in a meeting engagement. Once contact is made with an enemy force, the platoon leader has five options: attack, defend, bypass, delay, or withdraw. Movements to contact include search and attack and cordon and search operations.

Attack

3-9. An attack is an offensive task that destroys or defeats enemy forces, seizes and secures terrain, or both. Attacks incorporate coordinated movement supported

by fires. They may be either decisive or shaping operations. Attacks may be hasty or deliberate, depending on the time available for assessing the situation, planning, and preparing. An attack differs from a MTC because, in an attack, the platoon leader knows part of the enemy's disposition.

Exploitation

3-10. Exploitation is an offensive task that usually follows the conduct of a successful attack and is designed to disorganize the enemy in depth. Exploitations seek to disintegrate enemy forces to the point where they have no alternative but surrender or take flight. Platoons may conduct exploitation as part of a larger organization to accomplish this goal.

Pursuit

3-11. A pursuit is an offensive task designed to catch or cut off a hostile force attempting to escape, with the aim of destroying it. A pursuit normally follows a successful exploitation. However, any offensive task can transition into a pursuit, if enemy resistance has broken down and the enemy is fleeing the battlefield.

Forms of Maneuver

3-12. Forms of maneuver are distinct tactical combinations of fire and movement with a unique set of doctrinal characteristics that differ primarily in the relationship between the maneuvering force and the enemy. There are five forms of maneuver: envelopment, turning movement, frontal attack, penetration, and infiltration. A single operation may contain several forms of maneuver. (Refer to FM 3-90.1 for more information.)

Envelopment

3-13. Envelopment is a form of maneuver in which an attacking force seeks to avoid the principal enemy defenses by seizing objectives behind those defenses that allow the targeted enemy force to be destroyed in their current positions.

Turning Movement

3-14. A turning movement is a form of maneuver in which the attacking force seeks to avoid the enemy's principle defensive positions by seizing objectives behind the enemy's current position; thereby causing the enemy force to move out of his current positions or divert major forces to meet the enemy.

Frontal Attack

3-15. A frontal attack is a form of maneuver in which an attacking force seeks to destroy a weaker enemy force or fix a larger enemy force in place over a broad front.

Penetration

3-16. A penetration is a form of maneuver in which an attacking force seeks to rupture enemy defenses in a narrow front to disrupt the defensive system.

Infiltration

3-17. An infiltration is a form of maneuver in which an attacking force conducts undetected movement through or into an area occupied by enemy forces to occupy a position of advantage behind those enemy positions while exposing only small elements to enemy defensive fires.

SEQUENCE OF THE OFFENSE

3-18. This manual discusses executing all offensive tasks in a five-step sequence. This sequence is for discussion purposes only and is not the only way of conducting these offensive tasks. The reader should understand that these sequences overlap during the conduct of the offense. (Refer to FM 3-90 for more information.) The sequence of the offense is—

- Gain and maintain enemy contact.
- Disrupt the enemy.
- Fix the enemy.
- Maneuver.
- Follow through.

SECTION III – PLAN

3-19. The planning phase begins when the platoon receives the WARNORD or OPORD from the commander. During this phase, the PL conducts troop-leading procedures as outlined in Chapter 1. The PL must take into account all considerations applicable for offensive operations when developing his OPORD or FRAGORD.

3-20. After he issues the WARNORD, the PL initiates rehearsals of tactical movement and battle drills. These rehearsals allow the platoon to begin preparing for the mission. Once the PL completes his plan, rehearsals are matched to the actual terrain and anticipated actions on contact with the enemy.

MISSION COMMAND

3-21. Immediately after the company order is issued or during the company rehearsal, he should coordinate unresolved issues with the other PLs, the XO, and the company commander. The coordination should specify routes, intervals, movement speed, orientations, fire control measures, graphic control measures, and signals between platoons. Coordination will be critical when working with Infantry, or units that do not have a habitual working relationship with the tank platoon. All planning for offensive operations address the mission variables, with special emphasis on—

- Enemy positions, strengths, and capabilities.
- Missions and objectives, to include task and purpose, for each subordinate element.
- Commander's intent.

- The AOs for the use of each subordinate element with associated control graphics.
- Scheme of maneuver.
- Risk.

MOVEMENT AND MANEUVER

3-22. The PL develops the platoon maneuver plan so that it matches the commander's intent and supports the company scheme of maneuver. If working with Infantry, the PL must understand their abilities and be able to explain his capabilities to the Infantry commander. The PL determines the platoon's route, movement technique, and formation based on the mission variables, the company scheme of maneuver, and the likelihood of contact with the adversary. He pays particular attention to fields of observation and fire; these factors can help him to define potential engagement areas (EA). The PL must anticipate actions on contact and execution of essential tasks. He also must address actions on the objective (consolidation and reorganization).

3-23. The PL conducts a map reconnaissance and uses the factors of OAKOC, to systematically analyze the terrain in his AO. He pays close attention to key terrain that could support positions offering unobstructed observation and fields of fire. This analysis is followed by a ground reconnaissance, conducted as far forward as possible and as extensively as time and security considerations permit. The ground reconnaissance covers the platoon's movement routes to the line of departure (LD), routes to the objective, and the objective itself. The PL should check and record the time-distance factors to any start points (SPs) or to the LD.

INTELLIGENCE

3-24. Most analysis of the enemy situation and probable enemy COAs is done at the battalion and company level; however, it is the PL's responsibility to understand how the enemy's disposition and possible COAs may affect the platoon's AO and the accomplishment of its mission. The PL uses what is developed from higher, but must be able to conduct intelligence preparation of the battlefield (IPB) refining information received from higher. The PL identifies and plots on his overlay all known and suspected enemy positions that affect his AO and identifies indirect and direct fire range fans of enemy weapon systems. The enemy overlay for FBCB2 should also be updated to include the latest enemy information.

3-25. The PL then identifies terrain features or determines the standoff distance of friendly weapon systems that will negate the effects of enemy weapons if possible. Next, he determines the enemy's most probable COAs. Using information from his own analysis and from higher headquarters, he identifies anticipated contact situations. This process includes:

- Estimating whether the enemy will defend in place, delay, or counterattack upon contact.
- Deciding when and where contact is most likely to be made.
- Identifying what type and size of enemy force the platoon will face.
- Estimating the enemy's intent.

3-26. Finally, the PL must develop specific plans for the platoon's actions against the enemy.

FIRES

3-27. Most fire support planning is conducted at company level and higher. The PL reviews the plan to identify his designated responsibilities for initiating, lifting, and shifting indirect fires. As necessary, he identifies additional indirect fire targets on known or suspected enemy positions and submits recommendations to the company fire support officer. The PL evaluates and recommends the use of smoke to obscure movement and suppress likely enemy positions. In addition, he evaluates the need for illumination rounds during the course of the operation. When working with other forces the PL must ensure he has an understanding of the fire support capability inherent within the force structure.

SUSTAINMENT

3-28. A key to successful offensive operations is the ability to anticipate the requirement to push support forward, specifically in regard to ammunition and fuel. In regards to ammunition, enemy composition must be factored when determining the type and number of rounds. During offensive operations, PL and PSG must plan for a higher rate of fuel consumption. The PL or PSG ensures that Soldiers are familiar with procedures for maintenance and medical treatment and evacuation. The PSG consolidates logistics and resupply needs of the platoon and reports those needs to the 1SG.

PROTECTION

3-29. The fluidity and rapid tempo of offensive operations pose challenges in the protection of friendly assets. The forward movement of units is critical to maintaining the initiative necessary for successful offensive operations. Denying the enemy a chance to plan, prepare, and execute an effective response to friendly offensive operations through maintaining a high operational tempo is a key means to survivability of forces.

SECTION IV – PREPARE

3-30. Preparation actions are performed by the platoon to improve its ability to execute an operation.

3-31. The platoon's success during missions depend as much on preparation as planning. Activities specific to preparation include:

- Revising and refining the plan.
- Rehearsals.
- Force tailoring and task-organizing.
- Surveillance and reconnaissance.
- Training.

- Troop movements.
- Precombat checks and inspections.
- Sustainment preparations.
- Subordinate confirmation briefs and back briefs.

REHEARSALS

3-32. The platoon uses rehearsals to help understand their roles in upcoming operations, practice complicated tasks, and ensure equipment and weapons function properly. Following the last company rehearsal, the platoon should conduct a final rehearsal of its own to incorporate any adjustments to the company scheme of maneuver. (Refer to ADP 5-0 for more information.) The platoon rehearsal should cover the following subjects:

- Movement from current positions.
- Routes (including passage points, contact points, checkpoints, and casualty collection point [CCP]).

INSPECTIONS

3-33. A precombat inspection is a formal, time-intensive inspection that is done prior to the mission. Its goal is to make sure Soldiers and vehicles are fully prepared to execute the upcoming mission. In general, PCIs enable the PL to check the platoon's operational readiness.

3-34. A precombat check is less formal and more mission-specific than a PCI. Precombat checks emphasize areas, missions, or tasks required for upcoming missions. The TCs perform the PCC.

3-35. It is essential that the entire platoon chain of command know how to conduct PCCs and PCIs.

3-36. The PL and/or PSG should observe each crew during preparation for combat. They should conduct the inspection once the TCs report that their crews and vehicles are prepared.

SECTION V – EXECUTE/ASSESS

3-37. Platoon leaders analyze the enemy throughout troop-leading procedures to identify likely contact situations that might occur during an operation. Through the planning and rehearsals conducted during TLPs, they develop and refine courses of actions to deal with the probable enemy actions. The courses of action become the foundation for the platoon's scheme of maneuver.

FORMS OF CONTACT

3-38. In both offensive and defensive operations, contact occurs when a member of the platoon encounters a situation that requires a lethal or nonlethal response to the enemy. These situations may entail one or more of the following forms of contact:

- Direct.
- Indirect.

- Nonhostile or civilian.
- Obstacle.
- CBRN.
- Aerial.
- Visual.
- Electronic.

FIVE STEPS OF ACTIONS ON CONTACT

3-39. Actions on contact are a series of combat actions, often conducted simultaneously and taken on contact with the enemy to develop the situation (Refer to FM 3-90 for more information). The platoon should execute actions on contact using a logical, well-organized process of decision making and action entailing these five steps:

- Deploy and report.
- Evaluate and develop the situation.
- Choose a COA.
- Execute the selected COA.
- Recommend a COA to the higher commander.

3-40. This five-step process is not intended to generate a rigid, lockstep response to the enemy. Rather, the goal is to provide an orderly framework that enables the platoon to survive the initial contact and then apply sound decision making and timely actions to complete the operation. Ideally, the platoon acquires the enemy (visual contact) before being seen by the enemy; it then can initiate direct contact on its own terms by executing the designated COA.

3-41. Once the platoon makes contact with the enemy, they conduct actions on contact. The platoon treats obstacles like enemy contact, since it assumes that the obstacles are covered by fire. The platoon often gains a tactical advantage over an enemy force by using tempo and initiative to conduct these actions on contact, allowing it to gain and maintain contact without becoming decisively engaged. This tempo is directly related to the platoon's use of well rehearsed SOP and drills.

3-42. Platoon leaders must understand that properly executed actions on contact require time at platoon and section levels. To fully develop the situation, the platoon may have to execute extensive lateral movement, conduct reconnaissance by fire, and/or call for and adjust indirect fires. Each of these actions requires time to execute. The PL must balance the time required for subordinate elements to conduct actions on contact with the need of the company to maintain momentum. In terms of slowing the tempo of an operation, however, the loss of a section or vehicle is usually more costly than the additional time required to allow the subordinate element to properly develop the situation.

DEPLOY AND REPORT

3-43. When a platoon encounters an enemy unit or obstacle, it deploys to a covered position that provides observation and fields of fire. If the platoon is under enemy

fire, it uses direct and indirect fire to suppress the enemy and restore freedom of maneuver. Simultaneously, the PL reports contact using a spot report (SPOTREP) format to provide all available information on the commander. This alerts the commander and allows the initiation of necessary actions.

EVALUATE AND DEVELOP THE SITUATION

3-44. While the platoon deploys, the PL evaluates the situation and continues to develop it. The PL quickly gathers as much information as possible, either visually or, more often, through reports of the platoon. He analyzes the information to determine critical operational considerations, including the following:

- The size of the enemy element.
- Location, composition, activity, and orientation of the enemy force.
- The impact of obstacles and terrain.
- Enemy capabilities (especially anti-armor capability).
- Probable enemy intentions.
- How to gain positional advantage over the enemy.
- The friendly situation (location, strength, and capabilities).
- Possible friendly COAs to achieve the specified end state.

CHOOSE A COURSE OF ACTION

3-45. After developing the situation and determining that he has enough information to make a decision, the PL selects a COA that both meets the requirements of the commander's intent and is within the platoon's capabilities.

EXECUTE THE SELECTED COURSE OF ACTION

3-46. When executing the selected COA the platoon transitions from movement to maneuver. It then continues to maneuver to advance while in contact to reach the point on the battlefield from which it executes its tactical task. The platoon can employ a number of tactical tasks as COAs, any of which may be preceded (and/or followed) by additional maneuver. (Refer to FM 3-90 for more information.) These tasks include:

- **Attack by fire**. This is a tactical mission task in which the PL uses direct fires, supported by indirect fires, to engage an enemy force without closing with the enemy to destroy, suppress, fix, or deceive that enemy.
- **Breach**. This is a tactical mission task in which the unit employs all available means to break through or establish a passage through an enemy defense, obstacle, minefield, or fortification.
- **Bypass**. This is a tactical mission task in which the PL directs the unit to maneuver around an obstacle, position, or enemy force to maintain the momentum of the operation while deliberately avoiding combat with an enemy force.

- **Clear**. This is a tactical mission task that requires the PL to remove all enemy forces and eliminate organized resistance within an assigned area.
- **Control**. This is a tactical mission task that requires the PL to maintain physical influence over a specified area to prevent its use by an enemy or to create conditions necessary for successful friendly operations.
- **Counter-reconnaissance**. This is a tactical mission task that encompasses all measures taken by a PL to counter enemy reconnaissance and surveillance efforts. Counter-reconnaissance is not a distinct mission, but a component of all forms of security operations.
- **Disengage**. This is a tactical mission task where a PL has the unit break contact with the enemy to allow the conduct of another mission or to avoid decisive engagement.
- **Exfiltrate**. This is a tactical mission task where a commander removes Soldiers, Marines, or units from areas under enemy control by stealth, deception, surprise, or clandestine means.
- **Follow and assume**. This is a tactical mission task in which a second committed force follows a force conducting an offensive operation and is prepared to continue the mission if the lead force is fixed, attrited, or unable to continue.
- **Follow and support**. This is a tactical mission task in which a committed force follows and supports a lead force conducting an offensive operation.
- **Occupy**. This is a tactical mission task that involves moving a friendly force into an area so that it can control that area. Both the force's movement to and occupation of the area occur without enemy opposition.
- **Reduce**. This is a tactical mission task that involves the destruction of an encircled or bypassed enemy force.
- **Retain**. This is a tactical mission task in which the PL ensures that a terrain feature controlled by a friendly force remains free of enemy occupation or use.
- **Secure**. This is a tactical mission task that involves preventing a unit, facility, or geographical location from being damaged or destroyed as a result of enemy action.
- **Seize**. This is a tactical mission task that involves taking possession of a designated area by using overwhelming force.
- **Support by fire (SBF)**. This is a tactical mission task in which the platoon moves to a position where it can engage the enemy by direct fire in support of another maneuvering force.

3-47. As execution continues, more information becomes available to the PL. Based on the emerging details of the enemy situation; the PL may have to alter his

COA during execution. For example, as the platoon maneuvers to destroy what appears to be a tank section, it discovers an additional section in prepared positions. The PL analyzes and develops the new situation. He then selects an alternate COA, such as establishing an SBF position to support another company team's maneuver against the newly discovered enemy force.

RECOMMEND A COURSE OF ACTION TO THE HIGHER COMMANDER

3-48. Once the PL selects a COA, keeping in mind the commander's intent, he informs the commander, who has the option of disapproving it based on its impact on the overall mission. In addition to recommending a platoon COA for commanders' approval, the PL may be in a unique position to recommend an overall company COA. To avoid delay, unit SOP may provide automatic approval of certain actions.

BATTLE DRILLS

3-49. The platoon leader usually initiates a battle drill when enemy contact is made. A battle drill can be initiated following reports or observation of enemy activity or ordered upon receipt of enemy fires. It provides virtually automatic responses to situations in which the immediate, violent execution of an action is vital to the platoon's safety or its success in combat. Battle drills allow the platoon leader to protect the platoon from the effects of enemy fires, quickly mass the platoon's fires, or move or deploy the platoon to a position of advantage over the enemy. Battles drills differ from actions on contact which requires an analysis to develop the situation and choose a COA.

3-50. Battle drills describe how platoons and sections apply immediate action without applying a deliberate decision-making process. They are used to initiate rapid fire and movement to commonly encountered situations and equipment malfunctions. Battle drills require leaders to make rapid decisions and quickly issue clear and concise orders. They require Soldiers to know their responsibilities and to rapidly execute key actions. Practice and rehearsals are crucial to executing battle drills.

3-51. Refer to Digital Training Management System (DTMS) for more information on how to conduct battle drills. Battle drills for tank platoons are:

- Change formation.
- Contact.
- Action.
- React to indirect fire.
- React to air attack.
- React to a CBRN attack.

MOVEMENT

3-52. The PL must decide which combat formation or movement technique is best for the operation during the planning process. Changes to combat formations or movement techniques may be required after SP, based on mission variables.

COMBAT FORMATIONS

3-53. A combat formation is an ordered arrangement of forces for a specific purpose and describes the general configuration of a unit on the ground. (Refer to FM 3-90 for more information.) Formations are used to establish tank positions and sectors of fire during tactical operations. They facilitate control; alleviate confusion, and increase protection, speed, and the effectiveness of fires.

3-54. Formations are not intended to be rigid, with vehicles remaining a specific distance apart at every moment. The position of each tank in the formation depends on the terrain and the ability of the tank drivers to maintain their movement in relation to the lead tank. Individual tanks should always occupy the same relative position within a formation. Weapons orientation for all tanks should be adjusted to ensure optimum security based on the position of the platoon in the company formation.

3-55. The following paragraphs describe the six basic movement formations the platoon will use. (See Figure 3-1.)

- **Column**. The column formation provides excellent control and fire to the flanks, but permits less fire to the front. It is used when speed is critical, when the platoon is moving through restricted terrain on a specific route, and/or when contact with an enemy is not likely.
- **Staggered column**. The staggered column formation is a modified column formation with one section leading, and one section trailing to provide overwatch. The staggered column permits good fire to the front and flanks. It is used when speed is critical, when there is a limited area for lateral dispersion, and/or when enemy contact is possible.
- **Wedge**. The wedge formation permits excellent firepower to the front and good firepower to the flanks. It is employed when the platoon is provided with overwatch by another element and is moving in open or rolling terrain.
- **Echelon**. The echelon formation permits excellent firepower to the front and to one flank. It is used to screen an exposed flank of the platoon or of a larger moving force.
- **VEE**. The VEE formation provides excellent protection and control, but limits fires to the front. This formation is used when terrain restricts movement, or when overwatch within the platoon is required.
- **Line**. The line formation provides maximum firepower forward. It is used when the platoon crosses danger areas, and is provided with overwatch by another element, or when the platoon assaults through the enemy positions.

Note. The platoon executes the following formations when it is stationary and 360-degree security is essential.

- **Coil**. The platoon uses the coil formation to establish a perimeter defense during extended halts, or lulls in combat, when it is operating independently. The lead vehicle, usually the PL, halts his vehicle in the direction of travel (12 o'clock) while the other vehicles position themselves to form a circular formation covering all suspected enemy avenues of approach.
- **Herringbone**. The platoon uses the herringbone formation when it must assume a hasty defense with 360-degree security. This formation allows the platoon to remain ready to continue movement in its original direction of travel. The herringbone formation is normally employed during scheduled or unscheduled halts in a road march. (Refer to TC 3-20.15 for more information.)

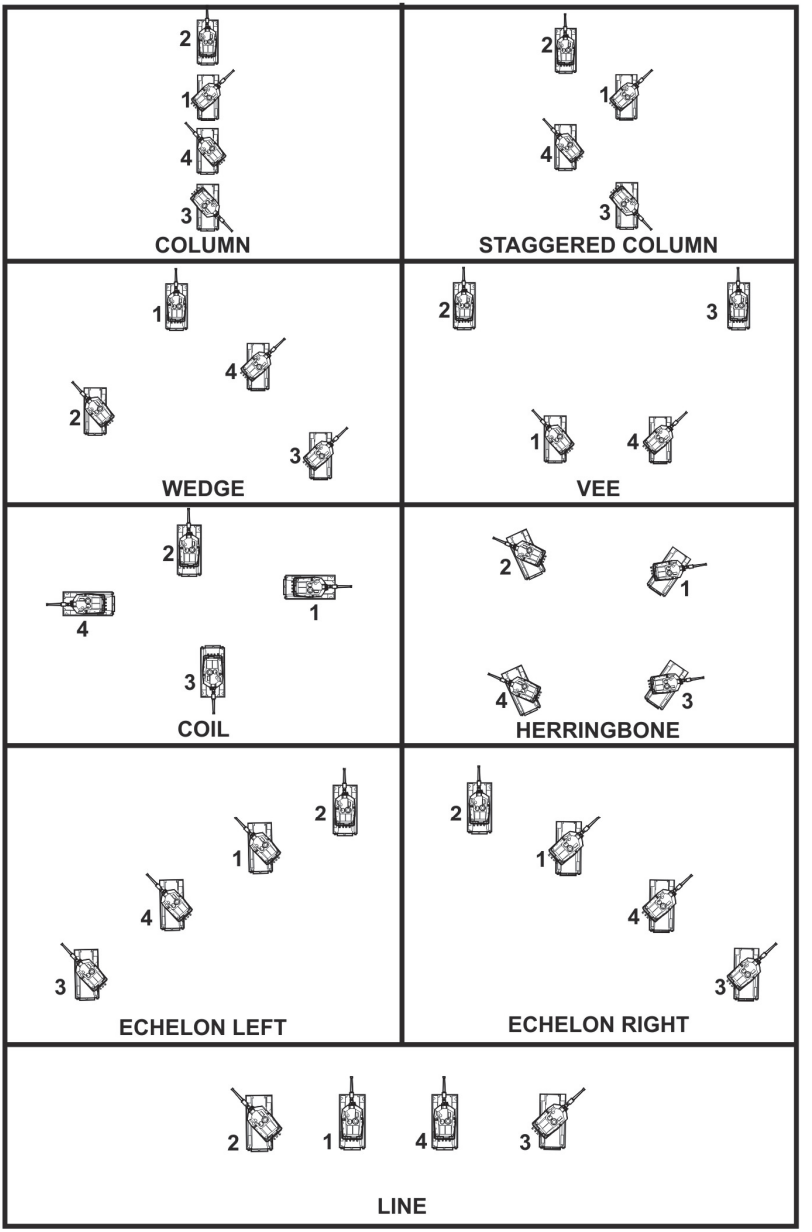


Figure 3-1. Movement formations

MOVEMENT TECHNIQUES

3-56. Movement techniques limit the platoon's exposure to enemy fire and position it in a good formation to react to enemy contact. The PL selects the appropriate movement technique based on the chance of enemy contact. While moving, crews use the terrain to protect themselves anytime enemy contact is possible or expected. They use natural cover and concealment to avoid enemy fires. The following considerations apply to crews using terrain for protection.

- Do not silhouette yourself against the skyline.
- Cross open areas quickly.
- Do not move directly forward from a concealed fighting position.
- Avoid possible kill zones because it is easier to cross difficult terrain than fight the enemy on unfavorable terms.
- Avoid large, open areas, especially when dominated by high ground or by terrain that can cover and conceal the enemy.
- Take active countermeasures, such as using smoke and direct and indirect fire, to suppress or obscure suspected enemy positions.
- Identify danger areas, to include possible minefields, obstacles and dead space.

3-57. **Traveling**. The platoon uses the traveling movement technique when speed is necessary and contact with enemy forces is not likely. All elements of the platoon move simultaneously. The PL is located where he can best control the situation. When using the traveling movement technique, intervals between tanks is based on visibility, terrain and weapon ranges.

3-58. **Traveling overwatch**. The platoon uses the traveling overwatch movement technique when contact with enemy forces is possible, but speed is important. The lead section is continuously moving, while the trailing section moves at variable speeds, sometime pausing to overwatch the movement of the lead section. The trailing section keys its movement to the terrain, overwatching from a position where they can support the lead section if it engages the enemy. The trailing section overwatches from positions and at distances that will not prevent them from firing or moving to support the lead section.

3-59. **Bounding overwatch**. The platoon uses the bounding overwatch movement technique when contact with enemy forces is expected. There are two variations of this technique: alternate bounds and successive bounds. In both cases, the overwatching section covers the bounding section from covered and concealed positions with good observations and fields of fire against possible enemy positions. They can immediately support the bounding section with maneuver or fires, if the bounding section makes contact. Unless they make contact en route, the bounding section moves via covered and concealed routes into the next set of support by fire positions. The length of the bound is based on the terrain and range of overwatching weapon systems. In bounding overwatch, all movement keys on the next support by fire position, which must offer, cover and concealment, good observation and fields of fire, and protection for stationary weapon platforms.

3-60. **Alternate bounds (bounding overwatch)**. If the platoon uses alternate bounds, the lead section moves forward, halts, and occupies a support by fire position that is covered at all times by the rear overwatching section. The former rear overwatching section advances past the former lead section and takes up overwatch positions. The initial lead section then advances past the initial trail section and occupies a new support by fire position. One section moves at a time. This method is usually more rapid than successive bounds (See Figure 3-2.).

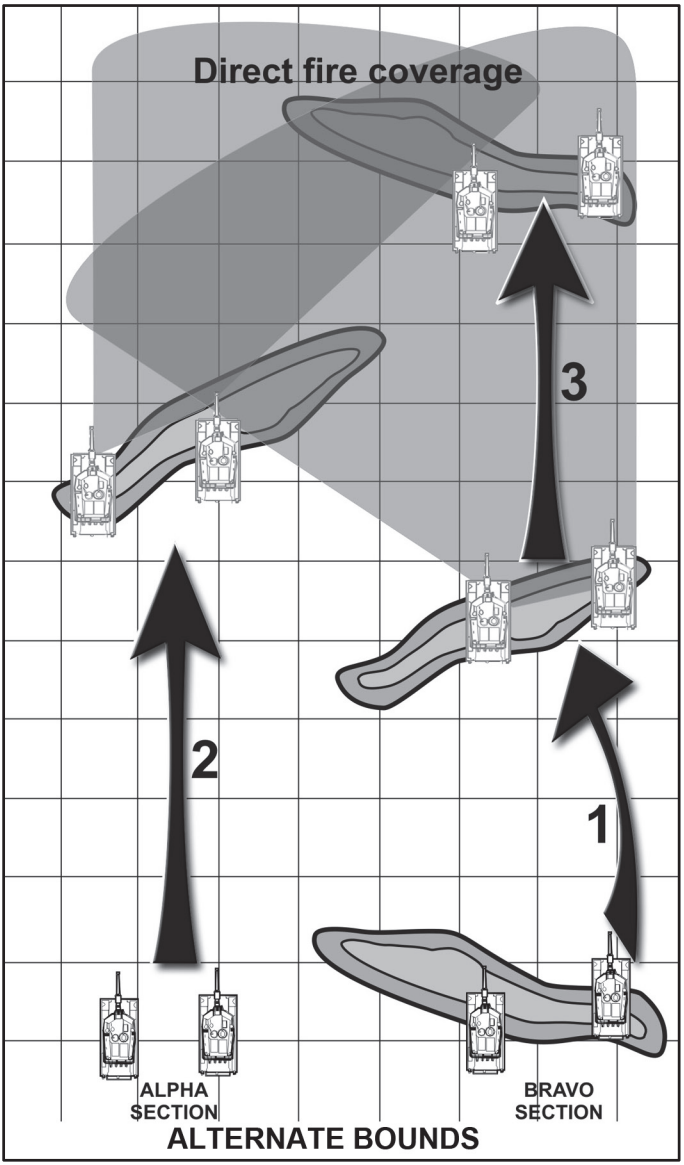


Figure 3-2. Movement by alternate bounds

3-61. **Successive bounds (bounding overwatch)**. If the platoon uses successive bounds, the lead section, covered by the trail section, advances and occupies a SBF position. The trail section advances to a support by fire position abreast with the lead

section and halts. The lead section then moves to the next position and the move continues. One section moves at a time, and the trail section avoids advancing beyond the lead section (See Figure 3-3.).

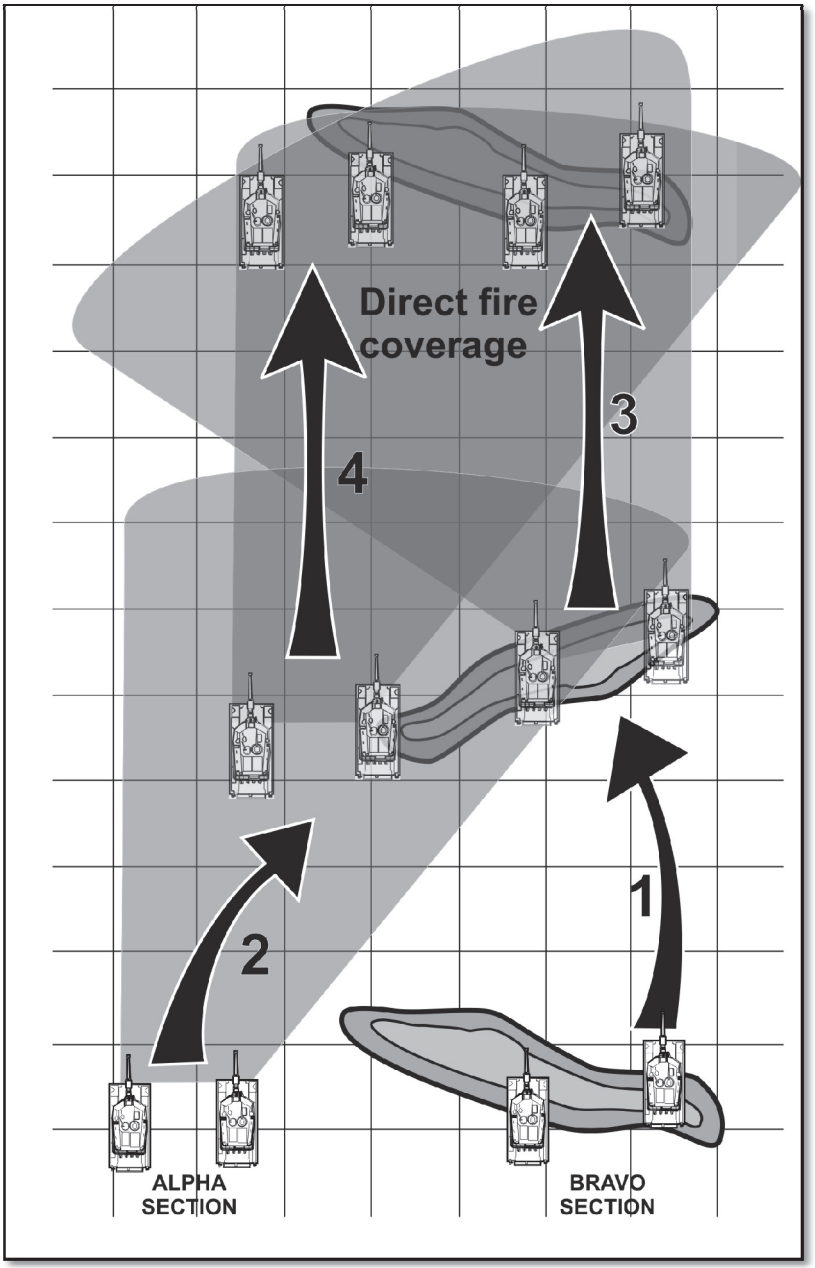


Figure 3-3. Movement by successive bounds

TRANSITION

3-62. The platoon executes consolidation and reorganization to ensure that it is prepared to destroy an enemy counterattack or is prepared to resume the attack as soon as possible.

CONSOLIDATION

3-63. Consolidation consists of actions taken to secure an objective and to defend against an enemy counterattack. The platoon takes these steps:

- Eliminates remaining enemy resistance and secures detainees.
- Establishes security and coordinates mutual support with adjacent platoons.
- Occupies positions on defensible terrain as designated in the OPORD or FRAGORD.
- Executes procedures for a hasty defense to prepare for possible counterattacks. (Refer to chapter 4 for more information.)

REORGANIZATION

3-64. Reorganization is all measures taken to maintain unit combat effectiveness or return it to a specified level of combat capability. Responsibilities during reorganization include the following:

- Tank commanders take these actions:
  - Reload machine guns and redistribute main gun ammunition to ready areas.
  - Move crewmen who are wounded in action (WIA) to a covered position and provide first aid.
  - Send a SITREP to the PSG reporting casualties and supply status of equipment, ammunition, and fuel.
  - Conduct essential maintenance.
- The PSG takes these actions:
  - Compile SITREPs from TCs and, as required by unit SOP, submit a consolidated report to the PL or 1SG.
  - Direct cross-leveling of supplies within the platoon.
  - Oversee evacuation of casualties.
  - Coordinate the movement of detainees to the detainee collection point.
- The PL takes these actions:
  - Forward a consolidated SITREP to the commander.
  - Redistribute personnel as necessary to maintain combat readiness.
  - Reestablish communications with elements that are out of contact.

Chapter 4

Defense

Defensive tasks defeat an enemy attack, buy time, economize forces, or develop conditions favorable for offensive operations. Their purpose is to create conditions for a counteroffensive that allows Army forces to regain the initiative. Defensive tasks may also be conducted to retain decisive terrain or deny a vital area to the enemy, attrition, or fix the enemy as prelude to offensive operations, in response to a surprise action by the enemy, or to increase the enemy's vulnerability by forcing him to concentrate his forces. While the offense is the most decisive type of combat operation, the defense is the stronger type. The platoon uses the defense to occupy and prepare positions and mass the effects of direct fires on likely approaches. The platoon plans, prepares, and executes the defense alone, or in support of a company team.

This chapter discusses the fundamentals, planning, preparation, and execution of the defense.

SECTION I – TEXT REFERENCES

Table 4-1. Guide for subjects referenced in text

Subject	*References*
Defense	FM 3-90
Retrograde Operations	FM 3-90.1

SECTION II – FUNDAMENTALS OF THE DEFENSE

4-1. This section discusses the fundamentals of the defense and applies it to all types of defensive tasks.

CHARACTERISTICS OF THE DEFENSE

4-2. Successful defensive tasks share the following characteristics: preparation, security, disruption, massing effects, and flexibility, maneuver, and operations in depth. (Refer to FM 3-90 for more information.)

PREPARATION

4-3. The defense has inherent strengths. The defender arrives in the AO before the attacker and uses the available time to prepare. These preparations multiply the effectiveness of the defense.

SECURITY

4-4. Security operations help deceive the enemy as to friendly locations, strengths, and weaknesses. They also inhibit or defeat enemy reconnaissance operations. These measures provide early warning and disrupt enemy attacks early and continuously.

DISRUPTION

4-5. Defenders disrupt attackers' tempo and synchronization with actions designed to prevent them from massing combat power. Disruptive actions attempt to unhinge the enemy's preparations and, ultimately, his attacks. Methods include defeating or misdirecting enemy reconnaissance forces, breaking up his formations, isolating his units, and attacking or disrupting his systems.

MASSING EFFECTS

4-6. Defenders seek to mass the effects of overwhelming combat power at the decisive points. To obtain an advantage at decisive points, defenders economize and accept risk in some areas; and maneuver to gain local superiority at the point of decision. Obstacles, security forces, and fires can assist in reducing risk.

FLEXIBILITY

4-7. Defensive tasks require flexible plans. Planning focuses on preparation in depth, and the ability to shift the main effort. Defenders add flexibility by designating supplementary positions, designing counterattack plans, and preparing to counterattack.

MANEUVER

4-8. Maneuver allows the defender to take full advantage of the AO and to mass and concentrate when desirable. Maneuver allows the defender to achieve a position of advantage over the enemy to accomplish the mission.

OPERATIONS IN DEPTH

4-9. Simultaneous application of combat power throughout the area of operation improves the chances for success while minimizing friendly casualties. Quick, violent, and simultaneous action throughout the depth of the defender's AO can hurt, confuse, and even paralyze an enemy force just as that enemy force is most exposed and vulnerable. Operations in depth prevent the enemy from gaining momentum in the attack.

DEFENSIVE TASKS

4-10. There are three basic types of defensive tasks–area defense, mobile defense, and retrograde. These three tasks have significantly different concepts and pose significantly different problems. (Refer to FM 3-90 for more information.)

AREA DEFENSE

4-11. The area defense concentrates on denying enemy forces access to designated terrain for a specific time rather than destroying the enemy outright. The focus of the area defense is on retaining terrain where the bulk of the defending force positions itself in mutually supporting positions. Units at all echelons can conduct an area defense.

MOBILE DEFENSE

4-12. The mobile defense concentrates on the destruction or defeat of the enemy through a decisive attack by a striking force. The mobile defense focuses on defeating or destroying the enemy by allowing it to advance to a point where he is exposed to a decisive counterattack by the striking force. A fixing force supplements the striking forces by holding attacking forces in position, to help channel attacking forces into ambush areas, and to retain areas from which to launch the striking forces. A mobile defense requires an AO of considerable depth. Division and larger formations normally execute mobile defense. However, subordinate echelons may participate as part of the fixing force or the striking forces.

RETROGRADE

4-13. The retrograde involves organized movement away from the enemy. The enemy may force these tasks, or the PL may execute them voluntarily. The higher commander of the force executing the retrograde must approve the retrograde task before its initiation in either case. The retrograde is a transitional task; it is not conducted in isolation. It is part of a larger scheme of maneuver designed to regain the initiative and defeat the enemy. (Refer to FM 3-90.1 for more information.)

DEFENSIVE TECHNIQUES

4-14. The platoon executes the defense using one of following techniques:

- Defense of a linear obstacle.
- Defend a battle position.
- Conduct a perimeter defense.
- Conduct a reverse slope defense.

4-15. The platoon can also defend using a combination of these basic techniques. (Refer to FM 3-90.1 for more information.)

BATTLE POSITIONS

4-16. A battle position is a defensive location oriented on a likely enemy avenue of approach. (Refer to FM 3-90 for more information.) The battle position is an intent graphic that depicts the location and general orientation of the majority of the defending forces. Units as large as battalion task forces and as small as squads or sections use battle positions. They may occupy the topographical crest of a hill, a forward slope, a reverse slope, or a combination of these areas. The PL selects his positions based on terrain, enemy capabilities, and friendly capabilities.

4-17. There are five kinds of battle positions—primary, alternate, supplementary, subsequent, and strong point. When assigning battle positions the PL always designates the primary battle position. The PL designates and prepares alternate, supplementary, and subsequent positions as time and other resources permit and if the terrain or situation requires them. (See Figure 4-1.)

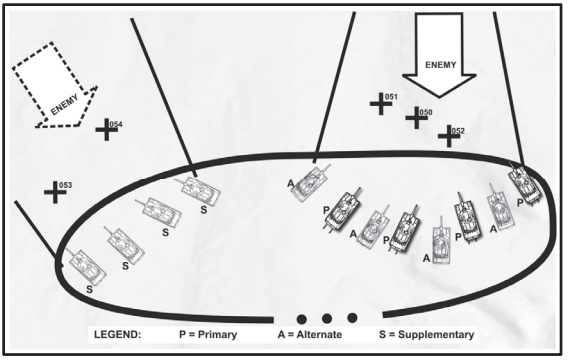


Figure 4-1. Battle positions

- The primary position is the position that covers the enemy's most likely avenue of approach into the AO. It is the best position from which to accomplish the assigned mission, such as cover an EA.
- An alternate position is a defensive position assigned to a platoon or weapon for occupation when the primary position becomes untenable or unsuitable for carrying out the assigned task. It covers the same area as the primary position. The PL locates alternate positions so the occupant can continue to fulfill the original task, such as covering the same avenue of approach or EA as the primary position. These positions increase the platoon's survivability by allowing the platoon to engage the enemy from multiple positions. For example, the platoon moves to its alternate positions when the enemy brings suppressive fires on the primary position.
- A supplementary position is a defensive position located within the platoon's assigned AO that provides the best sectors of fire and defensive terrain along an avenue of approach that is not the primary avenue where the enemy is expected to attack. For example, an avenue of approach into the platoon's AO from one of its flanks normally requires establishing supplementary positions to allow the platoon to engage enemy forces traveling along that avenue.
- A subsequent position is a position that the platoon expects to move to during the course of battle. A defending unit may have a series of subsequent positions. Subsequent positions can also have

primary, alternate, and supplementary positions associated with them.

- A strong point is a heavily fortified battle position tied to a natural or reinforcing obstacle to create an anchor for the defense or to deny the enemy decisive or key terrain. Normally, companies and battalions occupy strong points, although brigades may construct them. The company commander does not normally establish strong points for units smaller than company size. This is because a platoon or section cannot secure a perimeter large enough to encompass all required assets and supplies.

SEQUENCE OF THE DEFENSE

4-18. This manual discusses executing all defensive tasks in a five-step sequence. This sequence is for discussion purposes only and is not the only way of conducting these defensive operations. The reader should understand that these sequences overlap during the conduct of the defense. Normally the first three steps are shaping operations, while the maneuver step is the decisive operation. Follow through is normally a sequel or branch to the plan based on situation. (Refer to FM 3-90 for more information.) The sequence of the defense is:

- Gain and maintain enemy contact.
- Disrupt the enemy.
- Fix the enemy.
- Maneuver.
- Follow through.

SECTION III – PLAN

4-19. The planning phase of a defensive task is a continuous process that begins when the PL receives the company WARNORD, FRAGORD, or OPORD. Planning may continue into the preparation phase as the platoon gains more information through the plan of the higher headquarters and from further reconnaissance and rehearsals.

4-20. The platoon's success in the defense depends on its location. The PL must consider the platoon battle positions and how well direct fires can mass on the EA. He should consider existing and man-made obstacle emplacement to channel the enemy into the platoon's EA. The PL must consider the integration of combined arms in the defense. He must consider the placement of Infantry squads, ensuring fratricide avoidance measures are in place. As planning progresses, it is important that the PL make a careful evaluation of the considerations outlined in the following discussion, which is organized using the warfighting functions.

MISSION COMMAND

4-21. The PL must understand the company plan and triggers; he develops his plan based on these factors as well as the commander's intent. The commander normally

determines operational considerations such as operations security (OPSEC), occupation of firing positions, initiation of direct fires, primary and supplementary platoon sectors of fire, and disengagement criteria; however, he may allow the PL to make decisions covering some or all of these areas.

MOVEMENT AND MANEUVER

4-22. The PL completes the reconnaissance, and the platoon occupies its positions during this phase. Occupation usually includes the platoon moving from tactical assembly areas to the defensive positions identified during the reconnaissance, and marked by the quartering party. The PL initiates priorities of work that include EA development and battle position preparation.

4-23. The platoon must establish security during the occupation phase, to ensure defensive preparation is complete. All members of the platoon must understand the plan and execute their duties and responsibilities quickly and efficiently to maximize the time available for planning and preparation of the defense.

4-24. The primary concern in selecting fighting positions is the platoon's ability to concentrate and mass lethal fires into its sectors of fire. Dispersion among fighting positions reduces vulnerability of platoon vehicles to enemy fires; however, dispersion increases the demands for local security in the area between vehicles.

4-25. Ideally, the platoon occupies hull-down firing positions as the enemy crosses the direct fire trigger line. The trigger line should optimize weapon standoff, while the firing positions and the designated firing pattern should be selected to create the opportunity for flank engagements.

DEPTH AND DISPERSION

4-26. The PL should disperse defensive positions laterally and in depth. This protects the platoon from enemy observation and fires. The platoon battle positions must allow sufficient maneuver space between each firing position for placement of crew-served weapons systems and Infantry squads.

COVER AND CONCEALMENT

4-27. The platoon should plan covered and concealed routes for moving to alternate, supplementary, or subsequent battle positions. The platoon should rehearse the movement, including limited visibility and degraded conditions.

DISPLACEMENT AND DISENGAGEMENT PLANNING

4-28. The PL must consider displacement and disengagement during planning. The platoon maintains its operational flexibility using displacement and disengagement control measures. The platoon uses displacement and disengagement to maintain standoff ranges of the tank fire control system and to avoid being fixed or decisively engaged by the enemy.

INTELLIGENCE

4-29. Security decisions are based on enemy capabilities. Platoons use observation posts (OPs) to provide early warning of the enemy's actions, their REDCON status, and other OPSEC preparations that enable them to respond in a timely manner.

4-30. OPSEC is especially critical during the PL's ground reconnaissance. The PL ensures that he provides security for the reconnaissance based on the commander's guidance. Because it is probable that enemy elements are already in the area, he must ensure that platoon reconnaissance elements have the capability to protect themselves effectively.

4-31. The PL should complete his reconnaissance by conducting initial coordination with adjacent platoons to establish mutual support and to cover dead space between the platoons. At the conclusion of the reconnaissance, he may leave an OP to report enemy activity in the AO.

FIRES

4-32. The PL posts targets on his overlays (in both hand written and digital format). Although most fires planning are done by the company fire support team (FIST), the PL can (if necessary) provide the FIST with nominations for additional targets for inclusion in the company fires plan. As these targets are approved, the PL plots them on his overlays. If a target is disapproved, he notes its grid coordinates so he can, if needed, submit a speedy call for fire using the grid method. (Refer to Chapter 6 for more information.)

4-33. The PL should plan and request artillery targets on potential avenues of approach, at choke points along the avenues of approach, at possible enemy SBF positions, at obstacles, and in dead space within the platoon's AO. He should also be prepared to request a mix of smoke and dual-purpose improved conventional munitions (DPICM) rounds in front of his BP to disrupt an enemy assault or behind his BP to help the platoon disengage from the enemy.

4-34. Each artillery target should have a trigger line overwatched by at least a crew or section. The trigger line initiates the call for fire on a target to ensure that the impact of the rounds coincides with the enemy's arrival. The platoon's laser range finders (LRF) or target designation capabilities (on digitally equipped tanks) enhance its effectiveness in requesting artillery fires using trigger lines. The location of the trigger line is based on the enemy's expected rate of advance over the terrain, the time of flight of the rounds, and the priority of fires. The company FIST should assist in determining all trigger points.

4-35. The PL should plan and coordinate mortar targets on dismounted avenues of approach. In addition, because mortar smoke is generally more responsive than smoke delivered by field artillery (FA), he may be able to gain a tactical advantage by employing mortar support in certain situations.

SUSTAINMENT

4-36. Sustainment is a vital consideration in defensive planning. The PL must consider priorities of work and resupply in the planning process to ensure the platoon is prepared for operations.

PRIORITIES OF WORK

4-37. The platoon executes its defensive priorities of work. The platoon executes some tasks simultaneously. The PL manages the defensive preparation and division of labor based on the "defend not later than (NLT)" time. Priorities of work include, but are not limited to, the following tasks:

- Maintain platoon OPSEC and surveillance of the EA.
- Verify each vehicle's location, orientation, and sector of fire.
- Supervise any allocated engineer assets.
- Conduct reconnaissance and mark supplementary EAs and subsequent BPs as time permits.
- Conduct rehearsals.
- Oversee vehicle maintenance, and prepare-to-fire checks.
- Improve the position by emplacing M8/M22 alarms, hot loops, and by upgrading cover and concealment.

RESUPPLY

4-38. The platoon conducts resupply operations to replenish basic loads in accordance with the company plan. Ammunition may be pre-positioned on the battlefield to facilitate resupply once the battle begins. The PL determines pre-stock requirements based on the commander's intent and scheme of maneuver. The PSG identifies resupply locations, the types (usually ammunition) and amounts of supplies involved, the time required to conduct resupply, and any necessary security considerations.

PROTECTION

4-39. The PL must consider protection during the planning phase of the defense. The platoon must establish security, plan for survivability, and the emplacement of obstacles to improve the effectiveness of the defense. The following discussions cover those aspects of the planning phase.

Security

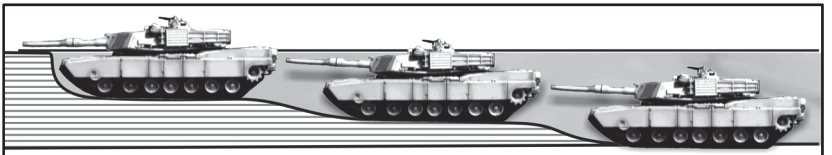
4-40. The platoon provides security during all phases of the defense. The platoon SOP should cover the procedures for conducting local security measures. The platoon conducts security to;

- Provide early warning.
- Destroy enemy and reconnaissance units.
- Impede enemy main body elements.

4-41. The platoon continues to provide security until directed to displace to BPs.

Survivability

4-42. The PL must plan the priority of survivability efforts. His plan should specify the sequence in which his tanks receive digging assets. Additionally, he should incorporate plans for linkup, supervision, and handoff of engineer assets into his time line. When designating priorities, he considers the survivability of unimproved positions and the relative importance of each firing position within the BP. The engineer PL, section leader, or bulldozer operator can estimate how much time it will take to improve firing positions. These estimates range from 45 minutes to two hours, depending on soil and light conditions and the type and amount of engineer equipment available. Figure 4-1 illustrates dug-in positions and lists considerations for their construction and use.



- Berms attract attention. Dig down not up.
- Do not put spoil to the front, sides, or rear of the fighting position. Reduce spoil so that it blends into the existing terrain.
- Tie down all antennas and keep reflective surfaces covered.
- If possible, make sure the fighting position has a covered exit and covered route to the next fighting position.
- Construct overhead cover and add camouflage to create a hide position if time and materials are available.

Figure 4-2. Dug-in firing positions

Obstacle Emplacement

4-43. Key factors for the PL to consider in counter-mobility planning are a thorough understanding of the commander's intent for each planned obstacle and knowledge of the time and personnel he must allocate to supervise or assist emplacement of the obstacle. He must keep in mind limited ability to transport and emplace obstacles.

4-44. The commander's intent guides the emplacement of obstacles based on the following principles and characteristics:

- Emplace obstacles to integrate with and reinforce the scheme of maneuver and the direct fire plan.
- Emplace obstacles to integrate with existing obstacles.
- Employ obstacles in depth and positioned where they will surprise enemy forces.
- Cover obstacles with direct and indirect fires at all times.

4-45. Obstacles are used to disrupt, turn, fix, and block the enemy based on the factors of mission variables. Figure 4-2 illustrates considerations for obstacle employment in relation to platoon BPs. The PL should analyze the situation and plan obstacles to meet these purposes:

- To block the final assault of an enemy force to the front of the platoon.
- To block the seams between vehicles or between adjacent platoons.
- To disrupt enemy forces that are assaulting on the flanks of the platoon.
- To shape the EA by forcing enemy elements to turn, slow down, stop, or flank themselves at known ranges in the EA.

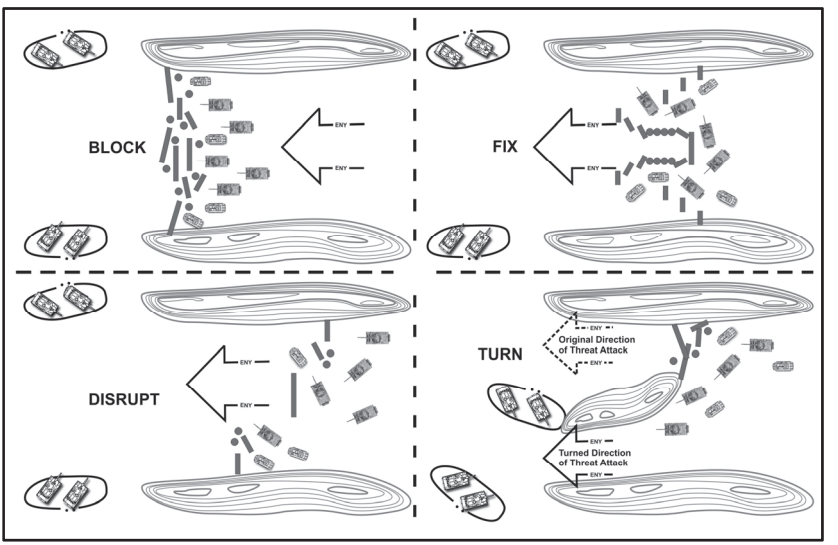


Figure 4-3. Considerations for obstacle employment

SECTION IV – PREPARE

4-46. The platoon begins the preparation of a BP upon receipt of WARNORD. The platoon must be prepared to defend at the "defend not later than" time specified in the OPORD. However, preparations are continuous and some preparations continue until the platoon is decisively engaged with the enemy. The PL designates these preparations as priorities of work and identifies them in the platoon WARNORD or OPORD. He must execute effective TLPs and time management while considering platoon security, firing position and obstacle preparation, rehearsals, and coordination with other elements.

ENGAGEMENT AREA DEVELOPMENT

4-47. The EA is the area where the PL intends to destroy an enemy force using the massed fires of all available weapons. The platoon EA development is a complex function and requires parallel planning and preparation for the platoon to accomplish its mission. The PL and his subordinate leaders use a standardized set of procedures to develop an EA. The development process covers the following steps, beginning with an evaluation of the mission variables:

- Identify likely enemy avenues of approach.
- Identify the enemy scheme of maneuver.
- Determine where to kill the enemy.
- Plan and integrate obstacles.
- Emplace weapons systems.
- Plan and integrate indirect fires.
- Conduct an EA rehearsal.

IDENTIFY LIKELY ENEMY AVENUES OF APPROACH

4-48. The PL conducts an initial reconnaissance from the enemy's perspective, along each avenue of approach into the EA. He confirms key terrain identified by the company commander. The PL considers positions that provide an advantage over the enemy, natural obstacles, and choke points that restrict forward movement, during this reconnaissance. The PL determines which avenues of approach provide cover and concealment for the enemy. The PL also evaluates lateral routes that adjoin each avenue of approach.

IDENTIFY ENEMY SCHEME OF MANEUVER

4-49. The PL greatly enhances this step of the EA development process by gaining information early. He receives answers to the following questions from the company commander:

- Where does the enemy want to go?
- Where will the enemy go based on terrain?
- What is the enemy's mission (or anticipated mission)?
- What are the enemy's objectives?
- How will the enemy structure his attack?
- How will the enemy employ his reconnaissance assets?
- What are the enemy's expected rates of movement?
- How will the enemy respond to friendly actions?

DETERMINE WHERE TO KILL THE ENEMY

4-50. The PL must determine where he will mass combat power on the enemy to accomplish his purpose. The PL makes this decision based on his assessment of how the enemy will fight into the platoon's EA. This entry point is normally marked by a prominent target reference point (TRP) that all platoon elements can engage with

their direct fire weapon systems. This allows the platoon leader to control fires in his EA. In addition, the leader—

- Identifies TRPs that match the enemy's scheme of maneuver, allowing the platoon (or company) to identify where it will engage the enemy through the depth of the EA.
- Identifies and records the exact location of each TRP.
- Determines how many weapons systems can focus fires on each TRP to achieve the desired purpose.
- Begins development of a direct fire plan that focuses at each TRP.

Note. The platoon should mark TRPs so they can be identified using thermal sights at the appropriate range, under any visibility condition.

PLAN AND INTEGRATE OBSTACLES

4-51. The PL must integrate tactical obstacles with the direct fire plan, to be successful in the defense. He must consider the intent of each obstacle. A platoon must have a clear task and purpose to properly emplace a tactical obstacle. The company may designate the purpose of the tactical obstacle. The purpose influences many aspects of the operation, from selection and design of obstacle sites, to actual conduct of the defense. The PL must report its location, and the gaps in the obstacle, to the company commander, once it has been emplaced.

EMPLACE WEAPONS SYSTEMS

4-52. Leaders must know the characteristics, capabilities, and limitations of the platoon's weapons, as well as, the effects of terrain, and the tactics used by the enemy, to effectively position weapons. PLs should position weapons where they have protection, where they can avoid detection, and where they can surprise the enemy with accurate, lethal fires. The PL must know where he wants to destroy the enemy, and what effect he wants the weapons to achieve. The PL must consider the following to position the weapons effectively:

- Selecting tentative defensive positions for each tank in the platoon.
- Conducting a leader's reconnaissance of the tentative defensive positions.
- Walking the EA to confirm that the selected positions are tactically advantageous.
- Confirming and marking the selected defensive positions.
- Developing a direct fire plan that accomplishes the platoon's purpose.
- Ensuring the defensive positions do not conflict with those of adjacent units and is effectively tied in with adjacent positions.
- Selecting primary, alternate, and supplementary fighting positions to achieve the desired effect for each TRP.

- Ensuring that TCs position their tanks to effectively cover each TRP in the platoons EA.
- Inspecting all positions.

PLAN AND INTEGRATE INDIRECT FIRES

4-53. The PL, with the company FIST, must accomplish the following when planning and integrating indirect fires:

- Determine the purpose of fires.
- Determine where that purpose will best be achieved.
- Establish the observation plan with redundancy for each target. Observers include the PL as well as members of subordinate elements with fire support responsibilities.
- Establish triggers based on enemy movement rates.
- Obtain accurate target locations using survey and navigational equipment.
- Refine target locations to ensure coverage of obstacles.

SKETCH CARD AND PLATOON FIRE PLAN

4-54. Each tank crew is required to develop a sketch card as it prepares its BPs for defensive operations. This is a rough topographical sketch of the tank's assigned sector, which may be hand written or prepared using the tank's digital equipment. The sketch card aids the crews in target acquisition (TA) and provides information for the PL to develop his platoon fire plan. (The sketch card is discussed in more depth in Chapter 7.)

4-55. The platoon fire plan should provide information necessary to distribute and control the fires of all available direct and indirect fire weapons, both organic and attached.

CONDUCT ENGAGEMENT AREA REHEARSALS

4-56. Rehearsals are meant to provide every member of the platoon an understanding of the plan and prepare them to cover their assigned areas with direct and indirect fires.

4-57. The platoon should participate in a company-level EA rehearsal. The platoon may use full dress rehearsals to gain a better understanding of the plan. Designated personnel may move through the EA to depict the attacking enemy force, while the PL and squad leaders rehearse the battle from the platoon defensive positions. (Refer to FM 3-90.1 for more information.) The rehearsal should cover—

- Rearward passage of security forces (as required).
- Closure of lanes (as required).
- Use of fire commands, triggers, and/or maximum engagement lines (MEL) to initiate direct and indirect fires.
- Shifting of fires to refocus and redistribute fire effects.
- Disengagement criteria.

- Identification of displacement routes and times.
- Preparation and transmission of critical reports.
- Assessment of the effects of enemy weapons systems.
- Displacement to alternate, supplementary, or subsequent defensive positions.
- Cross-leveling or resupply of Class V items.
- Evacuation of casualties.

PREPARATION TASKS

4-58. Preparation tasks include reconnaissance of the battle position, hasty occupation, and deliberate occupation (including EA development, rehearsals, and precombat checks and inspections).

RECONNAISSANCE OF THE BATTLE POSITION

4-59. The PL, TCs, and a security element (usually the loaders from the wingman tanks) dismount and move to the BP. If possible, platoon vehicles provide overwatch for the reconnaissance group; otherwise, the PL positions dismounted OPs, as necessary. The reconnaissance group can then move mounted or dismounted around the BP and EA.

4-60. If the PL has already conducted a leader's reconnaissance with the commander, he uses information from his own reconnaissance to acquaint his TCs with the BP, briefing his OPORD from an advantageous location within the BP. If there has been no prior leader's reconnaissance, the PL should (if possible) conduct a complete ground reconnaissance with the TCs. This allows him to confirm his map reconnaissance and tentative plan before he issues the OPORD.

Note. If he is unable to issue the full OPORD during the reconnaissance, the PL should, as a minimum, issue a detailed WARNORD.

4-61. Members of the reconnaissance party should use marking materials (for daylight and limited visibility recognition) to indicate key locations. They should record the eight-digit grid coordinates for these locations, either manually on their maps or by using electronic means such as the GPS or POSNAV system (if available).

4-62. To be most effective, the reconnaissance begins from the enemy's perspective in the EA, with the party looking toward the BP.

Note. The PL must receive permission from the commander to move in front of the BP.

4-63. The PL should explain the enemy situation, outlining probable COAs and the effects of terrain on enemy movement. He also identifies the enemy's potential SBF positions as well as assault avenues through the platoon's BP.

4-64. The PL and TCs then mark the EA with platoon and section sectors of fire. They may also mark TRPs and tentative obstacle locations. As necessary, fire control measures may be designated and/or marked using easily identifiable terrain features.

4-65. When reconnaissance of the EA is complete and all TCs are sure of where the PL wants to kill the enemy, the PL and TCs move back to the BP. They discuss details of the platoon fire plan, including the trigger line, engagement criteria, fire pattern, disengagement criteria and disengagement plan, and routes to supplementary or subsequent BPs. They also make plans to identify and mark primary and alternate fighting positions.

Hasty Occupation

4-66. Tank platoons conduct a hasty occupation under a variety of circumstances. During a movement to contact, the platoon may prepare to destroy a moving enemy force by conducting a hasty occupation of BPs or attack-by-fire positions in defensible terrain. During defensive operations, hasty occupation may take place during counterattack missions, after disengagement and movement to subsequent BPs, or in response to FRAGORDs reflecting a change of mission. As a minimum, the PL must have the following information when he orders a hasty occupation:

- Where he wants to kill the enemy. The PL designates TRPs either to define the EA and platoon sectors of fire or to identify locations where the platoon will mass its fires.
- The tentative location of the BP.

4-67. The PL must pass this information to the platoon. He may supplement it with tentative section or vehicle fighting positions within the BP and platoon TRPs defining section sectors of fire. As an alternative, he can elect to use the company TRPs alone to mass platoon fires to the left and to the right of the TRPs. Depending on the situation, the PL issues the information in person, over the radio, or by digital overlay (if available).

4-68. The PL continues to develop the situation. As time permits, the PL establishes the following fire control measures:

- The trigger line and engagement criteria.
- The fire pattern to be used.
- Disengagement criteria and the disengagement plan.

Deliberate Occupation

4-69. The tank platoon can conduct deliberate occupation of a BP when all of the following conditions exist:

- Time is available.
- The enemy is not expected or has not been located within direct fire range.
- A friendly element is forward of the BP with the mission of providing security for the occupying force.

4-70. The platoon begins by occupying a hide position behind the BP. It assumes a formation that provides 360-degree security based on considerations of mission variables and OAKOC. The TCs move to the PL's vehicle and prepare to reconnoiter the position. The PL briefs his gunner on actions to take if the reconnaissance group does not return by a specified time or if contact occurs.

4-71. After completing the reconnaissance and coordination, the PL and TCs move back to their vehicles. The TCs remount, start vehicles simultaneously, and move to hide positions behind their primary fighting positions. On order, the platoon moves simultaneously into turret-down firing positions. These positions allow the tanks to fire only their caliber .50 or loader's M240 machine gun. Observation can be executed using the commander's independent thermal viewer (CITV) (if available); the gunner's primary sight also provides observation capability.

4-72. The PL checks with the OPs to ensure that the enemy situation has not changed, then orders platoon vehicles to occupy their primary hull-down firing positions.

4-73. The PL should designate TRPs and assign sectors of fire in the EA. A TRP is a recognizable point on the ground that leaders use to orient friendly forces and to focus and control direct fires. A TRP may be a natural terrain feature, a man-made artifact, such as a building, or a marker emplaced by the unit. In addition, when TRPs are designated as indirect fire targets, they can be used in calling for and adjusting indirect fires. Leaders designate TRPs at probable enemy locations and along likely avenues of approach. These points can be natural or man-made. Target reference points should be visible in three observation modes (unaided, passive-infrared, and thermal) so all forces can see them. Examples of TRPs include the following features and objects: (See Figure 4-3.)

- Prominent terrain feature (for example, a large hill mass).
- Distinctive man-made structure (for example, a grain silo).
- Observable enemy position.
- Destroyed vehicle.
- Ground-burst illumination.
- Smoke round.
- Laser point.

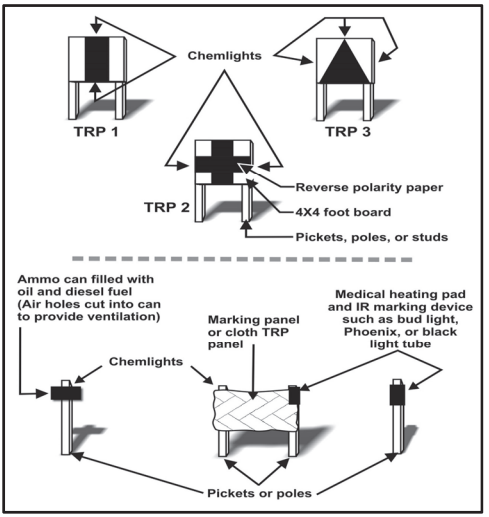


Figure 4-4. Examples of target reference points

4-74. Tank crews orient on the EA and complete their sketch cards. Each crew sends its completed sector sketch to the PL, either by messenger or by digital transmission the crew retains a copy of the sketch card for its own reference. Tanks then move individually to their hide positions and assume the appropriate REDCON status.

REHEARSAL

4-75. Rehearsals are especially effective in helping the platoon to practice and coordinate necessary tactical skills, including these:

- Occupation procedures.
- Calls for fire.
- Initiation, distribution, and control of direct and indirect fires.
- Engagement area.
- Movement to alternate and supplementary fighting positions.
- Displacement to subsequent BPs.

4-76. Rehearsals can begin as soon as the platoon receives the company WARNORD, with individual crews practicing berm drills, snake board exercises, and ammunition transfer drills. Initial walk-through rehearsals on a sand table can focus on deliberate or hasty occupation procedures, fire distribution, and the disengagement plan. The platoon can then conduct mounted movement and force-on-force rehearsals. The platoon continues to raise the level of difficulty by conducting the rehearsals at night, and at various mission oriented protective posture (MOPP) levels, using these rehearsal techniques. The PL should integrate voice and digital radio traffic, as well as, calls for fire during all rehearsals.

PRECOMBAT CHECKS/PRECOMBAT INSPECTIONS

4-77. The PL checks the platoon's operational readiness using inspections. The key goal is to ensure that Soldiers and equipment are fully prepared to execute the upcoming mission. (Refer to Chapter 3 for more information.)

SECTION V – EXECUTE/ASSESS

4-78. Successful execution of the defense is contingent on the planning and preparation that was conducted by the platoon. This section contains a "best case," chronological discussion of the procedures and considerations that apply during the execution of a typical tank platoon defensive mission.

HIDE POSITION

4-79. The platoon's hide positions are located behind its primary battle and/or fighting positions. The platoon occupies hide positions in one of two ways: either as a unit, or with individual vehicles occupying hide positions behind their primary fighting positions. The hide position serves the following purposes:

- A well-constructed, effectively camouflaged hide position may delay enemy acquisition of the platoon.
- A hide position located away from the prepared position may protect the platoon from the full effects of enemy artillery fires.
- A hide position is used to conduct sustainment tasks while the platoon occupies BPs such as, maintenance and resupply.

4-80. The platoon employs all applicable OPSEC measures to limit aerial, thermal, electronic, and visual detection, while in the hide position. It deploys OPs to provide surveillance of its sectors of fire and early warning for vehicles in the hide position. It also maintains the REDCON status prescribed in the OPORD. The hide position should not be located on or near obvious artillery targets.

4-81. The PL may decide to occupy turret-down positions, rather than hide positions based on terrain considerations, such as availability of cover and concealment, or if the enemy situation is vague and observation of the EA is necessary.

OCCUPATION OF FIRING POSITIONS

4-82. The PL monitors intelligence reports on the company net and upgrades the platoon's REDCON status as the enemy approaches or as directed by the commander. When previously identified occupation criteria are met, he orders the platoon to occupy its primary fighting positions.

4-83. Each TC moves to his position along a previously reconnoitered route, based on reconnaissance, rehearsals, and known time-distance factors. Tank commanders use waypoints to assist in controlling movement, if the GPS or POSNAV is available.

DIRECT FIRES

4-84. The PL controls the platoon fires by using either fire commands or trigger lines.

FIRE COMMANDS

4-85. The PL initiates tank direct fires using a fire command as discussed in Chapter 7. The fire command enables him to engage single targets using a single section or an individual vehicle without exposing the entire platoon. It also allows the platoon to maintain the element of surprise by simultaneously engaging multiple targets with a lethal initial volley of tank fires. Sectors of fire and the preplanned fire pattern should be selected to help prevent target overkill and the resulting waste of ammunition.

TRIGGER LINE

4-86. Trigger lines are pre-established direct fire ranges that allow each TC to engage enemy vehicles in his sector of fire, in the absence of communications from the PL.

MOVEMENT CONSIDERATIONS

4-87. Individual TCs move from hull-down to turret-down firing positions within their primary and alternate positions based on two considerations: the necessity to maintain direct fire on the enemy and the effectiveness of enemy fires. Each TC's decision to move between firing positions are influenced by the enemy's movement rate, the number of advancing enemy vehicles, the accuracy with which the enemy is acquiring and engaging friendly fighting positions, and the lethality of enemy weapon systems.

REPORTING

4-88. Contact reports, SPOTREPs, and SITREPs are used as appropriate to report enemy in the platoon's AO. In the defense, contact reports are used to alert the platoon to previously unidentified enemy targets. The SPOTREPs and SITREPs are sent to list the number, types, and locations of enemy vehicles observed, engaged, and/or destroyed and to provide the strength and status of friendly forces.

4-89. Everyone involved in the reporting process must avoid sending redundant or inflated descriptions of the situation. Such reports not only are confusing, but also may trigger unnecessary, and possibly dangerous, actions by higher headquarters.

RESUPPLY

4-90. The platoon may expend main gun ammunition quickly in a direct fire fight. The PL must develop and execute resupply procedures to maintain a constant supply of main gun rounds. Resupply is discussed in Chapter 9.

DISPLACEMENT

4-91. The platoon may be required to displace to a subsequent BP due to a numerically superior enemy force, or a penetration or enemy advance on a secondary avenue of approach. The PL chooses between two methods of displacement depending on whether or not the move is conducted with overwatch (and cover) by an adjacent platoon.

DISPLACEMENT WITH COVER

4-92. If the displacement is covered, the entire platoon usually displaces as a whole. It employs smoke grenades and onboard smoke generators, if possible, to screen the displacement.

4-93. The PL issues instructions or uses a prearranged signal to initiate movement. The platoon simultaneously backs down to hide positions, keeping front hulls toward the enemy, until adequate cover protects each tank. Individual tanks orient weapon systems toward the enemy as they move to the subsequent or supplementary positions along previously identified and reconnoitered routes.

DISPLACEMENT WITHOUT COVER

4-94. The PL designates one section to overwatch the displacement of the other section, if the displacement is not covered by another element. The overwatch section is responsible for providing suppressive fires covering the entire platoon sector of fire.

4-95. The platoon may have to use bounding overwatch to the rear during tactical movement to the subsequent or supplementary position. This may become necessary when such factors as the distance to the new position, the enemy's rate of advance, and terrain considerations (fields of fire) do not allow the original overwatch section to displace without the benefit of an overwatch of its own.

COMPLETION OF DISPLACEMENT

4-96. When the platoon has occupied the subsequent BP and all vehicles are prepared to continue the defense, the displacement is complete. If the PL and TCs were able to reconnoiter and rehearse the disengagement and occupation, the occupation should go quickly. The PL must conduct the steps of a hasty occupation outlined earlier in this chapter, if reconnaissance and rehearsals were not possible.

COUNTERATTACK

4-97. The platoon is capable of conducting counterattacks, either alone or as part of the company team. The platoon may conduct a counterattack to accomplish the following purposes:

- Complete the destruction of the enemy.
- Regain key terrain.
- Relieve pressure on an engaged unit.
- Initiate offensive operations.

4-98. Coordination and control are critical to the success of the counterattack. The PL must plan and disseminate the locations of routes and positions. This assists the counterattack force and other elements in controlling indirect and direct fires.

RESERVE FORCE

4-99. The platoon may be assigned to serve as the reserve for company operations. In this role, it executes either offensive or defensive missions to support the commander's scheme of maneuver. The primary purpose of a reserve is to conduct counterattacks to destroy an enemy force, to exploit success, and or to restore the integrity of the defense. Some other options for reserve employment include:

- Block enemy penetrations.
- Conduct defense of a BP.
- Reinforce defending elements in a BP.
- Assume another platoon's mission.

TRANSITIONS

4-100. Once an enemy assault is defeated, leaders must ensure their Soldiers are ready to continue with defensive operations, to shift to the offense, or to displace. If the platoon is directed to hold its current positions, it must consolidate and reorganize quickly so it is ready to destroy follow-on enemy forces and to execute any other required tasks.

CONSOLIDATION

4-101. To consolidate a defensive position, the platoon—

- Eliminates remaining enemy resistance by conducting a counterattack as directed by the commander.
- Reestablishes communications.

- Ensures positions are mutually supporting; checks all sectors of fire to eliminate gaps and dead space that result when tanks are disabled.
- Secures enemy prisoners of war (EPWs).
- Reestablishes OPSEC by emplacing mounted and dismounted OPs, early warning devices (such as M22 alarms), and enhancing camouflage for platoon positions.
- Replaces, repairs, or fortifies obstacles.
- Improves positions in accordance with procedures for a deliberate defense and established priorities of work.

REORGANIZATION

4-102. Reorganization, the process of preparing for continued fighting, is normally accomplished by SOP. Responsibilities during reorganization include the following:

- Tank commanders take these actions:
  - Reload machine guns and redistribute main gun ammunition to ready areas.
  - Move crewmen who are WIA to a covered position and provide first aid.
  - Send a SITREP to the PSG reporting casualties and supply status of equipment, ammunition, and fuel.
  - Conduct essential maintenance.
- The PSG takes these actions:
  - Compile SITREPs from TCs and, as required by unit SOP, submit a consolidated report to the PL or 1SG.
  - Direct cross-leveling of supplies within the platoon.
  - Oversee evacuation of casualties.
  - Coordinate the movement of detainees to the detainee collection point.
- The PL takes these actions:
  - Forward a consolidated SITREP to the commander.
  - Redistribute personnel as necessary to maintain combat readiness.
  - Reestablish communications with elements that are out of contact.

Chapter 5

Stability

Stability tasks encompass various military missions, tasks, and activities conducted outside the U.S. with other instruments of national power (such as diplomacy and economics) to maintain, or reestablish, a safe and secure environment and provide essential governmental services, emergency infrastructure reconstruction, and humanitarian relief. (See ADP 3-0 for more information.)

Stability tasks promote and protect U.S. national interests and influence the operational environment in ways that reduce the likelihood of conflict. This chapter discusses the fundamentals, planning, preparation, and execution of stability tasks.

SECTION I – TEXT REFERENCES

Table 5-1. Guide for subjects referenced in text

Subject	*References*
Stability	FM 3-90.1
Cordon and search operations	FM 3-06.20
Stability tasks	FM 3-07
Establish a checkpoint	FM 3-19.4
Respond to civil disturbance	FM 3-19.15
Area security	FM 3-90

SECTION II – FUNDAMENTALS OF STABILITY TASKS

5-1. Stability tasks may occur in conjunction with offensive and defensive operations. Stability tasks are designed to restore, establish, preserve, or exploit security and control over areas, the populations, and resources. Stability tasks are executed outside the U.S. and include both coercive and cooperative actions by the military force. They are tasks designed to establish a safe and secure environment; facilitate reconciliation among local or regional adversaries; establish political, social, and economic institutions; and facilitate the transition to legitimate local government.

5-2. This section provides a discussion on the purpose of stability tasks, the types of stability tasks, and the role of the tank platoon in stability tasks.

PURPOSE OF STABILITY TASKS

5-3. Stability tasks complement offensive and defensive tasks. They may be the decisive operation within a phase of a major combat operation. Although military forces set the conditions for success, the other instruments of national power are decisive. (Refer to FM 3-90-1 for more information.) The purposes of stability tasks are:

- Provide a secure environment.
- Secure land areas.
- Meet the critical needs of the populace.
- Gain support of the host-nation government.
- Shape the environment for interagency and host-nation success.

5-4. Stability tasks seek to reduce the level of violence and establish order by working with the local population and its government. These operations employ military capabilities to restore or establish essential services and support civilian agencies. Stability tasks are conducted in the absence of a local civil government and provide the necessary security and control for the local population.

5-5. The goal is to enable local institutions to assume their civic responsibilities. They occur simultaneously with offensive and defensive tasks. Stability tasks can be conducted in support of a host government, an interim government, or a part of an occupation when no government exists.

5-6. During hostilities, stability tasks help prevent armed conflict from spreading. Stability forces may conduct defensive and offensive tasks to physically isolate, defeat, or destroy forces seeking to undermine the effectiveness or credibility of the stability mission. Following conventional hostilities, forces conduct stability operations to provide a secure environment for civil authorities. Security is vital to achieving reconciliation, providing governance, rebuilding lost infrastructure, and resuming vital services.

PRIMARY STABILITY TASKS

5-7. Stability consists of five primary tasks that include:

- **Establish civil security**. Protecting the populace from serious external and internal threats.
- **Establish civil control**. Regulating the behavior and activity of individuals and groups to reduce risk to individuals or groups and to promote security. Control channels the population's activity to allow for the provision of security and essential services while coexisting with a military force conducting operations. A curfew is an example of civil control.
- **Restore essential services**. Essential services include emergency life-saving medical care, the prevention of epidemic disease, provision of food and water, provision of emergency shelter from the elements, and the provision of basic sanitation (sewage and garbage disposal).

- **Support to governance**. The provision of societal control functions that include regulation of public activity, taxation, maintenance of security, control and essential services, and normalizing means of succession of power.
- **Support to economic and infrastructure development**. Sound economic policies promote equitable, sustainable growth. It is the key to remedying underlying tensions in society. This allows the state to progress to recovery and eventually long-term economic development. (Refer to FM 3-07 for more information.)

5-8. The platoon's level of involvement in these stability tasks is situation dependant. In some operations, the host nation is capable of carrying out these types of tasks, while the platoon is engaged in civil-military operations to minimize the impact of military presence on the populace.

ROLE OF THE TANK PLATOON

5-9. The tank platoon has unique capabilities that make it an important asset during the execution of stability operations. The platoon may be called to support a wide range of operations in various political and geographical environments, as part of an armor company or task-organized to an Infantry company.

5-10. The platoon leader must keep in mind that stability operations are ever changing, and there are often confusing conditions. Flexibility is a key to success (and survival) under such conditions. The platoon leader should attempt to shape the role or mission to match the platoon's unique characteristics and capabilities.

USING THE PLATOON'S CAPABILITIES

5-11. Platoons execute stability activities that take maximum advantage of its capabilities (lethality, mobility, and survivability).

5-12. The mission variables and the operational considerations prevalent in stability tasks may modify the conditions for successful mission accomplishment. The platoon occasionally may be assigned operations that are normally handled by specially trained and equipped elements. For example, the platoon could be tasked for crowd and riot control if a shortage of military police exists.

5-13. The following list of stability tasks is not all-inclusive; an assessment of mission variables and the operational considerations applicable in the AO may identify additional stability tasks the platoon will execute:

- Establish a battle position.
- Conduct reserve operations.
- Overwatch a traffic control point (TCP).
- Defend a choke point.
- Overwatch a blockade/roadblock.
- Conduct convoy escort.
- Conduct proofing/breaching operations.

5-14. Tank crewmen should receive special equipment and training, before executing such operations, to perform with effectiveness and efficiency. In addition, dismounted missions effectively negate the tank platoon's inherent advantages.

SECTION III – PLAN

CONSIDERATIONS

5-15. Planning is a continuous activity, constantly adapting as the conditions of the operational environment are shaped by activities, both natural and human. The PL must understand this environment; he must plan for rapid changes in the situation or mission and constantly be prepared to adapt to them. The truest measure of a good plan is not whether execution occurs as planned, but whether the plan fosters flexibility, initiative, and adaptability in the face of unforeseen events.

5-16. Leaders must consider several factors when conducting stability operations. These include:

- Understand the operational environment, particularly civil considerations.
- Use information operations to engage and influence the local population and isolate adversaries.
- Use public affairs to inform local and regional populations.
- Display the capability to use overwhelming force, but use minimum lethality consistent with rules of engagement and proportional to the mission requirements.
- Be impartial.
- Be transparent when dealing with the local population.
- Be consistent and credible with the local population.

5-17. Stability tasks capitalize on the coordination, cooperation, integration, and synchronization with nonmilitary organizations to establish a stable and lasting peace. This allows all participants to exploit their capabilities and conduct operations simultaneously, with increased endurance and in depth across the AO.

5-18. Effective stability tasks focus on the population's essential needs. This produces a secondary effect of preventing the populace from becoming disillusioned and offer support and sanctuary to irregular forces. Properly focused and effective stability tasks prevent population centers from degenerating into recruiting areas for insurgencies, opposition movements, and civil unrest.

5-19. The platoon uses force against adversaries not because of their religious or political allegiance or ethnicity, but because they are violating the law. Legitimacy reflects the local populations and host nation's assessment of the capability of the force to accomplish its clearly articulated mission. The force must have the proper structure and resources with appropriate ROE to accomplish the mission and discharge its duties swiftly and firmly, leaving no doubt as to its will and intentions.

ENVIRONMENT

5-20. Environment is the consideration of cultural, political, social (economies), and military context in which stability operations take place. This includes the terrain and weather in the AO.

5-21. Stability tasks can take place in any part of the world. To deal effectively with the diverse situations they may face, U.S. forces must undergo orientation and training about the complex conditions and factors that exist in a specific region. Each Soldier must understand the political and economic situation, as well as the cultures, climates, and terrain of the region. He must understand the military situation, especially the doctrine, tactics, and equipment, that belligerent, guerrilla, and terrorist forces employ. Orientation training should clarify certain environmental factors and the planning and operational considerations discussed in this section.

APPLY FORCE SELECTIVELY AND DISCRIMINATELY

5-22. Leaders must make sure their units apply force consistent with and adequate to assigned objectives. Leaders employ combat power selectively in accordance with assigned missions and operational constraints. Soldiers use the rules of engagement to guide the tactical application of combat power. The leaders on the ground are best qualified to estimate the correct degree of force that must be used, consistent with ROE.

ACT DECISIVELY TO PREVENT ESCALATION

5-23. The platoon must always be prepared to act with speed and determination when carrying out assigned tasks. Opponents of stability may perceive hesitation to act decisively as weakness. Units and individuals must pursue military objectives energetically and apply military power forcefully. By doing so, the platoon can assure friend and foe alike that they can not only protect themselves, the people, and facilities under their charge, but also achieve stability objectives.

UNDERSTAND THE POTENTIAL FOR UNINTENDED CONSEQUENCES OF INDIVIDUAL AND SMALL UNIT ACTIONS

5-24. Individual and small-unit actions can have consequences disproportionate to the level of command or amount of force involved. Tactical operations and individual actions can have strategic impact. Trained, disciplined, and knowledgeable leaders and Soldiers at every level are able to recognize and avoid these potential problems. Every Soldier must be aware of the operational and strategic context of the mission. Additionally, each Soldier must understand the potential military, political, and legal consequences of the actions they take or fail to take. Dissemination of this information throughout the force minimizes any possible confusion regarding desired objectives.

TEMPO

5-25. The speed of the platoon's actions can vary widely, from fast, violent tactical movement to relieve encircled friendly forces, to the deliberate occupation of stationary defensive positions providing overwatch at TCPs. Although extreme

tension may underlie stability operations, the tempo of these operations is generally slow.

5-26. The platoon can expect enemy forces to execute both overt and covert operations to test the platoon's reaction times and security procedures during stability operations. The platoon that is predictable or that lacks good OPSEC practices leaves themselves susceptible to attack. For the tank platoon, the key to a secure environment is not only to maintain the highest possible level of OPSEC, but also to vary the techniques by which security procedures are executed.

ROLE OF U.S. FORCES

5-27. All platoon members should be aware of the role U.S. forces will play in the overall mission. This is especially vital when Americans are part of a combined force that requires constant interaction and coordination with the Soldiers of foreign nations. In all cases, the commander's intent and projected outcome should be simplified and presented in a way that gives Soldiers the guidance they need to accomplish the mission.

INTELLIGENCE

5-28. The PL must consider intelligence as a crucial element during the planning, preparation, and execution of stability tasks. He must understand that the threats in these operations are more ambiguous than those in other situations. Combatants, guerrillas, and terrorists can easily blend with the civilian population. Before the platoon is committed, intelligence must be collected, processed, and focused to support all planning, training, and operational requirements.

DECENTRALIZED OPERATIONS

5-29. The PL must understand that stability tasks are normally centrally planned; however, execution takes the form of small-scale, decentralized actions conducted over extended distances. Responsibility for making decisions on the ground falls to junior leaders. Effective command guidance and a thorough understanding of the applicable ROE are critical at each operational level.

PROTECTION CONSIDERATIONS

5-30. The PL must understand the level of protection required for the operation during the planning phase, protection must be a constant priority. The platoon develops plans to minimize casualties and collateral damage during these operations. Leaders must avoid making tactically unsound decisions or exposing the force to unnecessary risks while attempting to limit the level and scope of violence used in stability operations. An overpowering use of force, correctly employed, can reduce subsequent violence or prevent a response from the opposing force. These considerations must be covered in the ROE and the OPORD from the battalion or brigade.

5-31. The PL uses OPSEC with the ROE to accomplishing his protection goals. Security procedures should encompass the full range of antiterrorist activities for every Soldier and leader. Examples include proper radio telephone procedures; strict

noise, light, and litter discipline; proper wear of the uniform; display of the proper demeanor for the situation; as well as, effective use of cover and concealment, obstacles, OPs, and early warning.

SUSTAINMENT CONSIDERATIONS

5-32. The platoon may operate in remote locations as part of its operational environment. This type of operational environment during stability operations may create special sustainment considerations. These factors include, but are not limited to—

- Reliance on local procurement of certain items.
- Shortages of various critical items, including repair parts, Class IV supplies (barrier materials) and lubricants.
- Special Class V supply requirements, such as pepper spray.
- Reliance on bottled water.

MEDIA CONSIDERATIONS

5-33. Soldiers at all levels must understand that news coverage is now broadcast via international television and radio, and the Internet. The presence of the media is a reality that confronts everyone involved in stability operations. Leaders and Soldiers can be subjects of worldwide scrutiny in an instant. They must realize that operating contrary to official U.S. policy may damage the nation's interests and international standing.

5-34. The platoon members must learn how to deal with media representatives. Platoon training should thoroughly address any information restrictions that the Armed forces impose on the media. Soldiers must also gain an understanding of which subjects they are authorized to discuss, and which subjects they must refer to higher authorities.

OPERATIONS WITH OUTSIDE AGENCIES

5-35. The platoon may be required to conduct certain stability operations in coordination with a variety of outside organizations. These include other U.S. armed services or government agencies as well as international organizations, including private volunteer agencies. The PL must consider the specific needs of the supported organization when planning for these types of operations.

SOLDIER'S RESPONSIBILITIES

5-36. Soldiers may have extensive contact with civilians during stability operations. Their personal conduct has a significant impact on the opinions and support of the local population. Soldiers must understand that misconduct by U.S. forces can damage rapport that took years to develop. Soldiers must treat local civilians and military personnel as personal and professional equals, affording them the appropriate customs and courtesies.

5-37. Every Soldier must be updated continuously on changes to operational considerations. Such changes can have an immediate impact on his freedom to react

to a given situation. Leaders must disseminate this information quickly and accurately. Soldiers who are informed of changes have an increased SU, and their ability to adapt to changing conditions is enhanced.

5-38. Every Soldier is a sensor. They collect information continuously, and all information must be reported timely and accurately. Information is provided by many sources, including friendly forces, enemy elements, and the local populace. At the same time, enemy Soldiers or other outside countries' intelligence agencies will be continuously seeking intelligence on U.S. actions, often blending easily into the civilian population. Soldiers must be aware of this and use OPSEC procedures at all times.

5-39. The platoon should be familiar with key words and phrases of the host nation's language. This may enhance civilian cooperation and support and improve information gathered during patrols. These phrases should apply specifically to the AO. (Refer to FM 3-07 for more information.)

RULES OF ENGAGEMENT

5-40. The ROE are directed by higher military authorities based on the political and tactical situations and the level of threat. For example, these restrictions may require that the platoon limit its use of firepower to a certain geographical area or that it limits the duration of its operations.

5-41. The PL must consider the ROE during the planning and execution of all operations. He must also understand, adjust for, and properly execute the ROE to achieve success in stability tasks. The unit's SOP requires adjustment based on each particular situation's ROE. The restrictions change whenever the political and military situations change; this means ROE must be explained to Soldiers continuously.

5-42. The ROE provide the authority for the Soldier's right to self-defense. Each Soldier must understand the ROE and be prepared to execute them properly in every possible confrontation. In addition, ROE violations can have operational, strategic, and political consequences that may affect national security; the enemy can be expected to exploit such violations.

TASK ORGANIZATION

5-43. The tank platoon may be task-organized to operate with a variety of units, due to the unique requirements of stability tasks. This may include armor or mechanized company-team or battalion. In addition, the platoon may operate with other elements such as linguists, counterintelligence teams, and civil affairs teams.

SECTION IV – PREPARE

REHEARSALS AND INSPECTIONS

5-44. Leaders conduct PCCs and PCIs that focus on each Soldier's knowledge of the environment and application of the ROE. These checks and inspections should

also identify possible OPSEC violations and deficiencies that could place the Soldier and his equipment at risk.

5-45. The PL checks the platoon's operational readiness using precombat inspections. The key goal is to ensure that Soldiers and equipment are fully prepared to execute the upcoming mission. (Refer to Chapter 3 for more information.)

5-46. The platoon may be called on to serve as a quick reaction force; therefore they must be thoroughly trained. A discussion of these operational considerations is included later in this chapter.

5-47. The platoon may be required to execute specific tasks in support of stability operations. The following tasks are outlined in Section V of this chapter:

- Execute a checkpoint.
- Conduct convoy escort.
- Support route clearance.
- Support cordon and search operations.
- Area security.
- Respond to a civil disturbance.
- Conduct reserve operations.

5-48. Platoons should establish training programs that support the tasks listed above, as a minimum. Other tasks may be executed based on higher headquarters operations. In those cases, leaders must develop training to meet the needs of the operation.

5-49. The platoon increases SA through, internal coordination and rehearsals. The platoon should understand the actions needed to prepare the stability operations. Intelligence updates concerning enemy and friendly information is one method of increasing awareness.

SECTION V – EXECUTE/ASSESS

5-50. The platoon may execute several tasks during stability tasks. The following information examines those tasks. The list is not all-inclusive; assessment of the mission variables and the operational considerations applicable in the AO may identify additional mission requirements.

5-51. The PL must keep in mind the ever-changing, often confusing conditions of stability operations. The platoon's flexibility is a key to success under such conditions. The PL should attempt to shape the role or mission to match the platoon's unique characteristics and capabilities.

ESTABLISH A CHECKPOINT

5-52. A checkpoint is a predetermined point on the ground used to control movement, tactical maneuver, and orientation. A checkpoint is the location where military police or other personnel check vehicular or pedestrian traffic to enforce

circulation control measures and other laws, orders, and regulations. (Refer to FM 3-19.4 for more information.) Checkpoints can be either deliberate or hasty.

5-53. The platoon may be directed to establish a checkpoint to achieve one or more of the following purposes:

- Deter illegal movement.
- Create an instant roadblock.
- Control movement into the AO or onto a specific route.
- Demonstrate the presence of peace forces.
- Prevent smuggling of contraband.
- Enforce the terms of peace agreements.
- Serve as an OP, patrol base, or both.

5-54. The construction of checkpoints may range from a simple log across the road to heavily fortified positions reinforced with obstacles. Some have a simple gate manned by a few Soldiers. Others have obstacles in the roadway to prevent vehicle traffic. Obstacles, such as mines, wire, and beam obstacles, may be used to hinder or stop vehicle movement. Checkpoints are located at natural choke points such as in ravines or on tops of hills. This allows the natural terrain (winding mountain roads or rivers and streams) to canalize and limit vehicle movement. It also eliminates any bypass around the checkpoint.

CONDUCT CONVOY ESCORT

5-55. The tank platoon conducts convoy escort duties using procedures covered in Chapter 6.

SUPPORT ROUTE CLEARANCE

5-56. The tank platoon (or section) overwatches route clearance operation. The tank platoon may use tactical-movement techniques to provide overwatch for the proofing vehicle based on mission variables. If improvised explosive devices (IEDs) are detected, the platoon continues to overwatch the route clearance element until all IED's have been cleared. If the IED is not within the route clearance team's capability, additional route clearance assets could be called forward or requested. The overwatch vehicles should take notice of anything that is out of the ordinary, such as new construction, repairs to damaged buildings, plants or trees that seem new or out of place, and freshly dug earth. These conditions may indicate the presence of newly emplaced IED's.

SUPPORT CORDON AND SEARCH OPERATIONS

5-57. Cordon and search is a technique of a movement to contact which involves isolating the target area, searching the area, and capturing or destroying possible insurgents and/or contraband. A cordon and search may be a task during a movement to contact, raid, deliberate attack, or area reconnaissance, based on the accuracy of intelligence. While the actual operation may fall under the category of any of these missions, the cordon and search is typically oriented at finding

insurgents or their caches (Refer to FM 3-06.20 for more information.) The PLs must develop knowledge of enemy organizations based on intelligence of the area. Once intelligence identifies and locates important enemy elements or enemy information, a cordon and search operation may be conducted to collect more detailed information or to neutralize the enemy.

5-58. Leaders must accurately account for all identified materials gained during cordon and search operations. In some situations, the targeted individuals may escape, leaving behind caches of weapons, equipment, or other materials. Accurate documentation and cataloging of information and material of intelligence value at the cordon and search site is vital. Once evidence has been moved, it becomes more difficult to connect it to the suspect house, incident, or individual.

5-59. Leaders should assess the evidence they discover and then coordinate resources needed to handle these materials. Examples may include such situations as transporting and safeguarding a radio or a map, confiscation of wooden boxes containing materials for making IEDs, or discovery of a hidden tunnel storing a long-term cache for an insurgent offensive.

5-60. The tank platoon occupies overwatch and/or defensive positions to isolate a search area during cordon and search operations. Close coordination and communication with the search team are critical, as is employment of OPs and patrols to maintain surveillance of dead space and gaps in the cordoned area.

5-61. The tank platoon or section must be prepared to take immediate action if the search team or OPs identify enemy elements. Enemy contact may require the platoon to execute tactical movement and linkup; it would then coordinate with other units to destroy the enemy using techniques discussed in Chapter 3.

5-62. Additionally, the tank platoon may support the Infantry by conducting vehicle and personnel searches as part of the search operation or traffic control points.

AREA SECURITY

5-63. Platoons conduct area security to deny enemies the ability to influence friendly actions in a specific area. Area security is also conducted to deny enemy the use of an area for its own purposes such as combat operations, insurgent infiltration, intelligence operations, or against friendly forces. Area security is conducted to secure a specific area for the protection of friendly forces, installations, and routes. (Refer to FM 3-90 for more information.)

5-64. The PL should consider that area security is designed to limit enemy influence and isolate the populace from the enemy. The platoon may conduct offensive tasks to physically isolate, defeat, or destroy forces that threaten the stability mission. The platoon may execute one of the following tasks as part of area security:

- Route security.
- Convoy security.
- Check point operations.

- Fixed site security.
- Combat patrols.
- Cordon and search.
- Search and attack.

RESPOND TO CIVIL DISTURBANCE

5-65. The platoon may be required to respond to civil disturbance. The platoon's response may be deliberate or hasty. In either case, the platoon should be prepared to control the local populace. Leaders should develop training and conduct rehearsals for responding to civil disturbances. This training should include as many situations as possible, to increase effective responses by all Soldiers. (Refer to FM 3-19.15 for more information.)

5-66. Local civilians often gather in towns or along strategic locations throughout an AO to demonstrate grievances or other causes (for example, protesting the apprehension of a fellow citizen, policies of U.S. forces, and policies of government services).

5-67. Although civilians have the right to assemble, crowd gatherings are predominantly ethnically based, motivated, and influenced. On occasion, information may be an indicator of possible violence. In these instances or during spontaneous crowd formations, the platoon must provide forces in support of a safe and secure environment or to assist civilian police in preventing unlawful acts. If unlawful acts are identified, the platoon assists local law enforcement in detaining and adjudicating offenders.

CONDUCT DELIBERATE OPERATIONS

5-68. The platoon may receive prior notice of possible civil disturbances. This prior notification allows leaders an opportunity to plan and prepare for possible civil disorder situations. Commanders can often be made aware of dates, times, locations, and what groups may assemble before the operation. This allows him to plan and alert the platoon of potential civil disturbances.

5-69. Through the effective gathering of information and a working cooperation with local government and police officials, the commander and PL can gain insight on the attitudes of the groups involved. This information assists in determining the size of the control force and activities tin which it participates.

CONDUCT HASTY OPERATIONS

5-70. Platoons likely conduct hasty civil disturbance measures; since hasty operations seems to be the norm rather than the exception. Unlike deliberate operations, hasty civil disorder operations are reactionary in nature with little or no time for planning. In these situations, the event of a crowd gathering is already underway. There is often no advanced warning of the situation, and commanders are usually put in the position of sending their Soldiers into an already volatile, and perhaps hostile, environment.

5-71. Leaders should be in immediate and constant communication with local civil and police authorities. The purpose is to gather as much information as possible about who is involved, where they are assembling, what incident promoted the activity, and what seems to be the prevailing attitude of the assembling crowd.

5-72. Soldiers at all levels must receive training for responding and controlling civil disturbances to respond effectively during hasty operations. Leaders choose their options for controlling crowds based on an evaluation of the particular crowd involved. Leaders select control techniques and force options they think can influence the particular situation (mission variables). Leaders must always try to choose the response that can be expected to reduce the intensity of the situation.

SECURE CIVILIANS DURING OPERATIONS

5-73. Leaders cannot assume that noncombatants will be predisposed for or against U.S. personnel. Always treat civilians with dignity and respect. Use force against civilians only in self-defense or, otherwise, in accordance with the ROE. Detain civilians only in accordance with command directives.

5-74. The PL should plan to move any noncombatants away from firefights and combat areas when conducting stability operations. Normally, this task is given to the support element after rooms and buildings have been secured. When available, military information support team, civil affairs, and military police can assist with this task.

5-75. The PL should consider a covered and concealed location away from the immediate combat area to secure civilians. Noncombatants should be controlled and not permitted to enter the immediate combat area, unless they have been cleared to do so and will not compromise combat operations.

5-76. Security is not normally provided for media or nongovernmental organization personnel if they are permitted in the immediate combat area. Security requirements for civilians should be clarified at the mission briefing.

CONDUCT RESERVE OPERATIONS

5-77. The tank platoon occupies an assembly area or sets up a perimeter defense as part of the battalion or company reserve. Potential missions include—

- Linkup with and relief of encircled friendly forces.
- Linkup and movement to secure an objective in an operation to rescue a downed helicopter or stranded vehicle.
- Tactical movement to destroy enemy forces attacking a convoy.

5-78. In all three scenarios, the platoon conducts tactical movement and operations in contact. Tasks such as linkup, SBF, attack by fire, assault, attack, and consolidation and reorganization are also critical to the reserve mission.

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Chapter 6

Enabling Operations

This chapter discusses additional tasks the tank platoon may conduct to complement or support its primary operations of move, attack, and defend. The platoon executes these additional tasks separately or as part of a larger force.

SECTION I – TEXT REFERENCES

Table 6-1. Guide for subjects referenced in text

Subject	*References*
Enabling Operations	FM 3-90
Patrols	ATP 3-21.8
Assembly Area Procedures	FM 3-90.1, FM 3-90
Gap Crossing	FM 3-90.1

SECTION II – SECURITY

6-1. Security operations are those operations undertaken by a PL to provide early and accurate warning of enemy operations, to provide the force being protected with time and maneuver space within which to react to the enemy, and to develop the situation to allow the PL to effectively use the protected force. (Refer to FM 3-90 for more information.)

6-2. The five forms of security operations are screen, guard, cover, area security, and local security and are described below:

- Screen is a form of security operation that primarily provides early warning to the protected forces. (Refer to FM 3-90 for more information.) Screen missions are defensive in nature and are largely accomplished by establishing OPs oriented on an AO augmented with patrols (mounted, dismounted, sensor, and aerial), to ensure surveillance of dead space. The screen, however, must be executed aggressively. Based on the intent (engagement criteria) and unit capabilities, the screening force must disrupt enemy reconnaissance and impede, harass or even destroy the enemy with fires.
- Guard is a form of security operation whose primary task is to protect the main body by fighting to gain time while also observing

and reporting information and preventing enemy ground observation of, and direct fire against, the main body. Units conducting a guard mission cannot operate independently because they rely upon fires and other assets of the main body. The guard differs from a screen in that the guard force must contain sufficient combat power to defeat, cause withdrawal of, or fix threatening combat forces before they can engage the protected force. A guard is appropriate when contact is expected, there is an exposed flank or threat force to the rear, the protected force is conducting a retrograde operation, or there is a requirement for greater protection than a screen can provide.

- Cover is a form of security operation whose primary task is to protect the main body by fighting to gain time while also observing and reporting information and preventing enemy ground observation of, and direct fire against the main body. A covering force is a self-contained force capable of operating independently of the main body, unlike a screening or guard force. A covering force accomplishes all the tasks of screening and guard forces. In addition, a covering force operates apart from the main body to develop the situation early; it conducts operations to deceive, disorganize, and destroy enemy forces. Unlike screening or guard forces, a covering force is tactically self-contained and capable of operating independently of the main body.
- Area security is a form of security operation conducted to protect friendly forces, installations, routes, and actions within a specific area.
- Local security consists of low-level security operations conducted near a unit to prevent surprise by the enemy.

6-3. Tank platoons conduct local security and can also be tasked to provide security measures for larger units (called the main body). These tasks are executed in the larger unit's security zone (front, flank, or rear of the main body). Leaders given these tasks or participating in the task of a larger unit must, at a minimum, understand their engagement criteria and whether or not to become decisively engaged.

6-4. Successful security operations depend on properly applying five fundamentals.

- Provide early and accurate warning.
- Provide reaction time and maneuver space.
- Orient on the force or facility to be secured.
- Perform continuous reconnaissance.
- Maintain enemy contact.

OBSERVATION POSTS

6-5. An OP is a position from which military observations are made, or fire directed and adjusted, and which possesses appropriate communications. They help to protect the platoon when long-range observation from current positions is not possible; this can occur when the platoon is in a hide position or when close terrain offers concealed avenues of approach to the platoon's position. OPs can be employed either mounted or dismounted. (Refer to FM 3-90 for more information.)

SELECTION OF THE OBSERVATION POST SITE

6-6. Before deploying an OP, the PL analyzes the terrain in his AO. He also coordinates with adjacent platoons to discover ways to enhance his own AO and eliminate gaps in the AO between units. Next, he decides on the type of OP necessary to observe the avenue of approach based on requirements for early warning and platoon security. The PL must consider the platoon's reaction time based on the REDCON status. An OP should have the following characteristics:

- Clear observation of the assigned AO. Ideally, the fields of observation of adjacent OPs and/or units overlap to ensure full coverage of the AO.
- Effective cover and concealment. Positions with natural cover and concealment help to reduce the OP's vulnerability to enemy observation and attack.
- Covered and concealed routes to and from the OP. Soldiers must be able to enter and leave their OPs without being seen by the enemy.
- A location that does not attract enemy attention. An OP should not be in a site that would logically be the target of enemy observation or that would serve as artillery TRPs.
- A location that does not skyline observers. Avoid hilltops. Position the OP farther down the slope of the hill.
- A location that is within range of platoon small-arms fire. This enables the platoon to cover the OP if withdrawal becomes necessary.

MOUNTED OBSERVATION POSTS

6-7. Mounted OPs are used when the platoon has access to hull-down or turret-down positions that afford unobstructed surveillance of mounted avenues of approach in the platoon's AO. They allow the PL to take advantage of his vehicles' capabilities: magnified thermal and daylight optics, sophisticated communications, lethal weapon systems, and enhanced survivability.

6-8. The CITV on the M1A2 is especially valuable in the mounted OP. The M1A2 can occupy a turret-down position and use the CITV to scan the designated AO without moving its turret. All other types of vehicles must occupy turret-down or hull-down positions that allow them to move their turrets when scanning the sector.

6-9. A common mounted OP technique is to position one vehicle to observe an EA or obstacle while the remainder of the platoon occupies hide positions. Even when the mounted OP has clear fields of observation, it is advisable to dismount one or two members of the crew to provide close-in local security for the vehicle. The dismounted crewmen occupy positions far enough away that sounds from the vehicle do not prevent them from hearing an approaching enemy. Another method of enhancing local security is to coordinate with Infantry elements. The Infantry can conduct patrols and occupy dismounted OPs in accordance with the company commander's OPSEC plan.

DISMOUNTED OBSERVATION POSTS

6-10. Dismounted OPs provide local security along dismounted avenues of approach whenever the platoon must halt and occupy vehicle positions from which the terrain impedes observation or early warning of enemy activities. During urban operations, The TCs need to place OPs to protect blind spots. Use of supporting Infantry is the best answer, but loaders may be required to fill this mission if Infantry is not available. The tank platoon uses the following steps to occupy, staff, and improve a dismounted OP:

- The PL or PSG determines the need for the OP and identifies the location based on the physical characteristics outlined previously in this section.
- The PL or PSG assembles OP personnel at his vehicle.
- The OP personnel are designated in the unit SOP, but are normally the loaders from wingman tanks. In two-man OPs, one crewman observes the sector while the other provides local security. Some short-duration OPs may consist of one crewman providing local security for individual vehicles in close terrain.
- The PL or PSG briefs the OP personnel to ensure that they are trained in reporting procedures and individual camouflage techniques and that they have the proper equipment as designated in the unit SOP. Equipment normally includes the following:
  - Individual weapons, M4 rifle, and grenades.
  - Communications equipment (such as wire, flag set, flashlight, and/or radio).

Note. The use of nonsecure radios, to include handheld types, is not recommended. If used, however, platoons must exercise extreme caution.

- Flag use is based on unit SOP, but a general rule of thumb is green flag for friendly elements, yellow flag for unknown elements, and red flag for enemy elements.
- Seasonal uniform with the modular lightweight load-carrying equipment fighting load carrier and appropriate MOPP gear.
- Binoculars and night observation devices.

- Paper and pen/pencil for making a sector sketch.
- Map with overlay, protractor and compass.
- Local security measures such as trip flares and claymore mines.

6-11. The PL or PSG leads OP personnel to the OP site and briefs them on the following information:

- Ensure OP personnel understand that their mission is to see and report and not become engaged with the enemy dismounts.
- When and how to report.
- When and how to withdraw. The withdrawal criteria should be specific; examples include withdrawal when a CBRN attack is detected, when an enemy tank section crosses a phase line, or when enemy dismounted Infantrymen approach to within 300 meters of the OP.
- Challenge and password.
- When they are replaced. As a general rule, OP personnel should be replaced every two hours. (The PSG and PLs are responsible for establishing these rotations and manning of OPs). During cold weather, this rotation may be done more frequently.
- OP personnel must execute a plan for night vision operations. Rotating between Soldiers, with one Soldier not scanning for longer than 20 minutes, allows them to keep their night vision and to maintain good scanning techniques.
- Once in place, OP personnel take these steps to improve the position:
  - Establish communications.
  - Camouflage the position and routes into and out of it.
  - Prepare a sector sketch based on the platoon fire plan. (Refer to Chapter 4.)
  - Dig in to provide protection from indirect and direct fires.

COMBAT OUTPOST

6-12. A combat outpost is a reinforced OP capable of conducting limited combat operations (Refer to FM 3-90 for more information.) Using combat outposts is a technique for employing security forces in restrictive terrain that precludes mounted security forces from covering the area. They are also used when smaller OPs are in danger of being overrun by enemy forces infiltrating into and through the security area. The platoon leader uses a combat outpost when he wants to extend the depth of his security area, when he wants his forward OPs to remain in place until they can observe the enemy's main body, or when he anticipates that his forward OPs will be encircled by enemy forces.

6-13. While the mission variables determine the size, location, and number of combat outposts established by a unit, a reinforced platoon typically occupies a combat outpost. Therefore, a platoon can be part of a larger unit's combat outpost. A

combat outpost must have sufficient resources to accomplish its designated missions, but not so much as to seriously deplete the strength of the main body. It is usually located far enough in front of the protected force to preclude enemy ground reconnaissance elements from observing the actions of the protected force.

SECTION III – RECONNAISSANCE

6-14. Reconnaissance operations are those operations undertaken to obtain, by visual observation or other detection methods, information about the activities and resources of an enemy or potential enemy, or to secure data concerning the meteorological, hydrographical, or geographical characteristics and the indigenous population of a particular area (Refer to FM 3-90 for more information.) Reconnaissance primarily relies on the human dynamic rather than technical means.

6-15. Reconnaissance identifies terrain characteristics, enemy and friendly obstacles to movement, and the disposition of enemy forces and civilian population so the PL can maneuver his forces freely and rapidly. Reconnaissance prior to unit movements and occupation of assembly areas is critical to protecting the force and preserving combat power. It also keeps the force free from contact as long as possible so that it can concentrate on its decisive operation.

6-16. Reconnaissance can be passive or active. Passive reconnaissance includes such techniques as map and photographic reconnaissance and surveillance. Active methods available to the platoon include mounted and dismounted ground reconnaissance and reconnaissance by fire. Active reconnaissance operations are also classified as stealthy or aggressive.

6-17. The platoon may perform reconnaissance for various reasons. The platoon may perform mounted reconnaissance or provide support for dismounted reconnaissance. The PL must consider reconnaissance during the planning phase of each mission.

6-18. The four forms of reconnaissance operations are route reconnaissance, zone reconnaissance, area reconnaissance, and reconnaissance in force.

- **Route reconnaissance**. Route reconnaissance focuses along a specific line of communication, such as a road, railway, or cross-country mobility corridor.
- **Zone reconnaissance**. Zone reconnaissance involves a directed effort to obtain detailed information on all routes, obstacles, terrain, and enemy forces within a zone defined by boundaries.
- **Area reconnaissance**. Area reconnaissance focuses on obtained detailed information about the terrain or enemy activity within a prescribed area.
- **Reconnaissance in force**. 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.

RECONNAISSANCE BY FIRE

6-19. The commander may direct the platoon to execute reconnaissance by fire when enemy contact is expected, or when contact has occurred, but the enemy situation is vague. This decision is based on his original plan, or a recommendation from the PL. The platoon then conducts tactical movement, occupying successive overwatch positions until it makes contact with the enemy or reaches the objective.

6-20. The PL may designate TRPs at each overwatch position. He then either requests indirect fires or employs direct fires on likely enemy locations to cause the enemy force to return direct fire or to compromising its positions during movement. He directs individual tanks or sections to fire their .50 caliber and/or coax machine guns into targeted areas.

6-21. Individual tanks and sections not designated to reconnoiter by fire observe the effects of the firing tanks, and engage enemy forces as they are identified. The platoon focuses reconnaissance by fire on the key terrain that dominates danger areas, on built-up areas that dominate the surrounding terrain, and on wooded areas not yet cleared.

6-22. The seven fundamentals of successful reconnaissance operations are as follows:

- Ensure continuous reconnaissance.
- Do not keep reconnaissance assets in reserve.
- Orient on the reconnaissance objective.
- Report information rapidly and accurately.
- Retain freedom of maneuver.
- Gain and maintain enemy contact.
- Develop the situation rapidly.

SECTION IV – PATROLS

PATROLS

6-23. A patrol is sent out by a larger unit to conduct a combat, reconnaissance, or security mission. A patrol's organization is temporary and specifically matched to the immediate task. The platoon conducts patrols as directed by the commander. The platoon departs from the main body to conduct a specific tactical task with an associated purpose. Upon completion of that task, the platoon/patrol leader reports to the commander and describes the events that took place, the status of the patrol's members and equipment, and any observations.

6-24. If a patrol is a single unit, such as the tank platoon, the PL is responsible. If a patrol is mixed, elements from several units, then the senior officer or NCO is designated as the patrol leader. This temporary title defines his role and responsibilities for that mission. The patrol leader may designate an assistant,

normally the next senior man in the patrol, and any subordinate element leaders he requires.

6-25. The leader of any patrol, regardless of the type or the tactical task assigned, has a responsibility to prepare and plan for possible enemy contact. Patrols are never administrative; they are always assigned a tactical mission.

TYPES

6-26. The two main types of patrols are combat and reconnaissance. Regardless of the type of patrol, there must be a clear task and purpose.

COMBAT PATROL

6-27. A combat patrol provides security and harasses, destroys, or captures enemy personnel, equipment, or installations. A combat patrol collects and reports any information gathered during the mission, whether related to the combat task or not. The three types of combat patrols are—

- Raid patrol.
- Ambush patrol.
- Security patrol.

RECONNAISSANCE PATROL

6-28. A reconnaissance patrol collects information or confirms or disproves the accuracy of information previously gained. The intent for this type of patrol is to avoid enemy contact and accomplish its tactical task without engaging in close combat. The eight types of reconnaissance patrols are—

- Route reconnaissance patrols.
- Area reconnaissance patrols.
- Zone reconnaissance patrols.
- Point reconnaissance patrols.
- Leader's reconnaissance patrols.
- Presence patrols.
- Tracking patrols.
- Contact patrols.

ORGANIZATION

6-29. A patrol is organized to perform specific tasks. It must be prepared to secure itself, navigate, identify and cross danger areas, and reconnoiter the patrol objective. The leader identifies those tasks the patrol must perform and decides which element will implement them. (Refer to ATP 3-2.8 for more information.)

SECTION V – CONVOY ESCORT

6-30. During convoy escort, the platoon provides the convoy with security and close-in protection from direct fire while on the move. The tank platoon is well

suited for this role because of its vehicles' mobility, firepower, and armor protection against direct and indirect fires. Depending on a variety of factors (size of the convoy, escort assets available, and mission variables), the platoon may perform convoy escort either independently or as part of a larger unit's convoy security mission.

MISSION COMMAND

6-31. Mission command is especially critical because of the task organization of the convoy escort mission. The relationship between the platoon and the convoy commander must provide for unity of command and effort if combat operations are required during the course of the mission. In most cases, the platoon executes the escort mission under control of the security force commander, who is usually OPCON or attached to the convoy commander. At times, however, the platoon is OPCON or attached directly to the convoy commander. This occurs when the platoon is providing security for a tactical operations center or when it is operating independently with a small convoy.

6-32. The convoy commander should issue a complete OPORD to all vehicle commanders in the convoy prior to execution of the mission. This is vital because the convoy may itself be task-organized from a variety of units and because some vehicles may not have tactical radios. The order should follow the standard five-paragraph OPORD format, but special emphasis should be placed on the following subjects:

- Route of march (with a strip map provided for each vehicle commander).
- Order of march.
- Actions at halts.
- Actions if a vehicle becomes disabled.
- Actions on contact.
- Chain of command.
- Communications and signal information.

TACTICAL DISPOSITION

6-33. During all escort missions, the convoy commander and tank PL must establish and maintain security in all directions, and throughout the length of the convoy. They can adjust the disposition of the platoon, either as a unit or dispersed, to fit the security requirements of each particular situation. As noted, several factors, including convoy size and mission variables, affect this disposition. The key consideration is whether the platoon is operating as part of a larger escort force, or is executing the escort mission independently.

LARGE-SCALE ESCORT MISSIONS

6-34. When sufficient escort assets are available, the convoy commander usually organizes the convoy into three distinct elements: advance guard, close-in protective group, and rear guard.

6-35. The platoon is normally task-organized to operate within the close-in protective group. This element provides immediate, close-in protection for the vehicle column, with escort vehicles positioned either within the column or on the flanks. The convoy commander's vehicle is located within this group.

6-36. When the platoon is deployed as a unit during a large-scale escort operation, it can provide forward, flank, or rear close-in security. In such situations, it executes tactical movement based on the mission variables.

INDEPENDENT ESCORT OPERATIONS

6-37. When the platoon executes a convoy-escort mission independently, the convoy commander and PL disperse the tanks throughout the convoy formation to provide forward, flank, and rear security. Whenever possible, wingman tanks should maintain visual contact with their leaders. Tanks equipped with mine plows or mine rollers (and engineer assets, if available) should be located near the front to react to obstacles. At times, these assets may be required to move ahead of the convoy, acting as the reconnaissance element or moving with scouts to proof the convoy route.

6-38. In some independent escort missions, variations in terrain along the route may require the platoon to operate using a modified traveling overwatch technique. Dispersion between vehicles in each section is sufficient to provide flank security. Depending on the terrain, the trail section may not be able to overwatch the movement of the lead section.

ACTIONS ON CONTACT

6-39. As the convoy moves toward its new location, the enemy may attempt to interdict it. This contact usually occurs in the form of an ambush, often with the use of a hastily prepared obstacle or IED. The safety of the convoy then rests on the speed and effectiveness with which escort elements can execute appropriate actions on contact.

6-40. Based on mission variables, portions of the convoy security force, such as the tank platoon or a tank section, may be designated as a reaction force. The reaction force performs its escort duties, conducts tactical movement, or occupies an assembly area as required until enemy contact occurs; it then is given a reaction mission by the convoy commander.

ACTIONS AT AN AMBUSH

6-41. Reaction to an ambush must be immediate, overwhelming, and decisive. Actions on contact must be planned for and rehearsed so they can be executed as a drill by all escort and convoy elements, with care taken to avoid fratricide.

6-42. In almost all situations, the platoon takes several specific, instantaneous actions when it must react to an ambush:

- As soon as they acquire an enemy force, the escort vehicles conduct action toward the enemy. They seek covered positions

between the convoy and the enemy and suppress the enemy with the highest possible volume of fire permitted by the ROE. Contact reports are sent to higher headquarters as quickly as possible.

- The convoy commander retains control of the convoy vehicles and continues to move them along the route at the highest possible speed.
- Convoy vehicles, if they are armed, may return fire only if the escort has not positioned itself between the convoy and the enemy force.
- Security forces must plan to secure all damaged or disabled vehicles and equipment. The PL or the convoy commander may request, as a last resort, that any damaged or disabled vehicles be abandoned and pushed off the route.
- The escort leader uses SPOTREPs to keep the convoy security commander informed. If necessary, the escort leader or the convoy commander can then request support from the reaction force; he can also call for and adjust indirect fires.

6-43. Once the convoy is clear of the kill zone, the escort element executes one of the following COAs based on the composition of the escort and reaction forces, the commander's intent, and the strength of the enemy force:

- Continues to suppress the enemy as combat reaction forces move to support.
- Assaults the enemy.
- Breaks contact and moves out of the kill zone.

ACTIONS AT AN OBSTACLE

6-44. Obstacles are a major threat to convoys. Obstacles can be used to harass the convoy by delaying it or stopping it altogether. In addition, obstacles may canalize or stop the convoy to set up an enemy ambush.

6-45. The purpose of the route reconnaissance ahead of a convoy is to identify obstacles and either breach or bypass them. In some cases, however, the enemy or its obstacles may avoid detection by the reconnaissance element. If this happens, the convoy must take actions to reduce or bypass the obstacle.

6-46. When an obstacle is identified, the convoy escort faces two problems: reducing or bypassing the obstacle and maintaining protection for the convoy. Security becomes critical, and actions at the obstacle must be accomplished very quickly. The convoy commander must assume that the obstacle is overwatched and covered by the enemy. To reduce the time the convoy is halted and thus to reduce its vulnerability, the following actions should occur when the convoy escort encounters a point-type obstacle:

- The lead element identifies the obstacle and directs the convoy to make a short halt and establish security. The convoy escort

overwatches the obstacle and requests that the breach force move forward.

- The convoy escort maintains 360-degree security of the convoy and provides overwatch as the breach force reconnoiters the obstacle in search of a bypass.
- Once all reconnaissance is complete, the convoy commander determines which of the following COAs he will take:
  - Bypass the obstacle.
  - Breach the obstacle with the assets on hand.
  - Breach the obstacle with reinforcing assets.
- The convoy commander relays a SPOTREP higher and requests support by combat reaction forces, engineer assets (if they are not part of the convoy), and/or aerial reconnaissance elements.
- Artillery units are alerted to be prepared to provide fire support.

6-47. Tanks equipped with mine plows are ideal for breaching most obstacles encountered during convoy escort missions. If the convoy escort is required to breach limited obstacles using plow tanks, the PL must maintain the security of the convoy, ensuring that adequate support forces are in place to overwatch the breach operation.

ACTIONS DURING HALTS

6-48. During a short halt, the convoy escort remains at REDCON-1 regardless of what actions the convoy vehicles are taking. If the halt is for any reason other than an obstacle, the following actions should be taken:

- The convoy commander signals the short halt and transmits the order via tactical radio. All vehicles in the convoy assume a herringbone formation.
- If possible, escort vehicles are positioned up to 100 meters beyond the convoy vehicles, which are just clear of the route. Escort vehicles remain at REDCON-1, but establish local security based on the mission variables.
- When the order is given to move out, convoy vehicles reestablish the movement formation, leaving space for escort vehicles.
- Once the convoy is in column, local security elements (if used) return to their vehicles, and the escort vehicles rejoin the column.
- When all elements are in column, the convoy resumes movement.

SECTION VI – ASSEMBLY AREA

6-49. An assembly area (AA) is a site at which maneuver units prepare for future operations (Refer to FM 3-90 for more information.) Normally, the platoon occupies an assembly area as part of a larger unit such as a company. The company commander assigns a sector of responsibility and weapons orientations for each

platoon. If the platoon occupies an assembly area alone, it establishes a perimeter defense. A well-planned assembly area has the following characteristics:

- Concealment from enemy ground and air observation.
- Cover from direct fire.
- Space for dispersion; separate each AA by enough distance from other AAs to preclude mutual interference.
- Adequate entrances, exits, and internal routes.
- Good drainage and a surface that can sustain the movement of the unit's vehicles and individual Soldiers.
- Terrain masking of electromagnetic signatures.
- Terrain allowing observation of ground and air avenues into the assembly area.
- Sanctuary from enemy medium-range artillery fires because of its location outside the enemy's range.

QUARTERING PARTY ACTIONS

6-50. Normally, a quartering party assists the platoon in the occupation of an assembly area. Established in accordance with company SOP, the quartering party may consist of one or two Soldiers from each platoon or even one tank per platoon with the prescribed equipment and uniform. It is led by the company 1SG or by a senior NCO. The quartering party takes these actions in preparing the assembly area:

- Reconnoiter for enemy forces, CBRN contamination, condition of the route to the assembly area, and suitability of the area (covering such factors as drainage, space, and internal routes). If the area is unsatisfactory, the party contacts the commander and requests permission to find a new location for the site.
- Organize the area based on the commander's guidance. This includes designating and marking tentative locations for the platoon, trains, and CP vehicles.
- Improve and mark entrances, exits, and internal routes.
- Mark and/or remove obstacles (within the party's capabilities).
- Mark tentative vehicle locations.

OCCUPATION PROCEDURES

6-51. Once the assembly area has been prepared, the quartering party awaits the arrival of the company, maintaining surveillance and providing security of the area within its capabilities. Quartering party members guide their elements (including the platoon) from the release point (RP) to their locations in the assembly area. Prearranged signals and markers (for day and night occupation) and SOPs should assist the TCs in finding their positions. The key consideration is to move quickly into position to clear the route for follow-on units. See figure 6-1 for an example of a Company Team AA.

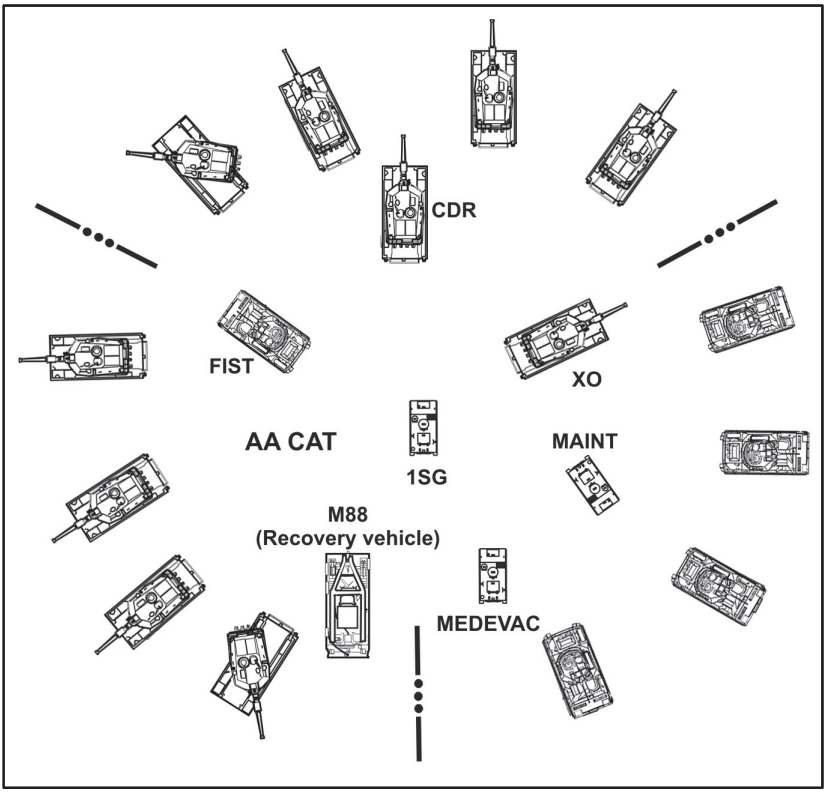

Figure 6-1. Company team assembly area

6-52. Once in position, the platoon conducts hasty occupation of a BP as described in Chapter 4. It establishes and maintains security and coordinates with adjacent units. These actions enable the platoon to defend from the assembly area as necessary. The platoon can then prepare for future operations by conducting troop-leading procedures and the priorities of work in accordance the company OPORD. These priorities of work and preparations include—

- Establish and maintain security (REDCON status).
- Position vehicles.
- Emplace OPs.
- Emplace CBRN alarms.
- Establish lateral communications/flank coordination.
- Prepare sketch cards and fire plans.
- Establish wire communication (if directed by unit SOP).
- Camouflage vehicles.

- Select alternate, supplementary positions, and rally points.
- Develop an obstacle plan.
- Conduct troop-leading procedures.
- Perform maintenance activities on vehicles, communications equipment, and weapon systems.
- Verify weapon system status; conduct bore sighting, muzzle reference system updates, test-firing, and other necessary preparations.
- Conduct resupply, refueling, and rearming operations.
- Conduct rehearsals and training for upcoming operations.
- Conduct PCCs and PCIs.
- Eat, rest, and conduct personal hygiene.
- Establish field sanitation.

OCCUPATION BY FORCE

6-53. In some cases, a company occupies an assembly area without first sending out a quartering party. During this "occupation by force," the PL orders a hasty occupation of a BP at the platoon's designated location. He establishes local security, directs adjacent unit coordination, begins troop-leading procedures, and establishes priorities of work.

SECTION VII – LINKUP

6-54. A linkup is a meeting of friendly ground forces, which occurs in a variety of circumstances. Both forces may be moving toward each other, or one may be stationary. Whenever possible, joining forces exchange as much information as possible before starting an operation. (Refer to FM 3-90 for more information.)

6-55. A linkup may occur in, but is not limited to, the following situations:

- Advancing forces reaching an objective area previously secured by airborne, air assault, or infiltrating forces.
- An encircled element breaks out to rejoin friendly forces or a force comes to the relief of an encircled force.
- Converging maneuver forces meet.

RECOGNITION

6-56. When possible, the PLs involved establish liaison. Before initiating a linkup operation, the headquarters elements of the stationary force and the linkup force must share SA data, including—

- Digital graphic overlays with linkup graphic controls measures, obstacles, and fire support coordinating measures.

- Manual/digital identification procedures.
- Manual/digital recognition signals.
- Enemy and friendly situation.
- Communications.
- Contingency plans.
- Sustainment requirements.
- Evacuation procedures for equipment and EPWs/detainees.

COORDINATION

6-57. Before initiating movement to the linkup point, the platoon must coordinate necessary tactical information, including the following:

- The known enemy situation.
- FBCB2 (if equipped) filter setting and address book commonality.
- Type and number of friendly vehicles and number of vehicles equipped with FBCB2.
- Disposition of stationary forces (if either unit is stationary).
- Routes to the linkup point and rally point (if used).
- Fire control measures.
- Near recognition signal(s).
- Communications information.
- Sustainment and protection responsibilities and procedures.
- Finalized location of the linkup point and rally point (if used).
- Any special coordination, such as maneuver instructions or requests for medical support.

CONDUCT LINKUP

6-58. All elements involved in the linkup must enforce strict fire control measures to help prevent fratricide; linkup points and RFLs must be easily recognizable by moving and/or converging forces. Linkup elements take these actions:

- Conduct far recognition using FM radio and/or FBCB2 (if equipped).
- Conduct short-range (near) recognition using the designated signal.
- Complete movement to the linkup point.
- Establish local security at the linkup point.
- Conduct additional coordination and linkup activities as necessary.

SECTION VIII – RELIEF IN PLACE

6-59. A relief in place is a tactical-enabling operation in which all or part of a unit is replaced in an area by the incoming unit. (Refer to FM 3-90.1 for more

information.) It may be accomplished during any phase of FSO, preferably during periods of limited visibility.

6-60. The three methods used to conduct a relief in place are sequential, simultaneous, or staggered.

- A sequential relief occurs when each element within the relieved unit is relieved in succession, from right to left or left to right, depending on how it is deployed.
- A simultaneous relief occurs when all elements are relieved at the same time.
- A staggered relief occurs when the commander relieves each element in a sequence determined by the tactical situation, not its geographical orientation.

6-61. Simultaneous relief takes the least time to execute, but is more easily detected by the enemy. Sequential or staggered reliefs can take place over a significant amount of time.

6-62. A relief in place requires detailed planning, coordination, and reconnaissance before the operation is executed as well as precise movement and effective communications once execution begins. Maintaining OPSEC is critical throughout the operation.

COORDINATION AND RECONNAISSANCE

6-63. When time is available and the situation permits, the incoming PL coordinates with the in-place PL and conducts a reconnaissance to confirm details of the relief. The two leaders should coordinate and exchange the following information:

- The enemy situation and other pertinent intelligence.
- The platoons' maneuver and fire support plans. Who will provide fire support and for how long?
- Unit-level obstacle plans.
- Routes to be used during the operation.
- The location of weapons and fighting positions.
- Sketch cards and fire plans (including grid locations for input into digital systems).
- Details of the relief, to include the sequence, the use of recognition signals and guides, and the time of change of responsibility for the area.
- Procedures for transferring excess ammunition, POL, wire lines (hot loops), and other materiel to the incoming unit.
- Command and signal information.

6-64. Reconnaissance of relief positions is the same as for any BP. The incoming PL should obtain information about the following:

- The EA, to include fire support coordination measures, trigger lines, TRPs, and obstacles.
- Primary, alternate, and supplementary fighting positions.
- Routes to and within the BP.
- Hide positions.
- Location of guides.

RELIEF PROCEDURES

6-65. After reconnaissance and coordination are complete, the PLs continue with their TLPs and prepare to execute the relief. Initially, the relieving unit moves to an assembly area behind the unit to be relieved. Final coordination is conducted, and information is exchanged between the two units.

6-66. The relieving unit links up with guides or finalizes linkup procedures. Individual vehicles then relieve forward positions using one of three techniques:

- The relieving vehicles occupy primary positions after the relieved unit has moved to alternate positions. Once OPs are in place, the relieved unit can withdraw.
- The relieving vehicles occupy alternate positions while the relieved unit remains in primary positions. Once OPs are in place, the relieved unit withdraws. The PL then orders the relieving unit to occupy primary positions as necessary.
- The relieving unit occupies a hide position while the relieved unit occupies hide, primary, or alternate positions. Once OPs are in place, the relieved unit withdraws.

SECURITY AND COMMUNICATIONS

6-67. Operational security is critical in preventing enemy reconnaissance and intelligence assets from identifying the weaknesses and vulnerabilities that occur during the relief. Net discipline is the key to an effective, and secure, relief operation. Before beginning the relief, the relieving unit changes to the outgoing unit's frequency and the two units operate on the same net throughout the relief. The incoming unit observes radio listening silence while the outgoing unit maintains normal radio traffic.

6-68. Leaders at all levels have the ability to contact other units involved in the relief to warn of emergency situations, such as enemy contact, by monitoring the same frequency and maintaining digital links. Because of the proximity of the relieved and relieving elements, however, leaders must remember that the net will be crowded with many stations and digital links competing for limited availability of "air time."

6-69. Once the relief is complete, there are two methods for returning to separate unit frequencies. One technique is to have the incoming unit switch back to its original frequency. The other is to have the outgoing unit switch to an alternate frequency. The latter technique offers several advantages:

- The relieving unit establishes voice and digital communications and is prepared to defend immediately upon the exit of the relieved unit.
- The relieving unit never loses the digital link (if applicable) as it assumes the new mission. Once the relief is complete, the relieved unit simply logs off the digital net and switches to an alternate FM frequency; it can then reestablish a digital link after leaving the relief site.
- Maintaining radio traffic on the same frequency before, during, and after the operation helps deceive the enemy as to whether a relief has occurred.

SECTION IX – PASSAGE OF LINES

6-70. Passage of lines is a tactical enabling operation in which one unit moves through another unit's positions with the intent of moving into or out of enemy contact. (Refer to FM 3-90.1 for more information.)

6-71. The platoon participates in a passage of lines, in which one unit moves through the stationary positions of another, as part of a larger force. If it is part of the stationary force, the platoon occupies defensive positions and assists the passing unit. If it is part of a passing unit, the platoon executes tactical movement through the stationary unit. A passage may be forward or rearward, depending on whether the passing unit is moving toward (forward) or away from (rearward) an enemy unit or AO. (Refer to FM 3-90.1 for more information.)

FORWARD PASSAGE OF LINES

6-72. For a forward passage, the passing unit first moves to an assembly area or an attack position behind the stationary unit. Designated liaison personnel move forward to link up with guides and confirm coordination information with the stationary unit. Guides then lead the passing elements through the passage lane.

6-73. As the passing unit, the platoon conducts tactical movement to maximize its AO within the limitations of the passage lane. Radio traffic is kept to a minimum. Disabled vehicles are bypassed. The platoon holds its fire until it passes the battle handover line (BHL). Once clear of passage lane restrictions, the platoon conducts tactical movement in accordance with its orders.

REARWARD PASSAGE OF LINES

6-74. Because of the increased chance of fratricide during a rearward passage, coordination of recognition signals and direct fire restrictions is critical. The passing unit contacts the stationary unit while it is still beyond direct fire range and conducts coordination as discussed previously. Restrictive fire lines and near recognition signals are emphasized.

6-75. As the passing unit, the platoon then continues tactical movement toward the passage lane. Gun tubes are oriented on the enemy, and the platoon is responsible

for their own security until it passes the BHL. If guides are provided by the stationary unit, the passing unit may conduct a short halt to link up and coordinate with them. The platoon moves quickly through the passage lane to a designated location behind the stationary unit.

PLANNING CONSIDERATIONS

6-76. Units are highly vulnerable during a passage of lines. Vehicles may be concentrated, and fires may be masked. The passing unit may not be able to maneuver and react to enemy contact in restricted passage lanes. Reconnaissance of the lane is necessary for a successful passage of lines.

6-77. Detailed reconnaissance and coordination are critical in overcoming these potential problems and ensuring the passage of lines is conducted quickly and smoothly. The PL normally conducts all necessary reconnaissance and coordination for the passage. The following items of information are coordinated:

- Unit designation and composition, including type and number of passing vehicles.
- Passing unit arrival time(s).
- Location of attack positions or assembly areas.
- Current enemy situation.
- Stationary unit's mission and plan (to include OP, patrol, and obstacle locations).
- Location of contact points, passage points, and passage lanes.
- Guide requirements.
- Order of march.
- Anticipated and possible actions on enemy contact.
- Supporting direct and indirect fires, including location of the RFL.
- Chemical, biological, radiological, nuclear, and high-yield explosive conditions.
- Available sustainment assets and their locations.
- Communications information (to include frequencies, digital data, and near and far recognition signals).
- Chain of command, including location of the BHL.
- Additional procedures for the passage.

Note. The use of GPS/POSNAV waypoints simplifies this process, and as a result, speeds the passage.

ASSISTING A PASSAGE OF LINES

6-78. The tank platoon can provide assistance for a passage of lines while it is in stationary defensive positions. Coordinating instructions may be in the form of a company OPORD or a FRAGORD issued over the radio. The PL may or may not have coordinated directly with the passing unit.

6-79. The PL ensures that the platoon understands the points of coordination listed previously in this section. If the platoon is to provide guides to assist the passing unit, he selects the personnel and briefs them on the points of coordination. The guides are responsible for linking up with and guiding the passing unit through the passage lane and for closing obstacles as necessary.

6-80. Control of direct fires is a critical role for the element that is assisting the passage of lines. In a forward passage, the stationary unit engages known enemy targets until the passing unit moves past the BHL. During a rearward passage, the passing unit contacts the stationary unit by radio at a point beyond the direct fire range of weapon systems. The stationary unit then holds all fires until the passing unit reaches the BHL.

SECTION X – GAP CROSSING

6-81. Gap crossing is projecting combat power across a linear obstacle (wet or dry gap). The platoon may take part in gap crossing as part of the company. The platoon may conduct a hasty gap crossing independently when supported by attached engineer assets. (Refer to FM 3-90.1 for more information.)

SECTION XI – BREACHING

6-82. Obstacle breaching entails the employment of a combination of tactics, techniques, and procedures and equipment to project combat power to the far side of an obstacle. The PL must understand the challenges presented by various types of obstacles and the capabilities and limitations of the assets the platoon and its parent unit can employ to defeat them. He must further understand the basic tenets of breaching operations and roles the platoon may be tasked to play in a breach. (Refer to ATTP 3-90.4 for more information.)

BREACHING TENETS

6-83. Successful breaching operations are characterized by applying breaching tenets. These tenets should be applied whenever an obstacle is encountered in the AO, whether during an attack or a route clearance operation. The tenets are—

- Intelligence.
- Breaching fundaments.
- Breaching organization.
- Mass.
- Synchronization.

INTELLIGENCE

6-84. Success depends largely on the PL's ability to see the AO. He must identify how the enemy is using the terrain to minimize the risk of surprise. This is particularly true when attempting to counter the enemy's use of obstacles. This is done with the IPB process. During the IPB process, the situation template is

developed. The situation template (SITTEMP) is a graphic depiction of expected enemy dispositions based on threat doctrine and the effects of the AO for a particular COA.

BREACHING FUNDAMENTALS

6-85. Suppress, obscure, secure, reduce, and assault are the breaching fundamentals that must be applied to ensure success when breaching against a defending enemy. These fundamentals always apply, but they may vary based on the mission variables.

- **Suppress**. Suppression is a tactical task used to employ direct or indirect fires or an electronic attack on enemy personnel, weapons, or equipment to prevent or degrade enemy fires and observation of friendly forces (Refer to FM 3-90 for more information.) The purpose of suppression during breaching operations is to protect forces reducing and maneuvering through an obstacle.
- **Obscure**. Employ obscuration to protect forces conducting obstacle reduction and the passage of assault forces. Obscuration hampers enemy observation and target acquisition and conceals friendly activities and movement. Obscuration smoke deployed on or near the enemy's position minimizes its vision. Screening smoke employed between the reduction area and the enemy conceals movement and reduction activities. It also degrades enemy ground and aerial observations. Obscuration must be carefully planned to provide maximum degradation of enemy observation and fires, but it must not significantly degrade friendly fires and control.
- **Secure**. Secure the breach site to prevent the enemy from interfering with obstacle reduction or passage of friendly forces through the cleared lanes. Security must be effective against all types of enemy elements that can influence these actions, including outposts and fighting positions near the obstacle, overwatching units, and counterattack forces.
- **Reduce**. Reduction is the creation of lanes through or over an obstacle to allow an attacking force to pass. The number and width of lanes created varies with the enemy situation, the assault force's size and composition, and the scheme of maneuver. The lanes must allow the assault force to rapidly pass through the obstacle. The breach force reduces, proofs (if required), marks, and reports lane locations and the lane-marking method to higher HQ. Follow-on units further reduce or clear the obstacle when required. Reduction cannot be accomplished until effective suppression and obscuration are in place, the obstacle has been identified, and the point of breach is secure.
- **Assault.** A breaching operation is not complete until friendly forces have assaulted to destroy the enemy on the far side of the obstacle that is capable of placing or observing direct and indirect fires on

the reduction area. Also, if planned, battle handover with follow-on forces must be complete.

6-86. A breaching operation is not complete until—

- Friendly forces have assaulted to destroy the enemy on the far side of the obstacle, which prevents the enemy from placing or observing direct and indirect fires on the reduction area.
- Battle handover with follow-on forces has occurred, unless no battle handover is planned.

BREACHING ORGANIZATION

6-87. The platoon can be assigned the task of support, breach, or assault force. The support force's primary responsibility is to eliminate the enemy's ability to interfere with a breach operation. The breach force assists in the passage of the assault force by creating, proofing (if necessary), and marking lanes. The assault force's primary mission is to destroy the enemy and seize terrain on the far side of the obstacle to prevent the enemy from placing direct fires on the created lanes.

MASS

6-88. Conduct breaching by rapidly applying concentrated efforts at a point to reduce the obstacles and penetrate the defense. Direct massed combat power against the enemy's weakness. The location selected for breaching depends largely on the weakness in the enemy's defense, where its covering fires are minimized. If friendly forces cannot find a natural weakness, they create one by fixing the majority of the enemy force and isolating a small portion of it for attack.

SYNCHRONIZATION

6-89. Breaching operations require precise synchronization of the breaching fundamentals by the support, breach, and assault forces. Failure to synchronize effective suppression and obscuration with obstacle reduction and assault can result in rapid and devastating losses of friendly personnel in the obstacles or the enemy's EA.

CONDUCTING THE BREACH

6-90. The discussion in this section covers the actions and responsibilities of these elements, as well as the platoon's role in the operation. The commander in charge of the breaching operation designates support, breach, and assault forces.

SUPPORT FORCE

6-91. As the support element the platoon usually leads movement of the breach elements. After identifying the obstacle, it moves to covered and concealed areas and establishes support-by-fire positions. The support force leader sends a voice or digital SPOTREP to the commander. This report must describe the location and complexity of the obstacle, the composition of enemy forces that are overwatching the obstacle, and the location of possible bypasses. The commander decides whether to maneuver to a bypass or to breach the obstacle.

Note. The commander must keep in mind that a bypass may lead to an enemy kill zone.

6-92. In either case, the support force suppresses any enemy elements that are overwatching the obstacle to allow the breach force to breach or bypass the obstacle. The support force should be in position to request suppressive artillery fires and smoke for obscuration. As the breach and assault forces execute their missions, the support force lifts or shifts supporting fires. Because the enemy is likely to engage the support force with artillery, the support force must be prepared to move to alternate positions while maintaining suppressive fires.

BREACH FORCE

6-93. As the breach force the PL receives a voice or digital SPOTREP identifying the location of the obstacle or bypass. It then must organize internally to fulfill these responsibilities:

- Provide local security for the breach site as necessary.
- Conduct the actual breach. The breach force creates, proofs, and marks a lane through the obstacle or secures the bypass.
- Move through the lane to provide local security for the assault force on the far side of the obstacle. In some instances, the breach force may move to hull-down firing positions that allow it to suppress enemy elements overwatching the obstacle. At other times, it may assault the enemy, with suppressive fires provided by the support force.

Breaching Methods

6-94. The platoon can create a lane by itself if it is equipped with the assets required to breach the type of obstacle encountered. If the platoon does not have this capability, it may be required to provide close-in protection for attached engineers with breaching assets. Three breaching methods are available to the platoon:

- Mechanical breaching, usually with mine plows or mine rakes.
- Explosive breaching, employing such means as the mine-clearing line charge, M173 line charge, or 1/4-pound blocks of TNT.
- Manual breaching, with Soldiers probing by hand or using such items as grappling hooks, shovels, picks, axes, and chain saws. Manual breaching is the least preferred method for the tank platoon.

6-95. In extreme cases, the commander may order the platoon to force through an obstacle. This technique requires the breach force to move in column formation through the obstacle location. If available, a disabled vehicle can be pushed ahead of the lead breach vehicle in an attempt to detonate mines.

Creating and Proofing the Lane

6-96. The mine plow is the breaching device most commonly employed by the platoon. The battalion or company commander may allocate one to three plows per

platoon. When properly equipped and supported, the platoon can create up to two lanes through an obstacle.

6-97. Plow tanks lead the breach force. Immediately following them are vehicles that proof the lane. These are usually tanks equipped with mine rollers. This process ensures that the lane is clear.

6-98. If the location and/or dimensions of the obstacle are unknown, the PL may choose to lead with tanks equipped with mine rollers to identify the beginning of the obstacle.

6-99. If the platoon is allocated one plow, the PSG's wingman normally serves as the breach tank. The PSG follows immediately behind to proof the lane and provide overwatch. The PL's section follows the PSG.

6-100. If the platoon has two or more plows, it can create multiple lanes, usually 75 to 100 meters apart. The wingman tanks are normally equipped with the plows, with the section leader tanks following to proof the lanes and provide overwatch.

Marking the Lane

6-101. After the lane is created and proofed, it can then be marked to ensure safe movement by vehicles and personnel; this is critical for follow-on forces that may not know the exact location of the cleared lane. Distinctive markers must show where the lane begins and ends. A visible line down the center is effective. Another technique is to mark both sides of the breached lane.

6-102. To minimize the necessary breaching time, the proofing vehicle may simultaneously mark the lane. Unit SOPs dictates marking methods and materials, which commonly include the following:

- Cleared lane mechanical marking system.
- Pathfinder system.
- Engineer stakes with tape.
- Guides.
- Chemical lights.
- Expended shell casings.

Completing the Breach

6-103. Throughout the operation, the PL provides continuous updates of the breach force's progress to higher headquarters and other elements involved in the breach. He also coordinates with the support force for suppressive fires.

6-104. After marking is complete, the PL uses voice and digital systems to report the location of the lane and the method of marking to expedite the movement of the assault force. Digital overlays enable units to move quickly to the breach lanes using the POSNAV or GPS.

6-105. The assault force often moves behind the breach force and closely follows the breach vehicles through the new lane.

ASSAULT FORCE

6-106. The platoon assigned as the assault force assists the support force or follows the breach force while maintaining cover and dispersion. Once a lane is cleared through the obstacle, the assault force then moves through the breach. It secures the far side of the obstacle by physical occupation and/or continues the attack in accordance with the commander's intent.

6-107. Tank platoons are ideally suited for assault force operations against mobile enemy defenses in open terrain. Consideration should be given to have Infantry as an assault force attacking dug-in enemy positions in close terrain.

TYPES OF OBSTACLES

6-108. Obstacles are any obstructions that stop, delay, divert, or restrict movement. They are usually covered by observation and enhanced by direct or indirect fires, and as such, the PL needs to plan for this possibility. There are two categories of obstacles: existing and reinforcing.

EXISTING OBSTACLES

6-109. Existing obstacles are already present on the battlefield and are not emplaced through military effort. They fall into two major classifications:

- Natural obstacles, which include these types:
  - Ravines, gullies, gaps, or ditches more than 3 meters wide.
  - Streams, rivers, or canals more than one meter deep.
  - Mountains or hills with a slope in excess of 60 percent (30 degrees).
  - Lakes, swamps, and marshes more than 1 meter deep.
  - Tree stumps and large rocks more than 18 inches high.
  - Forests or jungles with trees 8 inches or more in diameter and with less than 4 meters of space between trees on a slope.
- Man-made obstacles, which include built-up areas such as towns, cities, or railroad embankments.

REINFORCING OBSTACLES

6-110. Reinforcing obstacles are placed on the battlefield through military effort and are designed to slow, stop, or canalize the enemy. Whenever possible, both friendly and enemy forces enhance the effectiveness of their reinforcing obstacles by tying them in with existing obstacles. The following discussion focuses on several types of reinforcing obstacles.

Minefields

6-111. The minefield is the most common reinforcing obstacle the platoon encounters on the battlefield. It is easier and quicker to emplace than other obstacles and can be very effective in destroying vehicles. The minefield may be emplaced in several ways: by hand, by air or artillery delivery using scatterable mines, or by

mechanical means (the Volcano mine system). It can be used separately or in conjunction with other obstacles.

Antitank Ditch

6-112. The antitank ditch may be reinforced with wire and/or mines to make it more complex and more difficult for the attacker to overcome. In addition, soil from the ditch can be built up into a berm on the emplacing unit side.

Road Craters

6-113. Road craters can be rapidly emplaced and are especially effective where restricted terrain on the sides of a road or trail prevents a bypass. Craters are at least 1.5 meters in depth and 6 meters in diameter and are usually supplemented with mines and/or wire.

Abatis

6-114. An abatis provides an effective barrier against vehicle movement. Trees are felled either by sawing or by use of explosives; the cut is made at least 1.5 meters above the ground, with the main trunks crisscrossed and pointed toward the enemy at approximately a 45-degree angle. The abatis is usually about 75 meters in depth and ideally is located on trails where there is no bypass. The trunk of each tree should remain attached to the stump to form an obstacle on the flanks of the abatis. An abatis is usually mined or booby-trapped.

Log Crib

6-115. A log crib is a framework of tree trunks or beams filled with dirt and rock. It is used to block roads or paths in wooded and mountainous terrain.

Wire Obstacles

6-116. Wire obstacles provide an effective and flexible antipersonnel barrier; they are frequently employed on dismounted avenues of approach in the form of tanglefoot, double- or triple-strand concertina, and four-strand fences. Employed in depth or in conjunction with mines, wire obstacles are also very effective against tanks and similar vehicles. A single wire obstacle, however, has little effect on armored vehicles, because the sprockets of M1-series tanks are designed to cut wire.

Tank Wall and Tank Berm

6-117. Tank walls and berms are constructed of dirt and rock to slow or canalize enemy tanks. They can also create “belly” shots for the defender while the attacker is unable to engage.

Road Blocks in Urban Terrain

6-118. Road blocks can be constructed of any local material, to include overturned vehicles. These obstacles would also create “belly” shots when the platoon tries to climb over the obstacle. In addition, the use of burning tires or trash causes this to be a more complex obstacle hindering thermal and optical scanning.

SECTION XII – TROOP MOVEMENT

TACTICAL ROAD MARCH

6-119. Tank platoons conduct tactical road marches to move long distances and position themselves for future operations. The main purpose of the road march is to relocate rapidly, not to gain contact. Tactical road marches are conducted using fixed speeds and timed intervals. Road marches are planned at the battalion and company levels and executed by platoons. (Refer to FM 3-90.1 for more information.)

PREPARATION AND SOPS

6-120. The success of a road march depends on thorough preparation and sound SOPs. Platoon preparations should address the following considerations:

- Movement to the SP.
- Speed control.
- Formations.
- Intervals.
  - Weapons orientation.
  - Actions at scheduled halts.
  - Actions at the RP.

6-121. SOPs should cover the following factors:

- Actions at unscheduled halts.
- Actions in case a vehicle becomes lost.
- Actions if a vehicle becomes disabled.
- Actions on contact.

COMPOSITION

6-122. A road march is composed of three elements:

- The quartering party (or advance party).
- The main body.
- The trail party.

6-123. The platoon normally travels as a unit in the main body. Before the march begins, the platoon may provide individual Soldiers or a vehicle and crew to assist with quartering party activities. (Refer to section II of this chapter for more information.)

MARCH COLUMNS

6-124. The organization for the tactical road march is a march column. A march column consists of all elements using the same route for a single movement under control of a single commander (Refer to FM 3-90 for more information.) The following discussion focuses on the three primary road march techniques.

Note. The PL bases his decision on the formation used during the march on which technique is employed. The road march is usually executed in column or staggered column formation.

Open Column

6-125. The open column technique is normally used for daylight marches. It can be used at night with blackout lights or night-vision equipment. The distance between vehicles varies, normally from 50 to 200 meters depending on light and weather conditions.

Close Column

6-126. The close column technique is normally used for marches conducted during periods of limited visibility. The distance between vehicles is based on the ability to see the vehicle ahead; it is normally less than 50 meters.

Infiltration

6-127. Infiltration involves the movement of small groups of personnel or vehicles at irregular intervals. It is used when sufficient time and suitable routes are available and when maximum security, deception, and dispersion are desired. It provides the best possible passive defense against enemy observation and detection.

CONTROL MEASURES

6-128. The following discussion covers control measures the PL can use in effectively controlling his platoon during the conduct of a road march.

Map With Overlay

6-129. As a minimum, the overlay must show the SP, the RP, and the route. The SP location represents the beginning of the road march route. It should be located on easily recognizable terrain, far enough away from the unit's initial position to allow the platoon to organize into the march formation at the appropriate speed and interval. If time is available, the PL should determine the time to reach the SP. This ensures the platoon arrives at the SP at the time designated in the commander's OPORD. The RP location is at the end of the route of march. It also is located on easily recognizable terrain. Elements do not halt at the RP, but continue to their respective positions with assistance from guides, waypoints, and/or graphic control measures. The route is the path of travel connecting the start and release points.

Digital Overlays

6-130. When available, digital overlays serve as the platoon's primary source of graphic control measures, although the traditional hard-copy map and overlay must be maintained as a backup. Digital overlays display waypoints and information concerning unit locations along the route of march that can assist TCs in navigation and help them in maintaining SU.

Checkpoints

6-131. Locations along the route of march where interference with movement may occur or where timing is critical are represented using checkpoints. The SP, RP, and all checkpoints are considered critical points.

Strip Maps

6-132. A strip map can be used to assist in navigation. It must include the SP, RP, and checkpoints and must list the distances between these points. Detailed blow-up sketches should be used for scheduled halt locations and other places where confusion is likely to occur. Strip maps are included as an annex to the movement order; if possible, a copy should be provided to all TCs.

Visual Signals

6-133. Hand-and-arm signals provide an alternate means of passing messages between vehicles. This becomes important because the enemy may have the ability to interfere with FM communication. Leaders must understand that this is a perishable skill.

Traffic Control

6-134. Road guides and traffic signs may be posted at designated traffic control points by the headquarters controlling the march. At critical points, guides assist in creating a smooth flow of traffic along the march route. Military police, members of the battalion scout platoon, or designated elements from the quartering party may serve as guides. They should have equipment that allows march elements to identify them during limited visibility.

ACTIONS DURING THE MARCH

6-135. The following are actions the platoon may conduct during the march.

Moving to the Start Point

6-136. The platoon must arrive at the SP at the time designated in the company OPORD. Some commanders designate a staging or marshaling area that enables platoons to organize their march columns and conduct final inspections and briefings before movement. Other units require platoons to move directly to the column from their current positions. To avoid confusion during the initial move, the PL and TCs conduct a reconnaissance of the route to the SP, issue clear movement instructions, and conduct thorough rehearsals, paying particular attention to signals and timing.

March Speed

6-137. An element's speed in a march column changes as it encounters variable routes and road conditions. This can produce an undesirable accordion effect. The movement order establishes the speed of movement and maximum catch-up speed. During the march, the platoon's lead vehicle must not exceed the fixed march speed. In addition, it should accelerate slowly out of turns or choke points; this allows the platoon to gradually resume the speed of march after moving past the restriction.

Orientation

6-138. Each tank in the platoon has an assigned sector of fire. The TCs assign sectors of observation to crewmen both to cover their portion of the platoon sector and to achieve 360-degree observation.

Halts

6-139. While taking part in a road march, the platoon must be prepared to conduct both scheduled and unscheduled halts.

Scheduled Halts

6-140. These are executed to conduct maintenance, refueling, personal relief activities, and to allow other traffic to pass. The time and duration of halts are established in the movement order; unit SOP specifies actions taken during halts. The first priority at a halt is to establish and maintain local security. A maintenance halt of 15 minutes is usually taken after the first hour of the march, with a 10-minute break every two hours thereafter.

6-141. During long marches, the unit may conduct a refuel-on-the-move (ROM) operation. Depending on the tactical situation and the company OPORD, the platoon may conduct ROM for all vehicles simultaneously or by section. The OPORD specifies the amount of fuel or the amount of time at the pump for each vehicle. It also gives instructions for security at the ROM site and at the post-fueling staging area.

Unscheduled Halts

6-142. Unscheduled halts are conducted under a variety of circumstances, such as when the platoon encounters obstacles or contaminated areas or if a disabled vehicle blocks the route. The platoon conducts actions on contact and establishes 360-degree security.

6-143. A disabled vehicle must not be allowed to obstruct traffic. The crew moves the vehicle off the road immediately (if possible), reports its status, establishes security, and posts guides to direct traffic. If possible, the crew repairs the vehicle and rejoins the rear of the column. Vehicles that drop out of the column should return to their original positions only when the column has halted. Until then, they move at the rear just ahead of the trail element, which is usually comprised of the maintenance team with the M88 recovery vehicle and some type of security. If the crew cannot repair the vehicle, the vehicle is recovered by the maintenance element.

Actions at the Release Point

6-144. The platoon moves through the RP without stopping. The PL picks up the assigned guide or follows the guide's signals to the assembly area. Depending on terrain and the equipment available (GPS or POSNAV), guides and marking materials may be posted at or near exact vehicle locations.

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Chapter 7

Direct Fire Planning and Control

Suppressing or destroying the enemy with direct fires is fundamental to success in close combat. Effective direct fires are essential to winning the close fight. The tank platoon leader must be able to effectively mass the fires of all available resources at critical points and times to be successful on the battlefield. This chapter discusses the fundamentals, planning, preparation, and execution of direct fire.

SECTION I – TEXT REFERENCES

Table 7-1. Guide for subjects referenced in text

Subject	*References*
Direct Fire	FM 3-20.21
Fundamentals of Direct Fire Planning and Control	FM 3-90.1
Urban Operations	ATTP 3-06.11

SECTION II – DIRECT FIRE PLANNING

OVERVIEW

7-1. Platoon Leaders plan direct fires to distribute and control their fire. Determining where and how the platoon can mass fires is an essential step in this process.

7-2. Based on where and how they want to focus and distribute fires, the PL establishes the weapons-ready postures as well as triggers for initiating fires. During mission preparation, leaders plan and conduct rehearsals of direct fires (and of the fire control process) based on the estimate of the situation.

7-3. The PLs visualization of where and how the enemy will attack or defend assists him in determining the volume of fires he must focus at particular points to have a decisive effect. Additionally, he must evaluate the risk of fratricide and establish controls to prevent it. These measures include the designation of recognition markings, weapon control status (WCS), and weapons safety posture.

7-4. After determining where and how they will mass and distribute fires, the PL then must orient elements so the platoon can rapidly and accurately acquire the

enemy. Also during mission preparation, the PL plans and conducts rehearsals of direct fires (and of the fire control process) based on his estimate of the situation.

7-5. The PL must continue to apply planning procedures and considerations throughout execution. He must be able to adjust direct fires based on a continuously updated estimate of the situation, combining SA with the latest available intelligence. When necessary, he must also apply effective direct fire SOPs, which are covered in the following discussion. (Refer to FM 3-90.1 for more information.)

STANDARD OPERATING PROCEDURES

7-6. A well-rehearsed direct fire SOP ensures quick, predictable actions by all members of the platoon. The SOP elements should include standing means for focusing fires, distributing their effects, orienting forces, and preventing fratricide. The PL should adjust the direct fire SOP whenever changes to anticipated and actual mission variables become apparent.

7-7. The PL can subsequently use a fire command to refocus or redistribute fires. The following paragraphs discuss specific SOP provisions for focusing fires, distributing fires, orienting forces, and preventing fratricide.

FOCUSING FIRES

7-8. The TRPs are a common means of focusing fires. One technique is to establish a standard respective position for TRPs in relation to friendly elements and then to consistently number the TRPs, such as from left to right. This allows leaders to quickly determine and communicate the location of the TRPs.

DISTRIBUTING FIRES

7-9. Two useful means of distributing fires are engagement priorities and target array. One technique is to assign an engagement priority, by type of enemy vehicle or weapon, for each type of friendly weapons system. The target array technique can assist in distribution by assigning specific friendly elements to engage enemy elements of approximately similar capabilities.

ORIENTING FORCES

7-10. A standard means of orienting friendly forces is to assign a primary direction of fire, using a TRP, to orient each element on a probable enemy position or likely avenue of approach. To provide all-around security, the SOP can supplement the primary direction of fire with sectors using a friendly-based quadrant.

AVOIDING FRATRICIDE

7-11. A primary means of minimizing fratricide risk is to establish a standing weapons control status of WEAPONS TIGHT, which requires positive enemy identification prior to engagement. The SOP must also dictate ways of identifying friendly rifle squads and other dismounted elements; techniques include using arm bands, medical heat pads, or an infrared light source or detonating a smoke grenade of a designated color at the appropriate time. Minimizing the risk of fratricide can be

accomplished through FBCB2 (if equipped); however, this does not supplant the leader's responsibility to plan for fratricide avoidance.

7-12. Finally, the SOP must address the most critical requirement of fratricide prevention—maintaining SA. It must direct subordinate leaders to inform the commander, adjacent elements, and subordinates whenever a friendly force is moving or preparing to move.

SECTION III – PRINCIPLES OF DIRECT FIRE CONTROL

7-13. The platoon's ability to place direct fires on the enemy is critical to combat survival. This is done by applying the principles of direct fire. Effective fire distribution and control requires the platoon to rapidly acquire the enemy and mass the effects of fires to achieve decisive results in the close fight. (Refer to FM 3-90.1 for more information.)

7-14. This discussion focuses on the following principles:

- **Mass the effects of fire.** The platoon must mass its fires to achieve decisive results. Massing entails focusing fires at critical points and distributing the effects. Random application of fires is unlikely to have a decisive effect. For example, concentrating the platoon's fires at a single target may ensure its destruction or suppression; however, that fire control COA will probably not achieve a decisive effect on the enemy formation or position.
- **Destroy the greatest threat first**. The order in which the platoon engages enemy forces is in direct relation to the danger it presents. The threat posed by the enemy depends on his weapons, range, and position. Presented with multiple targets, usually a unit initially concentrates fires to destroy the greatest threat and then distributes fires over the remainder of the enemy force.
- **Avoid target overkill**. Use only the amount of fire required to achieve necessary effects. Target overkill wastes ammunition and ties up weapons that are better employed acquiring and engaging other targets. The idea of having every weapon engage a different target, however, must be tempered by the requirement to destroy the greatest threats first.
- **Employ the best weapon for the target**. Using the appropriate weapon for the target increases the probability of rapid enemy destruction or suppression; at the same time, it saves ammunition. The platoon has many weapons to engage the enemy. Target type, range, and exposure are key factors in determining the weapon and ammunition that should be employed, as are weapons and ammunition availability and desired target effects. Additionally, leaders should consider individual crew capabilities when deciding

on the employment of weapons. The PL arrays his forces based on the terrain, enemy, and desired effects of fires.

- **Minimize friendly exposure**. Units increase their survivability by exposing themselves to the enemy only to the extent necessary to engage him effectively. Natural or man-made defilade provides the best cover. Crews minimize their exposure by constantly seeking effective available cover, attempting to engage the enemy from the flank, remaining dispersed, firing from multiple positions, and limiting engagement times.

- **Employ combat identification (CID) process**. Effective CID for a crew requires a constant combined effort from each crew member. Combat identification is the process of attaining an accurate characterization of detected objects in the operational environment sufficient to support an engagement decision. The CID process has the following three key purposes:
  - Identify and classify targets in the operational environment.
  - Allow for the timely processing of engagement decisions on targets classified as enemy.
  - Mitigation of fratricide and collateral damage to noncombatants.

- **Prevent fratricide**. The PL must be proactive in reducing the risk of fratricide and noncombatant casualties. He has numerous tools to assist him in this effort: identification training for combat vehicles and aircraft; the unit's weapons safety posture; the weapons control status; recognition markings; FBCB2 and SA. Situational awareness and employment of applicable ROE are the primary means of preventing noncombatant casualties. Because it is difficult to distinguish between friendly and enemy dismounted Soldiers, the PL must constantly monitor the position of friendly dismounted squads.

- **Plan for limited visibility conditions**. At night, limited visibility fire control equipment enables the company team to engage enemy forces at nearly the same ranges that are applicable during the day. Obscurants such as dense fog, heavy smoke, and blowing sand, however, can reduce the capabilities of thermal and infrared equipment. The commander should therefore develop contingency plans for such extreme limited visibility conditions. Although decreased acquisition capabilities have minimal effect on area fire, point target engagements likely occur at decreased ranges. Typically, firing positions, whether offensive or defensive, must be adjusted closer to the area or point where the commander intends to focus fires. Another alternative is the use of visual or infrared illumination when there is insufficient ambient light for passive light intensification devices.

- **Plan for degraded capabilities**. Leaders initially develop plans based on their units' maximum capabilities; they make backup plans for implementation in the event of casualties or weapon damage or failure. While leaders cannot anticipate or plan for every situation, they should develop plans for what they view as the most probable occurrences. Building redundancy into these plans, such as having two systems observe the same sector, is an invaluable asset when the situation (and the number of available systems) permits. Designating alternate sectors of fire provides a means of shifting fires if adjacent elements are knocked out of action.

FIRE CONTROL MEASURES

7-15. Fire control measures are the means by which leaders control fires. Application of these concepts, procedures, and techniques assists the unit in acquiring the enemy, focusing fires on him, distributing the effects of the fires, and preventing fratricide. At the same time, no single measure is sufficient to effectively control fires. Fire control measures are effective only if the entire unit has a common understanding of what they mean and how to employ them. The following discussion focuses on the various fire control measures. (Refer to FM 3-90.1 for more information.)

TERRAIN-BASED FIRE CONTROL MEASURES

7-16. The PL uses terrain-based fire control measures to focus and control fires on a particular point, line, or area rather than on a specific enemy element.

Engagement Area

7-17. This fire control measure is an area along an enemy avenue of approach where the PL intends to mass the fires of available weapons to destroy an enemy force. The size and shape of the engagement area is determined by the degree of relatively unobstructed intervisibility available to the weapons systems in their firing positions and by the maximum range of those weapons. (Refer to Chapter 4 for more information.)

Sector of Fire

7-18. A sector of fire is a defined area that must be covered by direct fire. Leaders assign sectors of fire to ensure coverage of an area of responsibility. In assigning sectors of fire, leaders consider the number and types of weapons available. In addition, they must consider acquisition system type and field of view in determining the width of a sector of fire. For example, while unaided vision has a wide field of view, its ability to detect and identify targets at range and in limited visibility conditions is restricted. Conversely, most fire control acquisitions systems have greater detection and identification ranges than the unaided eye, but their field of view is narrow. Means of designating sectors of fire include the following:

- Target reference points.
- Clock direction.

- Terrain-based quadrants.
- Friendly-based quadrants.

Direction of Fire

7-19. A direction of fire is an orientation or point used to assign responsibility for a particular area on the battlefield that must be covered by direct fire. Leaders designate directions of fire for the purpose of acquisition or engagement by subordinate elements, crew-served weapons, or individual Soldiers. Direction of fire is most commonly employed when assigning sectors of fire would be difficult or impossible because of limited time or insufficient reference points. Means of designating a direction of fire include the following:

- Closest target reference point.
- Clock direction.
- Cardinal direction.
- Tracer on target.
- Infrared laser pointer.

Quadrants

7-20. Quadrants are subdivisions of an area created by superimposing an imaginary pair of perpendicular axes over the terrain to create four separate areas or sectors. Quadrants can be based on the terrain, on friendly forces, or on the enemy formation. The method of quadrant numbering is established in the unit SOP; however, care must be taken to avoid confusion when quadrants based on terrain, friendly forces, and the enemy formations are used simultaneously.

Terrain-Based Quadrant

7-21. A terrain-based quadrant entails use of a TRP, either existing or constructed, to designate the center point of the axes that divide the area into four quadrants. This technique can be employed in both offensive and defensive operations. In the offense, the PL designates the center of the quadrant using an existing feature or by creating a reference point. The axes delineating the quadrants run parallel and perpendicular to the direction of movement. In the defense, the PL designates the center of the quadrant using an existing or constructed TRP.

Maximum Engagement Line

7-22. A MEL is the linear depiction of the farthest limit of effective fire for a weapon or unit. This line is determined by either the weapon's or unit's maximum effective range and by the effects of terrain. For example, slope, vegetation, structures, and other features provide cover and concealment that may prevent the weapon from engaging to the maximum effective range. A MEL serves several purposes. The MEL can be used to prevent crews from engaging beyond the maximum effective range, to define criteria for the establishment of triggers, and to delineate the maximum extent of AO on the sector sketch.

Restrictive Fire Line

7-23. An RFL is a linear fire control measure beyond which engagement is prohibited without coordination. In the offense, the PL can designate an RFL to prevent a base of fire element from firing into the area where an assaulting element is maneuvering. This technique is particularly important when armored vehicles support the maneuver of Infantry squads. In the defense, the PL may establish an RFL to prevent the unit from engaging a friendly rifle squad positioned in restricted terrain on the flank of an avenue of approach.

Final Protective Line

7-24. The final protective line (FPL) is a line of fire established where an enemy assault is to be checked by the interlocking fires of all available weapons. The unit reinforces this line with protective obstacles and with final protective fires (FPF) whenever possible. Initiation of the FPF is the signal for elements, crews, and individual Soldiers to shift fires to their assigned portion of the FPL. They spare no ammunition in repelling the enemy assault, a particular concern for machine guns and other automatic weapons.

Rules of Engagement

7-25. Rules of engagement specify the circumstances and limitations under which forces may engage; they include definitions of combatant and noncombatant elements and prescribe the treatment of noncombatants. Factors influencing ROE are national command policy, the mission and commander's intent, the operational environment, and the law of war. The ROE always recognize a Soldier's right of self defense; at the same time, they clearly define circumstances in which he may fire.

SECTION IV – FIRE CONTROL PROCESS

7-26. To successfully bring direct fires against an enemy force, leaders must continuously apply the steps of the fire control process. At the heart of this process are two critical actions: rapid, accurate target acquisition and the massing of fire to achieve decisive effects on the target. Target acquisition is the detection, identification, and location of a target in sufficient detail to permit the effective employment of weapons. Massing entails focusing fires at critical points and then distributing the fires for optimum effect. The following discussion examines target acquisition and massing of fires using these basic steps of the fire control process:

- Identify probable enemy locations and determine the enemy scheme of maneuver.
- Determine where and how to mass fires.
- Orient forces to speed target acquisition.
- Shift fires to refocus or redistribute.

IDENTIFY PROBABLE ENEMY LOCATIONS AND DETERMINE THE ENEMY SCHEME OF MANEUVER

7-27. The PL plans and executes the platoons direct fires based on his estimate of the situation. An essential part of this estimate is the analysis of the terrain and the enemy force, which aids in visualizing how the enemy will attack or defend a

particular piece of terrain. The PL may use any or all of the following products or techniques in developing and updating the analysis:

- A SITTEMP based on the analysis of terrain and enemy.
- A SPOTREP or contact report on enemy locations and activities.
- Reconnaissance of the AO.

DETERMINE WHERE AND HOW TO MASS FIRES

7-28. To achieve decisive effects, friendly forces must mass their fires. Effective massing requires the focus of fires and the ability to distribute the effects of the fires. At the same time, the PL must use direct fire control measures to effectively distribute the fires, which are now focused on the same point.

ORIENT FORCES TO SPEED TARGET ACQUISITION

7-29. To effectively engage the enemy with direct fires, the platoon must rapidly and accurately acquire enemy elements. Orienting friendly forces on probable enemy locations and on likely avenues of approach speed target acquisition. The clock direction orientation method, which is prescribed in most SOPs, is good for achieving all-around security; however, it does not ensure that the platoon is effectively oriented to detect the enemy. To achieve this critical orientation, the PL typically designates TRPs on or near probable enemy locations and avenues of approach; he orients the platoon using directions of fire or sectors of fire.

SHIFT FIRES TO REFOCUS AND REDISTRIBUTE

7-30. As the engagement proceeds, the PL must shift fires to refocus and redistribute the effects based on the evolving estimate of the situation. Situational awareness becomes an essential part of the fire control process at this point. A variety of situations dictate shifting of fires, including the following:

- Appearance of an enemy force posing a greater threat than the one currently being engaged.
- Extensive attrition of the enemy force being engaged, creating the possibility of target overkill.
- Attrition of friendly elements that are engaging the enemy force.
- Change in the ammunition status of the friendly elements that are engaging the enemy force.
- Maneuver of enemy or friendly forces resulting in terrain masking.
- Increased fratricide risk as a maneuvering friendly element closes with the enemy force being engaged.

DISTRIBUTION

7-31. This discussion provides standardized methods for directing and controlling fires applicable to the individual tank, the section, and the entire platoon. It covers the procedures used from the time targets are acquired, through the placement of

fires on those targets, to the reporting of the effects of those fires to the company commander. Also included are considerations for fire distribution and control during offensive and defensive operations. Although the discussion focuses on actions at the platoon and section level, these actions are always integrated into, and become part of, the company plan.

7-32. The PL employs two primary methods to ensure effective distribution of direct fires—fire patterns and firing techniques.

FIRE PATTERNS

7-33. The entire platoon must thoroughly understand the three basic fire patterns—frontal, cross, and depth. In addition, each tank crew must understand its responsibilities, by SOP, in using the fire patterns for target engagement. The basic fire patterns cover most situations and promote rapid, effective platoon fire distribution. They are normally used in the defense, but may be modified for employment with movement techniques. They may be used at both platoon and section level.

7-34. Regardless of the fire pattern used, the goal is to engage near targets first, and then shift fires to far targets. Tanks should engage targets "near to far" and "most dangerous to least dangerous" in their sector. There are three levels of threat that classify the enemy:

- **Most dangerous**. Enemy is equipped with armor-defeating capabilities, which appears to be preparing to engage the platoon.
- **Dangerous**. Enemy is equipped with armor-defeating capabilities, which is not actively preparing to engage the platoon.
- **Least dangerous**. Enemy is not equipped with armor-defeating capabilities; however, they do have the communication capabilities to call other equipment that does have armor-defeating capabilities to engage the platoon.

7-35. As directed or when he determines it is necessary, the section or PL may make exceptions to the "most dangerous to least dangerous" guideline; an example would be engagement of designated priority targets (such as command vehicles).

Frontal Fire Pattern

7-36. The frontal pattern is used when all tanks within the platoon can fire to their front (see Figure 7-1). Flank tanks engage targets to their front (right tank shoots right target, left tank shoots left target) and shift fires toward the center as targets are destroyed. Leader tanks engage targets to their front and shift fire to the outside as targets are destroyed. The frontal fire engagement rule is near to far, flank to center, and center to flank.

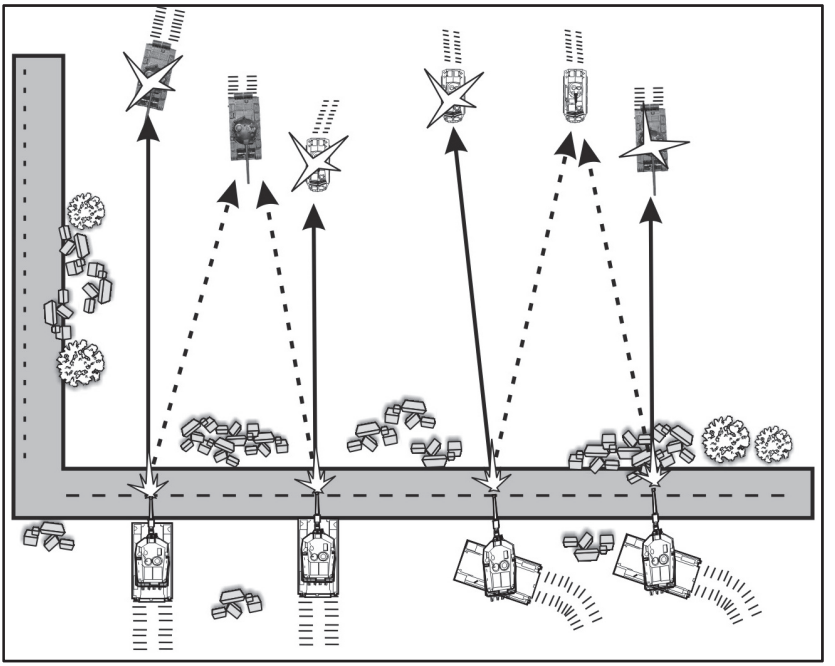


Figure 7-1. Frontal fire pattern

Cross Fire Pattern

7-37. The cross fire pattern is used when obstructions prevent some or all tanks within the platoon from firing to the front or when the enemy's frontal armor protection requires use of flank shots to achieve penetration. In this pattern, each tank engages targets on the flank of its position. The right flank tank engages the left portion of the target area while the left flank tank engages the right portion. As targets are destroyed, tanks shift fires inward. The leader tanks engage the center targets and shift fire to the outside as targets are destroyed. The cross fire engagement rule is outside in, near to far. An example of the cross pattern is shown in Figure 7-2.

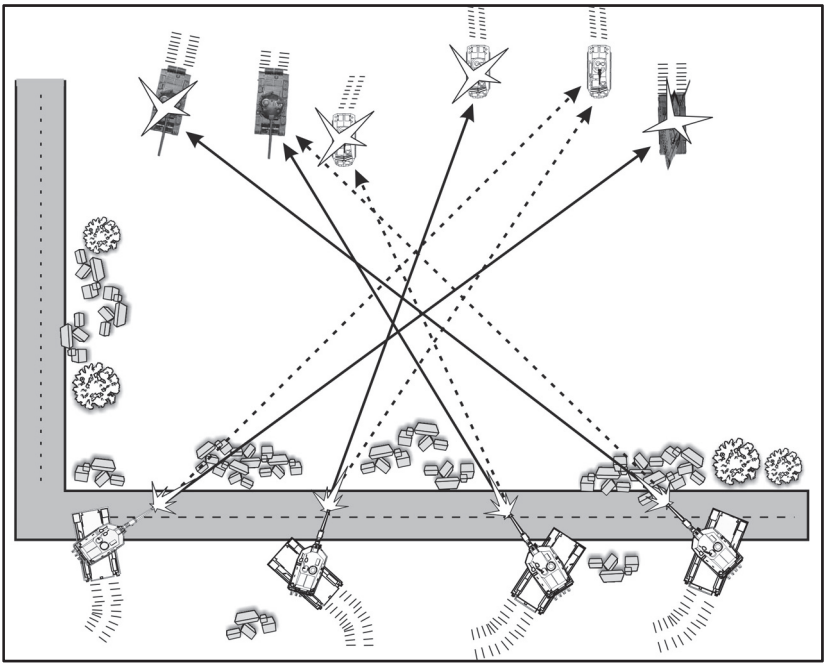


Figure 7-2. Cross fire pattern

Depth Fire Pattern

7-38. The depth fire pattern is used when targets are exposed in depth. Employment of depth fire is dependent on the position and formation of both the engaging platoon and the target. For example, the entire platoon may be required to fire on a column formation in depth; in other cases, individual tanks engaging in their sector may have to fire in depth. If the whole platoon is firing, it may be possible for each tank to fire in depth on a portion of the enemy formation (see Figure 7-3). The far left tank engages the far target and shifts fire toward the center of the formation as targets are destroyed; the left center tank engages the center target and shifts fire toward the rear as targets are destroyed. The right center tank engages the closest (front) target and shifts fire to the rear as targets are destroyed; the far right tank engages the center target and shifts fire to the front as targets are destroyed.

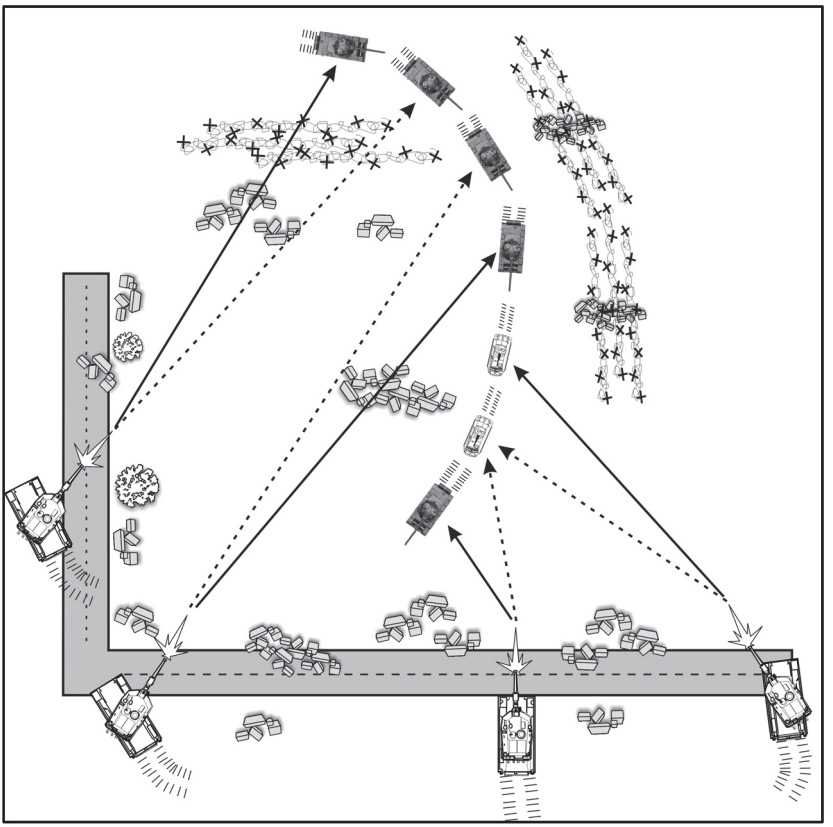


Figure 7-3. Depth fire pattern

FIRING TECHNIQUES

7-39. In addition to employing fire patterns, the PL may choose one of three firing techniques to distribute and control the direct fires of the platoon: simultaneous, alternating, and observed.

SIMULTANEOUS FIRE

7-40. This is the primary firing technique used by the platoon. It is employed during most offensive engagements when the unit encounters surprise targets. It is also used in most defensive engagements when the enemy array is numerous enough to require multiple engagements by each tank in the unit. In that case, all tanks engage simultaneously in their assigned sectors.

ALTERNATING FIRE

7-41. Alternating fire is normally used when the platoon is in a defensive position or is undetected. Each tank alternates firing and observing in conjunction with the other tank in the section. During alternating fire, tanks 2 and 3 (the wingmen in each section) are normally the first to fire at their outside targets. The section leaders (the PL and PSG) provide observation before firing at their targets. The process continues until all targets are destroyed or the leader switches to simultaneous fire.

OBSERVED FIRE

7-42. Observed fire is normally used when the platoon is in protected defensive positions and engagement ranges are in excess of 2500 meters. The first tank to fire in each section engages designated targets while the second tank observes. The second tank prepares to engage targets in the event the first tank misses consistently, experiences a malfunction, or runs low on ammunition. This technique maximizes observation and assistance capabilities for the observing tank while protecting its location.

FIRE COMMANDS

7-43. The effective use of fire commands is a function of the leader's knowledge of the enemy and the fire control process and of the time available to plan, prepare, and rehearse. Using a standard format for a platoon or section fire command ensures that all essential information and control measures are given in a minimum amount of time. It enables the unit to react instantly and effectively, even under the most adverse conditions. Standardized platoon and section fire command formats must be established by unit SOP and then practiced by PLs and PSGs (the section leaders) for optimum proficiency. Brevity and clarity are essential. Abbreviated methods for identifying target locations are encouraged; however, these methods must be familiar and understandable.

7-44. The PL may provide coordinating instructions or additional information to individual TCs; this information is not part of the platoon fire command. When one tank sends a contact or spot report and it is reasonable to believe all other tanks in the section or platoon have received it, the section or PL issues only the elements needed to complete the fire command. In all cases, a TC has the freedom to engage a target without a section or platoon fire command if he is under immediate enemy contact.

7-45. The battlefield situation and/or platoon SOP dictate the number of elements used in a fire command. The standard platoon fire command includes up to eight elements, transmitted in the following order:

- Alert.
- Weapon or ammunition (optional).
- Target description.
- Orientation.
- Range (optional).
- Control.

- Execution.
- Weapon control status.

7-46. Figure 7-4 provides an example of a platoon fire command. (Refer to FM 3-20.21 for more information.)

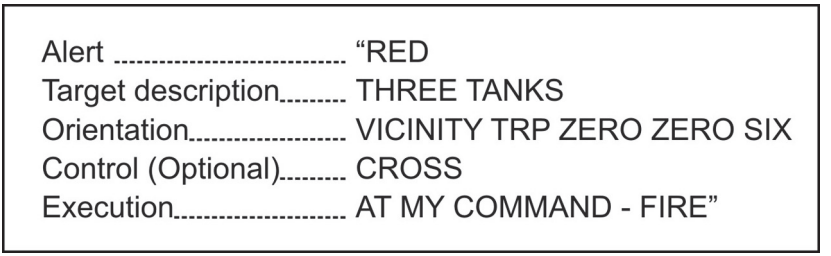


Figure 7-4. Sample platoon fire command

SKETCH CARD

7-47. Below is the process in developing a sketch card. The TCs turn in the sketch cards to the PL so he can further develop the platoon fire plan.

SKETCH CARD DEVELOPMENT

7-48. The PL begins the process of sketch card development by designating the primary and supplementary positions for his tanks. Each TC selects his alternate fighting position. After the positions have been designated and reconnoitered, the PL designates the sector limits of fire for each tank and the TRPs within the sectors. The PL must give the TC the number designators for the TRPs.

7-49. The TC and gunner develop the sketch cards for each position, as the positions are prepared. When the cards are completed (normally within 20 minutes), one copy is sent to the PL and the other copy is kept with the tank.

7-50. The tank crew moves the tank into position and ensures the target areas within the sector can be fired upon. The TCs also ensure that obstacles and TRPs can be overwatched before engineer assets are released from the position. The PL must be informed of any inability to engage within assigned sectors or overwatch TRPs, and obstacles. The PL may direct a change in position. The TC makes physical contact with his wingman, or flanking elements, to determine overlapping fires, if time permits. (Refer to FM 3-20.21 for more information.)

7-51. As a minimum, the drawn sketch card depicts the following items shown in Figure 7-5.

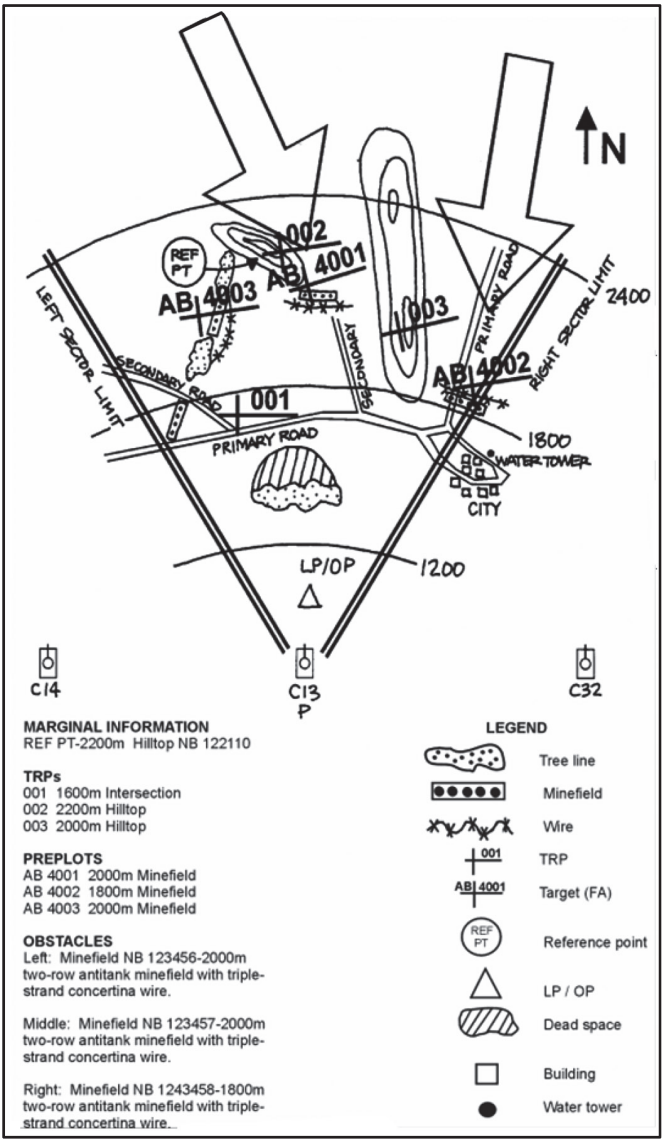


Figure 7-5. Sample sketch card

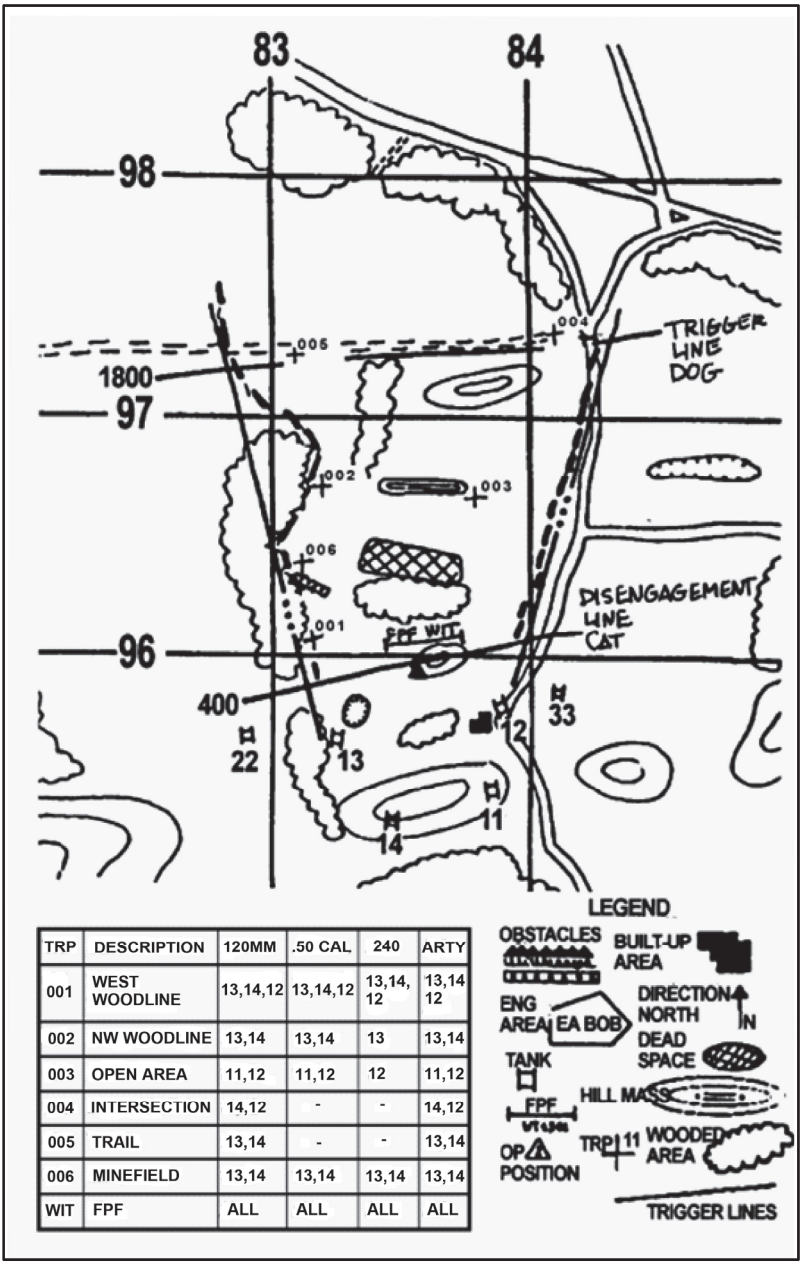
PLATOON FIRE PLAN

7-52. The PL uses the available tools to prepare the platoon fire plan with information from the individual tank sketch card. The PL can either develop the

platoon fire plan handwritten, or using digital equipment. Figure 7-6 shows a handwritten fire plan.

7-53. The PL must know how to make effective use of marginal data to enhance the platoon's understanding of the fire plan and the operation itself. These notations cover numerous types of tactical information. They may vary according to mission, means of fire plan development (handwritten or digital), and commander's guidance. As an example, marginal data required on the platoon fire plan might include the following types of entries:

- Unit designation.
- Date.
- Type of position (primary, alternate, or supplementary).
- Information on TRPs (description, range, list of tanks that can engage each TRP).
- Additional notes as necessary, covering such areas as specific coordination with adjacent units and engagement criteria and priority.



TRP	DESCRIPTION	120MM	.50 CAL	240	ARTY
001	WEST WOODLINE	13,14,12	13,14,12	13,14, 12	13,14 12
002	NW WOODLINE	13,14	13,14	13	13,14
003	OPEN AREA	11,12	11,12	12	11,12
004	INTERSECTION	14,12	-	-	14,12
005	TRAIL	13,14	-	-	13,14
006	MINEFIELD	13,14	13,14	13,14	13,14
WIT	FPF	ALL	ALL	ALL	ALL

Figure 7-6. Sample prepared fire plan

WEAPONS PLANNING RANGES

7-54. The weapons planning range for a tank is the distance at which the PL intends to begin engaging enemy targets. In determining this range, he must know the lethality of the kinetic energy rounds his crews will be firing versus the specific vulnerabilities of the enemy armor he expects to face. Lethality, and as a result the weapon planning range, is based on the two factors known as probability of hit (PH) and probability of kill (PK). While actual values of PH and PK are classified, it is obvious that PH decreases as range increases, as does PK for kinetic energy penetrators. This is because velocity decreases with range; penetration is largely dependent on velocity.

EVALUATING AND DETERMINING THE PLANNING RANGE

7-55. With limited rounds available on board each vehicle, the PL must weigh the tactical alternatives and try to make every round count. Key factors in determining the weapon planning range are mission variables. The commander must consider the capabilities and limitations of friendly forces as well as those of enemy personnel. In addition, the planning range for a tank cannot be separated from the number of rounds the PL is prepared to expend. While it is possible to hit an enemy tank at 3000 meters, the probability of doing so on the first round is low. Further, even when a hit is made, PK is very low against turret frontal armor.

7-56. Taking into account these factors, the PL usually directs his TCs to engage targets from closer ranges, especially in frontal engagements. Considering only PK, frontal tank engagements should begin at less than 2500 meters. Several factors combine to make frontal engagements of enemy tanks beyond 2500 meters only marginally effective. If the tactical situation permits, the optimum weapon planning range against tanks in the frontal 60-degree arc is 1500 meters. This can be extended with recognition of degraded PH, of degraded PK against turret frontal armor, and of reduced kills per on-tank load of ammunition. The planning range can also be reduced based on terrain, weather, and obscuration. As noted, engagement of enemy fighting vehicles with lighter armor can begin at longer ranges based on the increased PK; however, due to their smaller size, the PH for these vehicles normally are lower than that for tanks. Frontal engagements of enemy fighting vehicles with lighter armor can begin at longer ranges; the PK is higher due to the difference in protection levels.

7-57. Further consideration on engagement range will be based on enemy capabilities and type of equipment. Platoons may be faced with a full spectrum of equipment from converted civilian trucks, older equipment upgraded with new sensors and capabilities, to high level state of the art equipment. Now, the PL must not only understand how far his forces can see and shoot, but how far the enemy can see and shoot. The tank platoon is no longer in an environment where it can see or fire farther than the enemy: it may even be faced with an enemy with superior equipment.

LONG-RANGE ENGAGEMENT CONSIDERATIONS

7-58. When the decision is made to engage the enemy at longer ranges, several additional planning factors must be considered. In choosing long-range engagement, the PL is almost certain to compromise his positions and loses the element of surprise. At the same time, however, the forward placement of a platoon may deceive the enemy as to the location of the main defensive position and cause the enemy to deploy sooner than he had planned. Long-range engagements require the use of sensing tanks and observed fire techniques; as a result, the PL should always attempt to conduct them from an elevated firing position. He should task only his most proficient firing crews and most accurate tanks to execute the long-range gunnery mission.

TERRAIN

7-59. As he conducts his TLPs, the PL mentally rehearses the battle. After reconnaissance of the EA or sector, he gathers all the TCs (and gunners, if possible) where they can view the area. He ensures that everyone can identify the assigned TRPs, obstacles, avenues of approach, prominent terrain features, and dead space.

7-60. Using TRPs, terrain features, or man-made obstacles, the PL ensures that each tank has a well-defined and well-understood sector of fire. An individual tank sector should be wide enough to allow some overlap with adjacent vehicles, but narrow enough to prevent overkill of targets. This reduces the scanning requirements for the gunner and the potential for overkill; it also ensures that the entire EA or platoon sector is covered by main gun fire. Based on the commander's guidance, the PL also establishes the trigger line for initiation of the direct fire fight and takes other actions that are time or space dependent.

7-61. The PL decides whether to have all his tanks orient on the TRPs assigned by the company team commander or to have sections or individual tanks orient in slightly different areas (platoon level targets). For example, if the PL is tasked to orient on TRP 006, he might decide on one of the following missions for his subordinates, based on the enemy and terrain:

- All tanks orient on TRP 006.
- Alpha section orients to the left of TRP 006 while Bravo section orients to the right.

7-62. When the PL decides how to use his tanks to best execute the company team commander's intent, he checks each firing position he has selected, identifying and confirming sectors of fire to ensure he has mutual support between tanks. The platoon leader must know where all friendly elements are positioned, if any. He must then plan machine gun fires for each tank to protect itself as well as other tanks in the platoon and adjacent friendly elements. He does this by assigning FPF with the platoon using its coax machine guns to fire on dismounted enemy Infantry, and by planning for additional indirect fire support.

LIMITATION IN URBAN ENVIRONMENTS

7-63. Built-up areas consist mainly of man-made features such as buildings, streets, and subterranean systems. These features of urban terrain create a variety of tactical problems and possibilities. To ensure that the platoon can operate effectively in an urban environment, the platoon observation and direct fire plans must address the ground-level fight (in streets and on the ground floor of buildings), the above-ground fight (in multistoried buildings), and the subterranean fight. (Refer to ATP 3-06.11 for more information.) The following considerations apply:

- An important aspect of the urban environment is that built-up areas complicate, confuse, and degrade command and control.
- Streets are usually avenues of approach. Forces moving along a street, however, are often canalized by buildings and have little space for off-road maneuver. Obstacles on urban streets thus are usually more effective than those on roads in open terrain since they are more difficult to bypass.
- Buildings offer cover and concealment and severely restrict movement of military elements, especially armored vehicles. They also severely restrict fire distribution and control, especially fields of fire. Every street corner and successive block becomes an intervisibility line, requiring careful overwatch. Thick-walled buildings provide ready-made, fortified positions.
- Subterranean systems found in some built-up areas can be easily overlooked, but they may prove critical to the outcome of urban operations.

7-64. Numerous factors related to vehicles and equipment affects the tank platoon's planning in the urban environment. These factors include the following:

- The preferred main gun rounds in the urban environment are high explosive antitank (HEAT), multipurpose antitank (MPAT) (ground mode), MPAT-OR (obstacle-reducing) (M908), and canister (M1028). These all perform much better than sabot rounds against bunkers and buildings.
- HEAT ammunition opens a larger hole in reinforced concrete or masonry structures than MPAT or MPAT-OR (M908). Both MPAT and MPAT-OR, however, offer greater incapacitation capability inside the structure.
- HEAT ammunition arms between 11 and 60 meters from the gun muzzle and loses most of their effectiveness against urban targets at ranges of less than the arming range.
- MPAT and MPAT-OR rounds arm between 11 and 30 meters from the muzzle of the gun and affect the tank platoon's planning. Because of the shape and metal components of the projectiles, however, this ammunition remains effective at ranges of less than the arming range.

- Canister (M1028) ammunition is used primarily against troop formations from 100 to 500 meters, but can be used effectively against light-skinned vehicles (technical) and to reduce simple obstacles at ranges of less than 200 meters.
- Sabot petals, including those on MPAT and MPAT-OR, endanger accompanying Infantry elements. They create a hazard area extending 70 meters on either side of the gun-target line, out to a range of 1 kilometer.
- Hard, smooth, flat surfaces are characteristics of urban terrain. The effect of the rounds is reduced by their tendency to strike at an oblique angle and increase the threat of ricochets.
- Engagement ranges tend to be less than 200 meters and could be as little as 35 meters when engaging enemy personnel.
- There tends to be large amounts of flammable material in the urban area, and leaders should understand that engagements have the chance of causing large fires.
- The tank's main gun can depress to -10 degrees and can elevate to +20 degrees. This creates considerable dead space for the crew at the close ranges that are typical in the urban environment. See Figure 7-7 for an example of dead space in an urban environment.

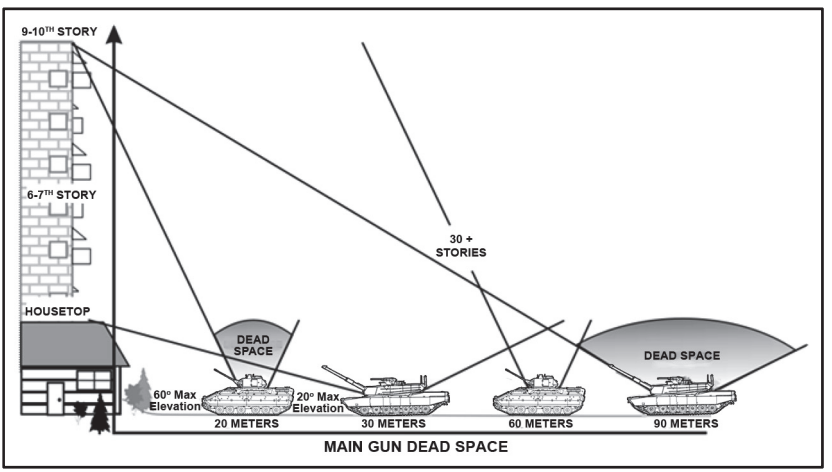


Figure 7-7. Tank dead space above street level

- The external M2 HB (heavy barrel) machine gun can elevate to +36 degrees; however, the TC must be exposed to fire the M2 on the M1A2 or M1A2 system enhancement package (SEP).

- The M240 coax machine gun can effectively deliver suppressive fires against enemy personnel and against enemy positions that are behind light cover.
- The loader's M240 machine gun can effectively deliver suppressive fire against enemy personnel and against enemy positions that are behind light cover; however, the loader must be exposed to operate it. This weapon may be dismounted and used in a ground role if units are equipped with the M240 dismount kit.
- When operating with hatches closed, the tank crew has limited visibility to the sides and rear and no visibility to the top.

7-65. In the urban environment, the.50 caliber machine gun and the 7.62-mm M240 machine gun provide high-volume, long-range, automatic fires for the suppression or destruction of targets. They provide final protective fire along fixed lines and can be used to penetrate light structures; the .50 caliber machine gun is most effective in this role. Tracers from both machine guns are likely to start fires.

EMPLOYMENT

7-66. The primary consideration that impacts the employment of machine guns within urban areas is the limited availability of long-range fields of fire.

7-67. The .50 caliber machine gun is often employed on its vehicular mount during both offensive and defensive operations. The .50 caliber machine gun can be used as an accurate, long-range weapon and can supplement sniper fires.

7-68. The M240 machine gun is useful to suppress and isolate enemy defenders.

Chapter 8

Augmenting Combat Power

The tank platoon must take full advantage of available combined arms assets to accomplish its mission and to reduce its vulnerability on the battlefield. Combined arms integration may include Infantry (either mounted or dismounted), mortars, field artillery, combat engineers, air defense artillery (ADA), and aviation assets. These assets are not organic to the tank platoon, but they may be available through its parent battalion/company. The platoon leader must understand the capabilities and limitations of each combined arms asset to effectively employ them in combat.

This chapter discusses the integration of combined arms, and considerations for the tank platoon.

SECTION I – TEXT REFERENCES

Table 8-1. Guide for subjects referenced in text

Subject	*References*
Fires	FM 6-30
Combined Arms Integration	FM 3-90.5
Protection	ADP 3-0
Rehearsals	ADP 5-0
Fire support	FM 6-30, FM 3-09.32
Illumination	FM 3-22.90
Field artillery limitations	FM 6-20.40
Air ground integration	FM 3-04.126

Table 8-1. Guide for subjects referenced in text (cont.)

Subject	*References*
UAS functions	FM 3-04.155
Visual alarms	FM 3-11.3
Main gun fires	FM 3-01
Engineer support	FM 3-34.2

SECTION II – FIRES

8-1. Mortars and FA are the primary means of indirect fire support available to tank platoons. In addition to understanding the capabilities and limitations of these assets, PLs and their TCs must know what fire request channels to use to request fires. They must also understand how to work with the FIST at company team level to plan and coordinate indirect fires. (Refer to FM 6-30 and FM 3-09.32 for more information.)

MORTARS

8-2. Mortars provide immediate and responsive indirect fire support to maneuver forces. Each combined arms battalion has four 120-mm mortar systems organized into two sections. Each reconnaissance squadron has six 120-mm mortar systems.

CAPABILITIES

8-3. With a maximum effective range of 7200 meters, 120-mm mortars can provide a heavy volume of accurate, sustained fires. They are ideal weapons for attacking a variety of targets, including the following:

- Infantry in the open.
- Targets on reverse slopes.
- Targets in narrow ravines or trenches.
- Targets in forests, towns, and other areas that are difficult to strike with low-angle fires.

8-4. In addition to these highly flexible targeting options, mortars have the following capabilities and advantages:

- Rapid response time.

- Effective against low-density targets.
- Highly destructive target effects.

LIMITATIONS

8-5. Mortars are limited in the following ways:

- Maximum range is limited in comparison to the indirect fire support capability of FA elements.
- They cannot be used against targets inside their minimum indirect fire effective range (200 meters from the mortar tube position).
- Only limited types of ammunition are available.
- Mortar elements carry limited amounts of ammunition.
- Their fire direction center (FDC) and tubes are not linked to the Tactical Fire Direction (TACFIRE) System.
- Collateral damage concerns in an urban environment.
- Clearance of air.

EMPLOYMENT CONSIDERATIONS

8-6. Mortars can be extremely effective when used for the purposes outlined in the following discussion.

Destruction

8-7. High-explosive (HE) rounds, mounted with variable-time (VT) fuses, can be used to destroy or disperse dismounted Infantry and vehicles that are in the open. The HE mortar rounds have the capability to destroy or disable some armored vehicles.

Suppression

8-8. The HE rounds can be used to force the enemy to button up or move to less advantageous positions.

Smoke

8-9. Mortar support, provided by the CAB mortar platoon, is the most rapid and responsive means of indirect smoke delivery. Mortar smoke builds up more rapidly than artillery smoke.

8-10. The tank PL coordinates the planning and execution of mortar smoke missions with the commander and the company FIST. White phosphorus (WP) rounds are used for obscuration and screening. Mortars use WP rounds, which can degrade the effectiveness of thermal sights and can also produce casualties to friendly personnel.

Note. When employing white phosphorus rounds ensure it's in accordance with current ROE for the specific AO.

Illumination

8-11. Illumination rounds are used to illuminate an area or enemy position during periods of limited visibility. Illumination can increase the effectiveness of the tank platoon's image intensification devices (passive sights). This helps the platoon in gathering information, adjusting artillery fire, and engaging enemy targets. Ground-burst illumination can also be used to mark enemy positions, mark for close air support (CAS), and to provide a thermal TRP for control of fires.

8-12. Units must be careful, however, not to illuminate friendly positions. Also, because U.S. night-vision devices may or may not be superior to those of most potential adversaries, illuminating the battlefield may be unnecessary or even counterproductive. (Refer to FM 3-22.90 for more information.)

FIELD ARTILLERY

8-13. Tank PLs must fully understand how to use field artillery support to their best advantage. It is often their primary means of delaying and disrupting enemy formations and suppressing enemy positions. The FA can provide immediate, responsive, accurate fires with a wide variety of munitions (see Table 8-2).

Table 8-2. Indirect fire weapons capabilities

CALIBER	***81 mm***	***120 mm (M121)***	***155 mm Self-Propelled***
LOCATION	CAB	CAB	BCT
MAX RANGE (HE)(m)	5608	7200	24,000
PLANNING RANGE (m)	(2/3 max)	(2/3 max)	14,600
PROJECTILES	HE Smoke (WP & RP) Illumination infrared Illumination	HE Smoke (WP) Illumination infrared Illumination	HE Smoke (WP) Illumination Chemical RAP Excalibur FASCAM
MAX RATES OF FIRE	30 RPM for 2 min	16 RPM for 1 min	4 RPM (M198)/ 5 RPM (M777) for 3 min
SUSTAINED RATE OF FIRE (rd/min)	15	4	2

Table 8-2. Indirect fire weapons capabilities (continued)

MINIMUM RANGE (m)	83	200	Direct fire
FUZES	PD VT time dly MO	PD VT time dly MO	PD VT CP MT MTSQ Dly
Legend			
CP dly Excalibur FASCAM min MO MT MTSQ	concrete piercing delay precision guided/ extended range family of scatterable mines minute multi-option mechanical time mechanical time super quick	PD RAP RP RPM time VT	point detonating rocket-assisted projectile red phosphorous rounds per minute adjustable time delay variable time

8-14. The FA support is provided by artillery (fires) battalions which support the brigade combat team (BCT). The tank platoon generally receives FA support through its company FIST.

CAPABILITIES

8-15. In support of the tank platoon, FA elements can accomplish the following tasks:

- Provide immediate suppression on unplanned targets.
- Provide continuous fire support on planned targets in all weather conditions and types of terrain.
- Allow PLs to shift and mass fires rapidly.
- Offer a variety of conventional shell and fuse combinations.
- Provide obscuration and screening smoke to conceal movement.
- Fire battlefield illumination rounds as necessary.

LIMITATIONS

8-16. The FA support has the following limitations:

- Limited capability against moving targets.

- Limited capability to destroy point targets without considerable ammunition expenditure or use of specialized munitions during low-angle firing.
- Highly vulnerable to detection by enemy target acquisition systems during high-angle firing.
- Restricted low-angle fires in an urban environment. (Refer to FM 6-20.40 for more information.)

8-17. The fire support teams are assigned to maneuver units for combat operations. The FIST is a valuable resource because of its communications link with the artillery. Additionally, the FIST operates a M7 Bradley fire support team (BFIST) vehicle. The BFIST allows the FIST to maneuver with the tank platoon across the battlefield.

SUPPORT CONSIDERATIONS

8-18. Fire support teams are organized, equipped, and trained to provide the following personnel and support to the company:

- Company fire support officer as fire support advisor and coordinator.
- A communications link to all available indirect fire support assets.
- Assigned support for armor companies and cavalry troops (four-man team).

COMMUNICATIONS

8-19. The FIST normally monitors the following radio nets:

- Attached unit command net.
- Battalion mortar fire direction net.
- Direct support battalion fire direction net (digital).
- Battalion fire support net (voice).

8-20. The FIST serves as the net control station (NCS) on the unit fire support net, while the fire support element (FSE) serves as the NCS on the maneuver battalion fire support net. The FIST relays calls for fire to supporting artillery on a digital net (TACFIRE) or sends the fire mission to the mortar platoon or section. The command net allows the FIST to monitor operations and links the FIST to the commander and PLs for planning and coordination.

FIRE REQUEST PROCESS

8-21. Below is the process the FIST used to send fire requests and ways the platoon may request fire support.

FIRE REQUEST CHANNELS

8-22. All requests for indirect fire support are normally sent through the FIST on the company command net. The commander approves the request using a

prearranged method (oral approval or silence). The FIST selects the best available fire support asset to engage the target. Adjustments of the fire mission normally are also sent to the FIST, which then relays the message to the artillery unit on a digital fire direction net or to the battalion mortars on the fire support net.

8-23. Besides specific requests sent to the FIST, the platoon can request fire support in several other ways:

- Calls for fire can result from SPOTREPs sent on the company command net; the company FIST eavesdrops on the net and requests fires on targets of opportunity and on targets approved by the commander.
- Requests for fire can be "tagged" onto preformatted SPOTREPs and contact reports sent via FBCB2. The TC presses the button for "request fire," "immediate suppression," or "immediate smoke" when sending a FBCB2 report.
- Requests for fire support can be entered directly into the TACFIRE system using FBCB2. Using the digital system, the PL can exit a communications net and link into the TACFIRE system. Once the request is complete, the PL exits the TACFIRE system and reenters the unit's net. Unit SOP dictates the use of this TACFIRE capability.

FIRE DIRECTION AND CONTROL PROCEDURES

8-24. The following are the different methods and procedures for indirect fire.

INITIAL CALL-FOR-FIRE

8-25. The standard call for fire consists of three basic transmissions, which in turn comprise six elements:

- Observer identification and WARNORD (first transmission).
- Target location (second transmission).
- Target description, method of engagement, and method of fire and control (third transmission).

Observer Identification and Warning Order (First Transmission)

8-26. Observer identification tells the FDC who is calling. It also clears the net for the duration of the call. The WARNORD tells the FDC the type of mission and the method of locating the target. The types of indirect fire missions are the following:

- **Adjust Fire**. This is used when the observer is uncertain of the exact target location. The observer says, ADJUST FIRE.
- **Fire for effect**. The observer should always attempt first-round fire for effect if he is sure his target location is correct. He should also be sure the rounds of the first volley have the desired effect on the

target so little or no adjustment is required. The observer announces, FIRE FOR EFFECT.

Note. On FBCB2-equipped vehicles, properly updated POSNAV data and an accurate range to the target provide extremely accurate target location. This enables observers to call FIRE FOR EFFECT on the first transmission.

- **Suppression**. The word SUPPRESS is used to quickly bring fire on a preplanned target when unable to observe. This is a simplified call for fire and is sent in one transmission. Example: G24—THIS IS G59—SUPPRESS AF2401—OVER. Target description is not announced.
- Immediate Suppression. This is used to bring fire quickly on a planned target or a target of opportunity that is firing at a friendly unit or aircraft. As an example, the observer says, G24— THIS IS G57—IMMEDIATE SUPPRESSION AF2402—OVER. Target description is not announced.
- Immediate Smoke. This is used to place smoke quickly on a planned target or a target of opportunity that is firing at a friendly unit. Sample transmission: G24—THIS IS G54— IMMEDIATE SMOKE AF2405—OVER.

8-27. The polar and shift methods are announced to the FDC as part of the first transmission. They are covered more in the following paragraph.

Target Location (Second Transmission)

8-28. Following the type of mission, the method of target location is announced; this prepares the FDC to receive the data sent by the observer and apply it to locate the target. The three methods for locating targets are grid, polar plot, and shift from a known point. The polar and shift methods are announced to the FDC. If the observer does not specify either polar or shift, the FDC knows the grid method is being used; the word "grid" is not announced. Example: H24—THIS IS H67—FIRE FOR EFFECT—POLAR— OVER.

Grid Method

8-29. In the grid method, the target location normally consists of a two-letter grid zone identifier with eight digits (example: "AB180739"). The direction from the observer to the target (in mils, if possible) must be given to the FDC after the call for fire, but before the first adjusting rounds are shot.

8-30. With the likelihood of operating in built-up areas, crew members should call for fire using eight- or ten-digit grids to reduce collateral damage.

Polar Plot Method

8-31. This method requires that the observer and the FDC know the observer's exact location. The observer determines the direction (to the nearest 10 mils) of the

observer-target (OT) line and the distance (to the nearest 100 meters) from his position to the target.

Shift From a Known Point Method

8-32. This method can be used if the observer and the FDC have a common known point. Normally, this point is an artillery target. To locate the target, the observer must first determine the direction to the known point to the nearest 10 mils. If the observer has no compass, he can determine the direction by using a map and protractor or by using his binocular reticle pattern and a known direction to the known point. He then determines direction to the target using the RALS rule (right add, left subtract).

8-33. The observer then determines the lateral and range shifts. Lateral shifts are left or right from the known point to the OT line and are given to the nearest 10 meters. Range shifts are given as ADD (when the target is beyond the known point) or DROP (when the target is closer than the known point). Range shifts are given to the nearest 100 meters. (Refer to FM 6-30 for more information.)

Target Description, Method of Engagement, and Method of Fire and Control (Third Transmission)

8-34. The observer includes the target description, method of engagement, and method of fire and control in his call for fire using the guidelines discussed in the following paragraphs.

Target Description

8-35. The observer describes the target to the FDC; the FDC then determines the type and amount of ammunition needed. The target description should be brief but accurate. This is the last required element in the call for fire.

Method of Engagement

8-36. The observer tells how he wants to attack the target (including type of ammunition, fuse, and distance from friendly personnel). The FDC may change the ammunition type and fuse based on availability or other constraints. If the target is within 600 meters of friendly personnel, the observer announces DANGER CLOSE to supporting mortars and artillery.

Method of Fire and Control

8-37. The observer states who will give the command for fire to begin firing. If the observer wants to control the time of firing, he will say, AT MY COMMAND. The FDC tells the observer when the unit is ready to fire. At the proper time, the observer says, FIRE. If the observer does not say, AT MY COMMAND, the FDC directs the designated unit(s) to fire as soon as the platoon or battery is ready.

ADJUSTING INDIRECT FIRE

8-38. Once the call for fire has been made, the observer's next concern is to get the fire on the target. If he can locate the target accurately, he request fire for effect in

his initial call for fire. When the observer cannot accurately locate the target, for any reason such as deceptive terrain, lack of identifiable terrain features, or poor visibility, he must execute an adjustment to bring fires on the target. Normally, one artillery piece or mortar is used in adjustment.

8-39. The observer must first pick an adjusting point. For a destruction mission (precision fire), the target is the adjusting point. For an area target (area fire), the observer must pick a well-defined adjusting point at the center of the area or close to it. The observer must spot the first adjusting round and each successive round and send range and deviation corrections, as required, back to the FDC until fire hits the target. The observer spots by relating the burst or group of bursts to the adjusting point. (Refer to FM 6-30 for more information.)

TANK PLATOON FIRE SUPPORT PLANNING

8-40. The company commander and FIST plan indirect fires; however, the PL may plan and request more targets if needed.

8-41. After receiving the company offensive fire plan, the PL checks it to ensure that targets are planned on all known or suspected enemy positions. The platoon's defensive fire plan should list planned targets in front of, on, behind, and to the flanks of BPs. The likely areas for these targets include observed choke points, avenues of approach, obstacles, and likely support-by-fire positions. If more targets are necessary for either the offensive or defensive plan, the PL coordinates them with the commander and the FIST.

SECTION III – AIR GROUND INTEGRATION

8-42. Army aviation units normally are not OPCON to echelons below battalion level; however, attack reconnaissance helicopters may conduct direct air-to-ground coordination with companies and platoons during combat operations. Air ground integration is imperative for effective integration in conducting operations successfully and minimizing potential for fratricide and civilian casualties.

8-43. Attack reconnaissance helicopter companies are maneuver units and are normally integrated into the ground scheme of maneuver. When working with ground maneuver units, the attack reconnaissance helicopter unit may be placed OPCON to the ground force, and consist of variety of attack reconnaissance helicopters including the AH-64D and OH-58D. Attack reconnaissance helicopters can also assist with reconnaissance and security operations and communications using their advanced suite of sensors and radios.

8-44. The primary aircraft in an attack reconnaissance squadron is the OH-58D, with its roles being, attack and reconnaissance. This helicopter provides substantial limited-visibility and all-weather acquisition capability. The aircraft features a stabilized mast-mounted sight (MMS) with a low-light TV camera, thermal imaging system (TIS), and laser range finder/designator. It can acquire armored vehicle targets at night at ranges up to eight to 10 kilometers. It can be armed with a wide

assortment of weapons and thus can be configured for a variety of enemy situations.

8-45. Aeroscouts establish communications with ground forces, and coordinate the situation and mission with the commander, considering the threat in the AO, assets available, and mission variables. Aeroscouts identify targets, choose general BPs, and control attack helicopter fires.

8-46. The AH-64 helicopter is primarily employed as an attack aircraft specifically designed as a highly stable, aerial weapons-delivery platform. It excels in anti-armor roles. The AH-64 can fight to destroy, reduce by attrition, disrupt, or delay enemy forces. (Refer to FM 3-04.126 for more information.)

CLOSE AIR SUPPORT

8-47. Close air support, provided by the U.S. Air Force and Marine Corps, can be employed to destroy large enemy armor formations, or when using smart weapons, can be effective against point targets. Close air support strikes can be either preplanned (at brigade, battalion, or squadron level) or requested on an immediate-need basis through the battalion enlisted terminal air controller (ETAC). The ETAC on the ground or the forward air controller (FAC) in the air acts as a link between the ground element and the CAS aircraft (see Table 8-3.).

Table 8-3. Characteristics and capabilities of fixed-wing aircraft

AIRCRAFT	*SERVICE*	*CHARACTERISTICS (Typical Munitions)*
AV-8B	USMC	Vertical short takeoff and landing (VSTOL) CS aircraft; subsonic; typical load 4,000 lbs. Maximum load 9,200 lbs; 25-mm Gatling gun.
A-10 or O/A-10	USAF, USAF Reserve, USAF NG	Specialized CAS aircraft subsonic; typical load 6,000 lbs. Maximum load 16,000 lbs; 30-mm gun.
F-15E	USAF	Multi-role aircraft; priority is air-to-ground; supersonic; maximum load 24,500 lbs; 20-mm cannon with 512 rounds.
F-16	USAF, USAF Reserve, USAF NG	Multi-role aircraft; complements the F-15 in air-to-air role; most accurate air-to-ground delivery system in the inventory; supersonic; typical load 6,000 lbs. Maximum load 10,500 lbs.
F/A-18	USN, USMC	Multi-role fighter; wide variety of air-to-surface weapons; typical load 7,000 lbs. Maximum load 17,000 lbs; 20-mm gun mounted in the nose and air-to-air missiles.
AC-130	USAF, USAF Reserve	Specialized CAS/rear area combat operations (RACO) aircraft, propeller driven, two models. The A-model is equipped with two 40-mm guns, two 7.62-mm mini guns. The H-model is similar, except it has no 7.62 mini guns and one of the 40-mm guns is replaced with a 105-mm howitzer. Both models have advanced sensors and a target acquisition system including forward-looking infrared and low-light TV. Weapons employment accuracy is outstanding. This aircraft is vulnerable to threat air defense systems and must operate in a low ADA threat environment.

Note. Typical load is average load for typical support mission; maximum load is the amount the aircraft can carry in an ideal situation.

Ammunition load is for information purposes only, as the platoon has no control of aircraft configurations. This helps platoon leaders understand which aircraft would best be able to support the platoon for a certain type of mission.

MARKING FRIENDLY POSITIONS

8-48. Whenever possible, friendly positions should be marked during close air strikes, especially when friendly personnel are within 300 meters of the target.

8-49. Resources for marking positions include the following:

- **Smoke**. The smoke grenade is the most commonly used marker, but it has limitations. Wind may cause smoke to drift above trees,

and some colors can blend with the background. Violet or white smoke shows up well against most background colors (in daytime only).

- **Flares**. Rocket or 40-mm flares are useful for attracting attention at night; they can sometimes be employed effectively during the day.
- **Mirrors and signal panels**. Signal mirrors are probably the best ground-to-air devices for attracting attention of aircraft. If the sun is shining and the operator is skillful, pilots can see a mirror's flash miles away. Other good visual references for pilots are VS-17 signal panels.
- **Lights**. Pocket-size, battery-powered strobe lights produce brilliant white or blue flashes at about one and a half second intervals. The flash is visible at night for one to three miles. Vehicle lights, such as an unshielded red taillight, are visible to a pilot for several miles at night. Chemical glow lights can also be used to mark friendly positions. One technique that can be used at night is to tie an infrared or green chemical light on a 10-foot string. When aircraft are in the area, a crewman can swing the light in a circular motion to mark the location.

UNMANNED AIRCRAFT SYSTEMS

8-50. Unmanned aircraft systems (UASs) significantly increase SA and the ability to decisively influence current and future operations when employed as a tactical reconnaissance, surveillance, and target acquisition platform. The UASs provide near real time battlefield information, precision engagement, and increased mission command capability to prosecute the fight and shape the battlefield for future operations. Capabilities of UASs are maximized when employed as part of an integrated and synchronized effort.

ECHELONS OF OPERATION

8-51. The UASs are organized and developed to provide three echelons of operation: battalion and below, brigade level with BCT and the battlefield surveillance brigade (BFSB), and division and above. This stratification of UASs maximizes operations and provides a combat enabler to maneuver forces.

Battalion and Below

8-52. Operations of UASs at this echelon are characterized by close-range (less than 25 kilometers), short-duration missions (one to two hours) generally operating below the coordinating altitude and thoroughly integrated with ground forces as an organic asset supporting operations. The primary system supporting units at this echelon is the small UAS, RQ-11B Raven. The Raven is a man-portable, hand-launched, small-unit UAS. It executes reconnaissance and surveillance missions to support SA, security, target acquisition, and battle damage assessment (BDA) at line of sight (LOS), ranging up to 10 kilometers.

UNMANNED AIRCRAFT SYSTEM FUNCTIONS

8-53. The UASs play an integral role in accomplishing the following warfighting functions:

- **Mission command**. Current systems extend the range of C2 systems. A UAS employed with communication relay packages (CRP) extend terrestrial C2 nodes.
- **Movement and maneuver**. Provides the commander with current battlefield information and the ability to influence actions at the time and place of his choosing.
- **Intelligence**. The UASs are integrated components of any intelligence, surveillance, and reconnaissance (ISR) plan. They are flexible and responsive platforms equipped with a variety of mission payloads to support the commander's intelligence gathering requirements.
- **Fires**. Support by UASs include all aspects of the decide, detect, deliver, and assess cycle. A UAS can significantly shorten the sensor-to-shooter response time.
- **Protection**. The UASs provide the ability to maintain a consistent security presence and quick response to emerging threats during maneuver, convoy operations, and in the vicinity of forward operating bases (FOB).
- **Sustainment**. The UASs provide reconnaissance along supply routes and proposed logistics support areas. Future systems may support unmanned resupply and medical evacuation capability. (Refer to FM 3-04.155 for more information.)

SECTION IV – PROTECTION

8-54. Protection is an essential task during any operation. The protection warfighting functions are the related tasks and systems that preserve the force so the commander can apply maximum combat power. Some protection related tasks which are discussed in this section are—

- CBRN operations.
- Air and missile defense.

CHEMICAL, BIOLOGICAL, RADIOLOGICAL, AND NUCLEAR

8-55. Soldiers on the integrated battlefield face a combination of CBRN and conventional attacks. If the tank platoon cannot avoid a CBRN hazard, it must be prepared to protect personnel and equipment from the effects of exposure. The type and degree of protection required are based on the unit's mission and the hazard. Note that the line between contamination avoidance and protection is not distinct. Many actions contribute to both areas of CBRN defense. A thorough understanding of a unit's CBRN capabilities allows the platoon to function and operate safely in a

contaminated environment. It has been proven that a unit's fear of weapons of mass destruction (WMDs) is as disabling as the weapons themselves.

8-56. Additional-duty CBRN personnel should be designated by the platoon SOP for operations in a CBRN environment. Selected crews should be designated and trained as chemical agent detection teams and radiological survey and monitoring teams.

CONTAMINATION AVOIDANCE

8-57. Contamination avoidance include the following four CBRN specific steps:

- Implement defensive measures.
- Warn and report CBRN incidents.
- Locate, indentify, track, and predict CBRN threats and hazards.
- Limit the exposure to CBRN hazards.

8-58. Passive avoidance measures can decrease the possibility of CBRN attack or reduce the effects of an attack already under way. Effective use of concealment, dispersion, prepared positions, OPSEC, and signal security reduces the chances of being acquired as a target. The platoon should continually analyze its vulnerability to chemical or nuclear attack and take appropriate protective measures.

8-59. Whenever possible, all movement routes and future positions should be reconnoitered for CBRN contamination. Quartering party personnel should be prepared to conduct monitoring operations; if they detect contaminated areas, they identify, report, and mark them. The quartering party can then evaluate the location and type of hazard (nuclear radiation or chemical/biological agent) to determine the best plan for bypassing, crossing, or operating in the contaminated area. Based on the situation, the PL and company commander must be able to implement protective measures specified in the SOP to minimize personnel losses and limit the spread of contamination.

STANDARD OPERATING PROCEDURES AND MOPP LEVELS

8-60. The key to effective protection in a CBRN-contaminated environment is the tank platoon's proficiency in automatically and correctly implementing CBRN defense SOPs. Individual and unit protection against CBRN attack or contamination hinges on effective use of the MOPP and on individual proficiency in basic CBRN skills. The different levels of MOPP, as shown below should be listed in the SOP.

- MOPP Ready. Protective mask carried. Protective gear nearby.
- MOPP 0. Protective mask carried. Protective gear available.
- MOPP 1. Overgarments worn.
- MOPP 2. Protective boots worn.
- MOPP 3. Protective mask worn.
- MOPP 4. Protective gloves worn.

ALARMS AND SIGNALS

8-61. When a CBRN attack is recognized, everyone must receive the warning and assume the appropriate MOPP level. Soldiers in immediate danger need warnings they can see or hear. The alarm or signal must be simple and unmistakable if it is to produce a quick and correct reaction. Units that are not immediately affected need the information as well, either to prepare for the hazard or to change plans. If a CBRN hazard is located, the contaminated area should be marked. The CBRN warning and reporting system (CBRNWRS) and standardized contamination markers contribute to orderly warning procedures.

VOCAL ALARMS

8-62. To give a vocal alarm for any chemical or biological hazard or attack, the person detecting the hazard stops breathing, masks, and shouts GAS, GAS! as loudly as possible. Everyone hearing this alarm must immediately mask, sound the alarm again, and take cover from agent contamination and fragmentation of munitions and start immediate decontamination if they are exposed to liquid agents. It may also be necessary to pass the alarm over the radio or telephone. Visual signals must supplement vocal alarms.

AUTOMATIC ALARMS

8-63. If an M8/M22 automatic chemical agent alarm sounds or flashes, the first person to hear or see it stops breathing, masks, and yells GAS, GAS! This alarm is relayed throughout the unit by vocal and visual signals and radio.

NONVOCAL ALARMS

8-64. One person yelling GAS, GAS! to warn unit personnel may be drowned out by the sounds of the battlefield; therefore, sound signals by means other than voice may be required. These signals must produce noise that is louder than, and not easily confused with, other sounds of combat. The unit SOP should specify nonlocal alarms for CBRN hazards. Following are some suggestions:

- Rapid and continuous beating together of any two metal objects to produce a loud noise. Sample SOP entry: "The audible warning of a chemical attack is rapid and continuous beating of metal on metal."
- A succession of short blasts on a vehicle horn or other suitable device. Sample SOP entry: "While in convoy, five short blasts on a vehicle horn is the audible signal for a chemical attack."
- An intermittent warbling siren sound. Sample SOP entry: "The audible alarm for impending chemical attack is the sounding of the installation siren as follows: 10 seconds on, five seconds off; sequence repeated for two minutes."

VISUAL SIGNALS

8-65. Visual signals may replace sound alarms when the sound may be lost amid

battlefield noises or when the situation does not permit the use of sound signals. Signaling is done by extending both arms horizontally to the sides with the fists closed and facing up, then rapidly moving the fists to the head and back to the horizontal position. This is repeated until other elements react. Colored smoke or flares may also be designated as visual signals for a CBRN hazard, but these must be specified in unit SOPs. (Refer to FM 3-11.3 for more information.)

Passive Air and Missile Defense

8-66. Passive air and missile defense is the tank platoon's first line of defense against enemy air attack. It includes all measures, other than active defense, taken to minimize the effects of hostile air action. There are two types of passive air and missile defense: attack avoidance and damage-limiting measures.

ATTACK AVOIDANCE

8-67. If an enemy pilot cannot find friendly elements, he cannot attack them. The platoon should use concealment, camouflage, deception, communications security, and any other necessary action to prevent enemy detection.

8-68. Whenever possible, static positions must provide effective overhead concealment. When concealment is not available, vehicles must be camouflaged to blend into the natural surroundings. Track marks leading into the position must be obliterated. All shiny objects that could reflect light and attract attention must be covered.

ACTIVE AIR AND MISSILE DEFENSE

8-69. Although passive measures are the first line of defense against air attack, the tank platoon must be prepared to engage enemy aircraft. The decision to fight back against an air threat is based on the situation and the capabilities of organic weapon systems. All platoon members must understand that they can defend against a direct attack but cannot engage aircraft that are not attacking them unless the weapon control status allows it.

WEAPON CONTROL STATUS

8-70. The weapon control status describes the relative degree of control in effect for air and missile defense fires. It applies to all weapon systems. The PL receives the status from the company commander. The three control statuses are the following:

- WEAPONS FREE. Crews can fire at any air target not positively identified as friendly. This is the least restrictive weapon control status.
- WEAPONS TIGHT. Crews can fire only at air targets positively identified as hostile according to the prevailing hostile criteria.
- WEAPONS HOLD. Crews are prohibited from firing except in self-defense or in response to a formal order from the unit commander. This is the most restrictive control status.

PLATOON AIR AND MISSILE DEFENSE FIRES

8-71. When it must fight back, the platoon can use the tank's main gun and machine guns against attacking aircraft.

Machine Gun Fires

8-72. Engaging aircraft with volume fire is the key to effective use of the machine guns. These fires must be coordinated to be effective. Delivered on the PL's command, they are directed at an aim point; gunners do not attempt to track the target with machine guns. These rules are simple and logical; everyone in the platoon must learn and retain them.

Main Gun Fires

8-73. Several types of main gun ammunition are effective against helicopters, including MPAT, HEAT, and armor-piercing discarding sabot (APDS) rounds. The main gun aim point is always center of mass. (Refer to FM 3-01 for more information.)

ENGINEER SUPPORT

8-74. Combat engineers normally support the company team as a platoon under the direction of the company team commander. During planning for mobility, counter-mobility, and survivability work, the engineers can advise the commander on construction time and materials needed; the company normally must order much of the material through battalion supply channels.

8-75. The tank PL frequently is tasked to provide security while the engineer platoon conducts its missions. To speed up the construction process, the engineers may need the help of armor crewmen. Additional details on engineer support and employment are in Chapters 3, 4, and 6. (Refer to FM 3-34.2 for more information.)

SECTION V – INTELLIGENCE

8-76. Operational security is critical during defensive preparations. The platoon should adhere to established OPSEC procedures to limit the effectiveness of enemy reconnaissance efforts.

8-77. Intelligence is constantly updated by higher headquarters as the battlefield situation develops, such as when the enemy fights through a screening or covering force. Once the platoon leader begins to develop the situation, he is responsible for reporting the platoon's tactical situation to the commander using SPOTREPs and SITREPs.

8-78. As a basic guideline, reports of enemy activity should follow the SALUTE format, which covers these factors:

- Size. This includes the number of sighted personnel, vehicles, or other equipment.
- Activity. This covers what the enemy is doing.

- Location. This is usually reported as the grid coordinates of enemy elements.
- Unit. This covers any indications useful in unit identification, such as patches, signs, and vehicle markings.
- Time. This item details when enemy activity was observed.
- Equipment. This includes description or identification of all equipment associated with the enemy activity.

8-79. During the preparation phase, the platoon leader receives updated SPOTREPs listing known and suspected enemy locations as well as the latest friendly actions. He should plot the updated enemy and friendly locations on his overlay and on the enemy overlay (digital systems); based on his terrain reconnaissance, he adjusts the maneuver plan accordingly. It is critical that the platoon has a standard method of either the PSG or platoon leader relaying this information to the wing tanks to maintain SA for all crews.

8-80. The updated information may force the PL to reevaluate and adjust his timeline to ensure preparations are as complete as possible. For example, the PL may determine that engineer assets only have time to dig hull-down firing positions rather than turret-down and hide positions; in another situation, he may direct the engineers to prepare fighting positions for only one section because the other section has access to terrain that provides excellent natural hull-down firing positions.

SECTION VI – INFANTRY

8-81. Tank platoons almost never fight alone. Open terrain such as desert, plains, and flat countryside is conducive to the employment of massed armor formations. In such terrain, mechanized Infantry supports the forward movement of the armor units by providing local security, retaining key terrain, clearing dug-in enemy positions, and enhancing direct fires with organic small arms and antitank fires. On the other hand, restricted terrain (such as built-up areas, forests, and jungles) increases the vulnerability of armor units. In close terrain, it is more advantageous for tanks to take a supporting role in the forward movement of the Infantry. Armor provides close-in direct fire support against hard and soft targets that could slow the Infantry's advance.

INFANTRY CONSIDERATIONS

8-82. Besides understanding the capabilities and limitations of his tanks, the armor PL must appreciate the tactical assets and liabilities of the Infantry. He must realize that Infantry elements move much more slowly than tanks over certain types of terrain, but that Infantry can use terrain very effectively to gain a positional advantage over the enemy and that terrain has a direct impact on survivability for the Infantryman.

8-83. The tank PL must ensure that the controlling Infantry headquarters understands that considerations for the positioning and control of the tank's crew-

served direct fire weapon systems are similar to those for the Infantry's crew-served and anti-tank (AT) weapons. In addition, he must be able to anticipate the effects of his weapon systems on both friendly and enemy forces.

MOVEMENT CONSIDERATIONS

8-84. Infantrymen conduct tactical movement until they identify an enemy force that halts their progress. They deploy into position, suppress enemy AT weapons with direct and indirect fires, and request tank support to destroy the enemy. The tanks move forward and link up with the Infantry. At the linkup point, the tank platoon or section leader (depending on the size of the supporting armor element) dismounts and coordinates the following information with the Infantry leader:

- Enemy disposition.
- Friendly disposition.
- The tentative maneuver plan.
- Any additional tactical information not already covered in the OPORD or maneuver plan, including the use of guides, control of direct and indirect fires, close-in protection for the tank, and communications and signal information.

ENGAGEMENT CONSIDERATIONS

8-85. If tank crews cannot immediately identify targets when they reach the firing position, the Infantry designates each target using tracers, mortars, smoke, or grenades fired from the M203 grenade launcher. The TCs open the ballistic doors as necessary to acquire and lase to their targets; tanks then suppress or destroy targets using main gun or machine gun fire. When targets are destroyed, the Infantry signals the tanks to cease fire.

SAFETY CONSIDERATIONS

8-86. Tank and Infantry leaders at all levels must be aware of the safety considerations involved in combined arms operations. Leader awareness and involvement is particularly important if the Infantry unit has had little training with armored vehicles. All personnel in both the Infantry and armor units must be aware of these considerations to prevent unnecessary casualties.

8-87. Tank crewmen are often unable to see Infantrymen operating close to their vehicle. This limitation is worse during limited visibility and when the hatches are closed; in these conditions, the crew is focused on the enemy or on potential enemy locations rather than any nearby Infantrymen. It is the Infantry's responsibility to stay alert and to maintain a safe position in relation to the vehicle.

8-88. Infantrymen operating near tanks are exposed to the effects of any fires the enemy directs against the vehicles. This is true whether the Infantry and vehicles are moving or stationary. Proximity also severely degrades the Infantry's ability to avoid detection by the enemy. It therefore becomes the responsibility of Infantry leaders to maintain sufficient distance to avoid the effects of fires directed against the tanks, even when they are required to provide security or close support.

8-89. Tanks fire high-velocity, armor-piercing, discarding sabot rounds that pose hazards to Infantry. Dismounted Soldiers should be at least 70 meters to the left or right of the line of fire and/or at least 1000 meters to the front of a firing tank. Any Infantry within this danger area must have overhead cover and protection (a berm or tree) from the rear. (Refer to FM 3-90.5 for more information.)

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Chapter 9

Sustainment

Sustainment elements arm, fuel, feed, fix, clothe, and provide transportation and personnel for the platoon. The PL is responsible for supervising sustainment within the platoon. The PSG is responsible for sustainment operations within the platoon. The PSG advises the PL of logistics requirements during preparation for combat operations. He also keeps the PL informed of the platoon's status. During combat operations, the PSG coordinates directly with the 1SG, informing him of the platoon's supply, maintenance, and personnel requirements. The PSG is assisted by the other TCs and the gunners on the PL's and PSG's vehicles.

This chapter discusses sustainment functions executed by the platoon, and considerations and responsibilities for those functions.

SECTION I – TEXT REFERENCES

Table 9-1. Guide for subjects referenced in text

Subject	*References*
Supply Operations	FM 3-90.1
Classes of Supply	FM 10-27-4
Maintenance	ATTP 4-33
Health and Hygiene	FM 21-10

SECTION II – PLANNING AND RESPONSIBILITIES

9-1. While the company team commander and XO develop the sustainment plan for the operation, the PL is responsible for his platoon's execution of the sustainment plan at platoon level.

PLANNING CONSIDERATIONS

9-2. Planning considerations include the development of the sustainment plan and answers to operational questions regarding:

- Types of support.
- Quantities.

- Threat.
- Terrain and weather.
- Time and location.
- Requirements.
- Risk.
- Resupply techniques.

9-3. Most routine sustainment functions are accomplished by SOP. These procedures and services include the following:

- Accountability, maintenance, and safeguarding of the unit's assigned equipment.
- Reporting of the status of personnel, equipment, and classes of supply.
- Requests for resupply.
- Turn-in of equipment for repair.
- Evacuation of personnel (WIA, KIA, detainees).
- Evacuation of equipment and vehicles for replacement and/or repair.

LEADER RESPONSIBILITIES

9-4. Listed below are leaders within the platoon and their responsibilities—

- **Platoon Leader.** The PL has ultimate responsibility for the condition and performance of the platoon's equipment and materiel. In that role, his duties include the following:
  - Ensuring, within the platoon's maintenance capabilities, that all platoon vehicles, weapon systems, and equipment, such as night-vision devices, mine detectors, and communications equipment, are combat ready at all times. The PL also ensures that equipment that cannot be repaired at platoon level is reported to company level maintenance as soon as possible using DA Form 5988E (*Equipment Inspection Maintenance Worksheet (EGA))* or DA Form 2404 *(Equipment Inspection and Maintenance Worksheet).*
  - Knowing the status of current platoon maintenance activities, including corrective actions for equipment faults, job orders to DS maintenance elements, and requisition of repair parts. The PL keeps his commander informed of the platoon's maintenance status.
  - Coordinating with the field maintenance team chief in planning, directing, and supervising unit maintenance for the platoon.
  - Developing and supervising an ongoing maintenance training program.
  - Ensuring that tank crews have appropriate technical manuals on hand and are trained and supervised to complete operator maintenance properly.

- Ensuring that operator-level preventative maintenance checks and services (PMCS) are performed on all assigned equipment in accordance with appropriate operator's manuals.
- Ensuring that drivers are trained and licensed to operate platoon vehicles and equipment.
- Planning and rehearsing a maintenance evacuation plan for every mission.

- **Platoon Sergeant.** The PSG has primary responsibility for most of the platoon's maintenance activities. His duties include the following:
  - Directing and supervising unit maintenance of platoon equipment, vehicles, and weapon systems. Because time constraints do not allow all equipment to have a PMCS conducted every day, the PSG needs to develop a schedule to ensure all equipment is checked in a reasonable time. At a minimum, weapons and vehicles must be checked daily.
  - Assisting the PL to comply with his responsibilities and assuming these responsibilities in his absence.
  - Coordinating with the 1SG to arrange organizational or DS maintenance.
  - Supervising and accounting for platoon personnel during maintenance periods.
  - Ensuring that repair parts are used or stored as they are received.
  - Collecting reports of the platoon's maintenance status in the field and sending the appropriate consolidated reports to maintenance personnel.
  - Ensuring that vehicles are always topped off with fuel in garrison and that they receive adequate fuel in the field.
  - Keeping the PL informed of the platoon's maintenance and logistics status.
- **Tank Commander's and Platoon Leader's Gunner.** The TCs and the gunner from the PL's tank are the platoon's first-line maintenance supervisors. In large part, the platoon's maintenance status, and thus its combat readiness, depends on their commitment to proper maintenance procedures. Their duties in this area include the following:
  - Ensuring that the equipment inspection and maintenance worksheet is filled out accurately and updated in accordance with DA Pam 750-8.
  - Ensuring that dispatch records are completed accurately and turned in on schedule.
  - Ensuring that the crew is properly trained in PMCS procedures and that PMCS are performed on the vehicle in accordance with the appropriate technical manuals. Soldiers must be made to use the appropriate TM, to ensure correct checks are being completed.

- Ensuring that, as a minimum, the assigned driver for each vehicle is properly trained and licensed. In preparing for continuous operations, the TC must ensure that all crew members are trained and licensed as drivers.
- Ensuring that repair parts are installed upon receipt or are stored in authorized locations.
- Ensuring that all tools and basic issue items (BII) are properly marked, stored, maintained, and accounted for.
- Ensuring that each vehicle is always topped off in garrison and that it receives as much fuel as possible at every opportunity in the field.
- Constantly updating the PSG on the maintenance and logistics status of the vehicle.

SECTION III – SUPPLY OPERATIONS

CLASSES OF SUPPLY

9-5. The PSG requests supplies and delivers them to the platoon. The PL establishes priorities for delivery; however, combat demands that Class I, III, V, and IX supplies and equipment take priority because they are the most critical to successfully operations. The classes of supply are—

- Class I. Rations, water, and ice.
- Class II. Clothing, individual equipment, mission-oriented protective posture suits, tents, tool sets, administrative and housekeeping supplies, and equipment.
- Class III. Petroleum, oils, and lubricants.
- Class IV. Construction and engineering materials, such as pickets, sandbags, and concertina wire.
- Class V. Ammunition and mines, including explosives.
- Class VI. Personal-demand items normally sold through the exchange system, which can include candy, soaps, cameras, and film.
- Class VII. Major end items.
- Class VIII. Medical material, including medical peculiar repair parts, optical eyewear, inserts, and protective lenses supplied through the battalion medical platoon.
- Class IX. Repair parts and documents required for equipment maintenance operations.
- Class X. Materials to support nonmilitary programs.
- Miscellaneous. Anything that does not fall in one of the existing classes of supply. (Refer to FM 10-27-4 for more information.)

RESUPPLY OPERATIONS

9-6. Resupply operations fall into one of three classifications: routine, emergency, or pre-stock. The company and platoon SOP should specify cues and procedures for each method. The platoon rehearses resupply operations during platoon training exercises. The actual method selected for resupply in the field depends on mission variables.

ROUTINE RESUPPLY

9-7. These operations include regular resupply of items in Classes I, III, V, and IX and of any other items requested by the company. Routine resupply is planned at battalion level and normally takes place at every opportunity. The logistics package (LOGPAC) comprises company and battalion assets that transport supplies to the company.

9-8. The company supply sergeant assembles his LOGPAC in the battalion field trains area under the supervision of the support PL from the forward support company (FSC) and the company 1SG. Replacements and hospital returnees travel to company locations on LOGPAC vehicles as required.

9-9. Once the LOGPAC is prepared for movement, the supply sergeant moves the vehicles forward from the field trains as part of the battalion resupply convoy to the logistics resupply point (LRP). The 1SG or his representative meets the LOGPAC and guides it to the company resupply point. The company then executes tailgate or service-station resupply; see the discussion of these resupply techniques later in this section.

PRESTOCK RESUPPLY

9-10. There are several techniques for accomplishing prestock resupply in the defense. Normally, Class V (ammunition) is positioned next to or within a vehicle's fighting position. This enables the tank crew to resupply during an engagement without displacing. Another technique is to locate Class V supplies en route to or within a successive battle position. Use of this method requires consideration of security procedures to safeguard the prestock. Resupply of Class III (specifically fuel) is usually accomplished behind a unit's current BP or en route to a successive BP. When the platoon must conduct this type of resupply in the defense, the PL directs the PSG to rotate vehicles or sections through prestock positions based on the enemy situation and shortages within the platoon. Security requires planning to prevent enemy dismounted/guerilla forces from destroying or sabotaging pre-stocked supplies.

9-11. As noted, pre-positioning of supplies in the offense is normally limited to refueling. The ROM technique is planned and organized at battalion or higher level to sustain vehicles during long movements. The goal of the ROM is to ensure that vehicles are topped off prior to possible contact with the enemy.

9-12. In all prestock operations, the platoon must have a plan for the destruction or removal of supplies to prevent their capture by the enemy. The plan should include information about the location of and routes to prestock sites.

EMERGENCY RESUPPLY

9-13. Emergency resupply, normally involving Class III and Class V, is executed when the platoon has such an urgent need for resupply that it cannot wait for the routine LOGPAC. Emergency resupply procedures start with immediate redistribution of ammunition in individual vehicles, followed by cross-leveling of ammunition within the platoon. It is better to have four tanks with 20 rounds of ammunition each than two tanks with 40 rounds and two others with none.

9-14. Once requested through the commander or 1SG, emergency supplies are brought forward. Based on the enemy situation, the platoon may have to conduct resupply while in contact with the enemy. Two techniques are used to resupply units in contact:

- Limited supplies are brought forward to the closest concealed position, where the tailgate technique of resupply is used.
- Individual vehicles or sections disengage and move to a resupply point, obtain their supplies, and then return to the fight. This is a version of the service-station technique.

Note. See the following discussion of the tailgate and service-station resupply techniques.

TECHNIQUES OF RESUPPLY

9-15. The tactical situation dictates which technique of resupply the platoon uses: tailgate, service station, a variation of one type, or a combination of both types. The situation also dictates when to resupply. Generally, the platoon should attempt to avoid resupply during the execution of offensive operations; resupply should be done during mission transition. Resupply is unavoidable during defensive missions of long duration.

Tailgate Resupply

9-16. In the tailgate technique, fuel and ammunition are brought to individual tanks (see Figure 9-1.). This method is used when routes leading to vehicle positions are available and the unit is not under direct enemy observation and fire. It is time-consuming, but it is useful in maintaining stealth during defensive missions because tanks do not have to move. If necessary, supplies can be hand carried to vehicle positions to further minimize signatures.

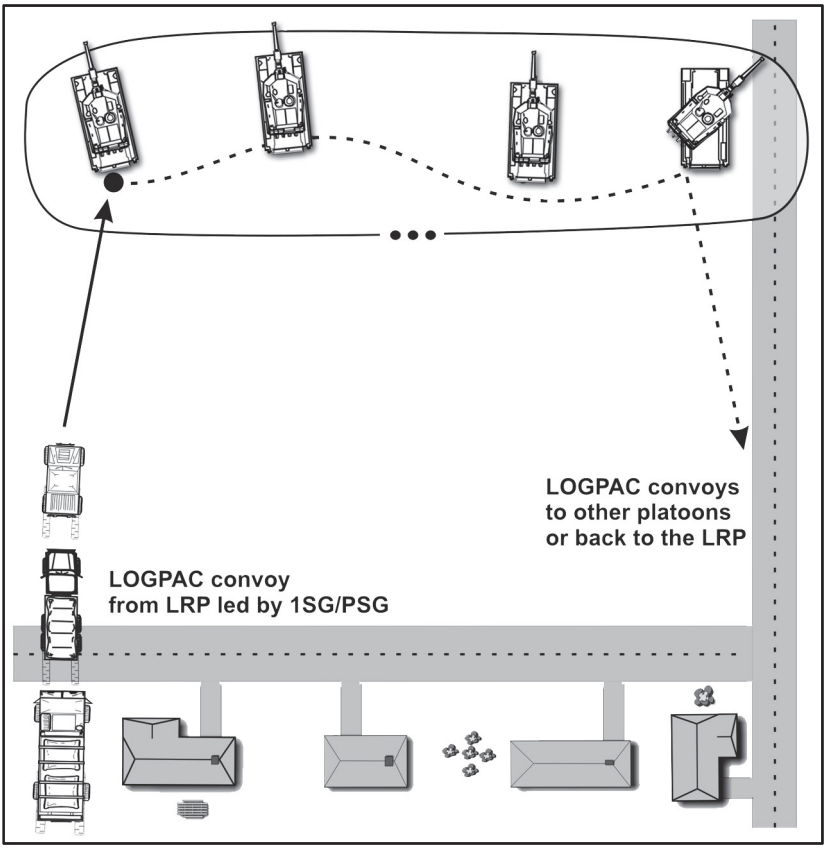

Figure 9-1. Tailgate resupply technique

Service-Station Resupply

9-17. In the service-station technique, vehicles move to a centrally located point for rearming and refueling, either by section or as an entire platoon (see Figure 9-2.). Service-station resupply is inherently faster than the tailgate method; because vehicles must move and concentrate, however, it can create security problems. During defensive missions, the platoon must be careful not to compromise the location of fighting positions.

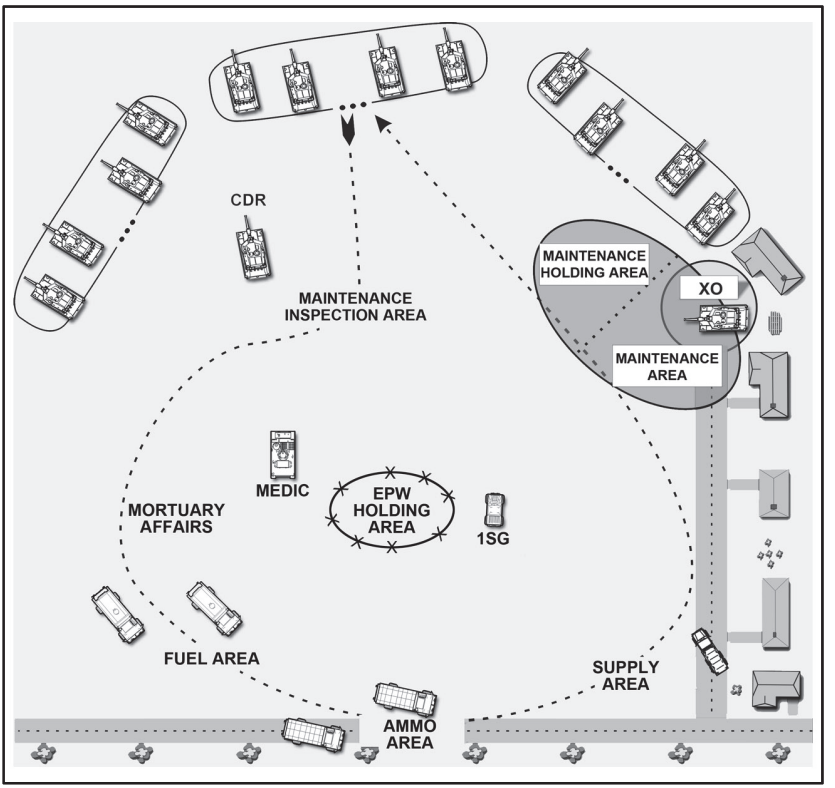

Figure 9-2. Service-station resupply technique

Variations and Combinations

9-18. The PL can vary the specifics of the two basic techniques, or he can use them in combination. During a defensive mission, for example, he may use the tailgate technique for a mounted forward OP and the service-station method for the remainder of the platoon located in hide positions. (Refer to FM 3-90.1 for more information.)

SECTION IV – UNIT BASIC AND COMBAT LOADS

BASIC LOAD

9-19. Basic loads are quantities of Class I through V and VIII supplies. Items from the basic load are used during peacetime only when no operational loads are available. (Refer to FM 10-27-4 for more information.)

9-20. The quantity of each item of supply in a basic load is based on the number of days the unit may have to sustain itself in combat without resupply.

9-21. For ammunition (Class V), the basic load is the quantity of ammunition required to be on hand to meet combat needs until resupply can be accomplished. The basic ammunition load is specified by the commander and is expressed in rounds, units, or units of weight, as appropriate.

COMBAT LOAD

9-22. The combat load is the quantity of supplies that the platoon must have on hand to sustain operations in combat for a prescribed number of days. Like the basic load, the platoon's combat load is specified by higher headquarters.

SECTION V – FUNCTIONS OF SUSTAINMENT

9-23. The functional elements of sustainment include supply, field services, transportation, maintenance, general engineering, human resources, FM, legal, religious support, and Army health services support. These elements and their many sub-functions comprise the sustainment warfighting functions.

9-24. The platoon has a large amount of equipment and requires frequent resupply to accomplish its mission. All leaders must make periodic checks to ensure that the platoon's equipment, especially high-use items, is accounted for and ready to use. They must anticipate supply expenditures and request resupply before an operation begins.

MAINTENANCE

9-25. Proper maintenance keeps equipment and materiel in serviceable condition. It includes PMCS, as well as inspecting, testing, servicing, repairing, requisitioning, recovering, and evacuating equipment and materiel when necessary.

9-26. There are two maintenance echelons:

- Field maintenance, which consists of crew, organizational, and DS maintenance.
- Sustainment maintenance, which consists of general support GS and some DS maintenance procedures.

9-27. The platoon maintenance structure is designed to support the "replace forward, repair rear" concept. This concept focuses on the field maintenance team (FMT) replacing unserviceable line replaceable units (LRU) and evacuating systems to higher levels for repair. Field maintenance primarily involves system maintenance procedures that are performed on or nearby a system to return it to mission-capable status. These procedures do not require disassembly of components after removal from the system.

9-28. Sustainment maintenance involves off-system maintenance procedures that support the supply system. These procedures generally require disassembly of components away from the combat system, and when repaired, are returned to the supply system rather than the user.

9-29. Repair and recovery take place as far forward as possible. When personnel cannot repair the equipment on site within two hours, they move the equipment to the nearest rear unit maintenance collection point (UMCP).

MAINTENANCE LEVELS

Field Maintenance - Operator

9-30. Operator maintenance includes proper care, use, and maintenance of assigned vehicles and crew equipment such as weapons, CBRN equipment, and night-vision devices. Checks and services prescribed for the automotive system, weapon systems, and turret are divided into three groups:

- Before operation.
- During operation.
- After operation.

9-31. The driver and other crew members perform daily checks and services on their vehicle and equipment, to include inspecting, servicing, tightening, performing minor lubrication, cleaning, preserving, and adjusting. The driver and gunner are required to record the results of checks and services, as well as all equipment faults and deficiencies that they cannot immediately correct, on the equipment inspection and maintenance worksheet. The worksheet is the primary means of reporting equipment problems through the TC to the PSG and PL and ultimately to FMT.

9-32. The M1A2 is equipped with embedded nonintrusive and intrusive diagnostic test capabilities; these include the built-in test (BIT) and fault isolation test (FIT). These tests enable crews to identify and isolate many system and component failures prior to the arrival of organizational mechanics. Unit SOP should specify how to report the results of these tests as well as identify the duties of organizational mechanics.

Note: Detailed vehicle and equipment checks and services are outlined in every operator's manual and should always be conducted as stated in the manual. Although operators must learn to operate equipment without referring to the manual, maintenance must be performed using the appropriate technical manual—not from memory.

Field Maintenance – Field Technician

9-33. Organizational maintenance is the responsibility of the unit assigned the equipment. It is performed by the operators and mechanics provided by the FSC of the brigade support battalion. Because the tank's design allows rapid modular replacement of parts, many faults can be corrected, and the vehicle returned to the platoon, with minimum delay.

9-34. When the operator identifies a problem that is beyond his level of maintenance capability, he notifies his chain of command so the problem can be isolated and corrected. The FMT provided by the FSC has trained mechanics who

are authorized to perform field maintenance tasks as prescribed in the technical manuals for the vehicle.

9-35. The built-in diagnostic tests on the M1A2 SEP (BIT/FIT) facilitate rapid replacement of defective components and systems. When the crew isolates a problem using these tests, the organizational mechanic can verify the fault as soon as he arrives on site and replace the component without further diagnostic testing.

9-36. Other functions performed by field maintenance technicians either at the FSC or BSB consist of repair and/or replacement of parts, assemblies, components, and limited fabrication. Maintenance support teams from DS units are usually located forward with the battalion field trains. These support teams may go forward to fix disabled equipment on site, but they are limited in what they can fix and where they can go.

Sustainment Maintenance

9-37. Sustainment maintenance entails operations employing job shops, bays, or production lines; it gives units the capability to task-organize to meet special mission requirements. Sustainment maintenance assets operate at EAC. Based on mission variables and the tactical situation, platoon- or team-size elements may be moved as far forward as necessary to fulfill support requirements. (Refer to ATP 4-33 for more information.)

EVACUATION/DESTRUCTION OF EQUIPMENT

9-38. Evacuation is necessary when a damaged vehicle cannot be repaired on site within two hours or when evacuation is the only means available to prevent capture or destruction by the enemy. When a vehicle needs to be evacuated, the PL or PSG reports its exact location, the vehicle type, and the extent of damage, if known, on the company network to personnel designated in the unit SOP. The crew should remain with the vehicle to assist in evacuation and repair, to provide security, and to return the repaired vehicle to the platoon as soon as possible.

9-39. A recovery vehicle from the company or battalion maintenance team evacuates the damaged vehicle. It is vital that the crew move the damaged vehicle to a covered position that allows the recovery vehicle to reach it without exposing the recovery crew to enemy fire. The vehicle is evacuated to an LRP, to the main supply route (MSR), or to the UMCP as necessary.

9-40. The recovery team normally employs an M88A1/A2 recovery vehicle. This vehicle travels with the field maintenance team under the direction of the 1SG.

9-41. If a recovery vehicle is not available or if time is critical, other platoon vehicles can evacuate the damaged vehicle for short distances. The decision to do this rests with the PL. Towing procedures are outlined in the operator's manual. Self-evacuation by the platoon is a last resort that should be considered only to prevent losing the damaged vehicle to the enemy.

MEDICAL TREATMENT AND EVACUATION

9-42. The following are procedures for medical treatment and evacuation.

HEALTH AND HYGIENE

9-43. Leaders must emphasize high standards of health and hygiene. Soldiers must shave daily so their protective masks will seal; bathing and changing clothes regularly are essential in preventing disease. Each crewman should carry shaving equipment, soap, a towel, and a change of clothing in a waterproof bag inside his pack.

9-44. During cold weather, Soldiers must check their hands and feet regularly to prevent such conditions as frostbite, trench foot, and immersion foot. They must also learn that the effects of wind-chill on exposed skin are equal to those of temperatures much lower than the thermometer shows. A moving vehicle causes a windchill effect even if the air is calm.

9-45. During hot weather, heat injuries are a major concern. Heat injuries can occur anywhere, depending on physical activity and clothing worn. It is important for Soldiers to remain hydrated. Hot weather increases daily water requirements, because the body water is lost through sweat. Dehydration leads to heat stress, reduces work performance, and degrades mission capabilities.

9-46. Field sanitation teams are trained in preventive medicine measures (PMM) and in treatment of disease and nonbattle injuries (DNBI). They may advise the company commander and PL on the implementation of unit-level procedures for PMM and DNBI. (Refer to FM 21-10 for more information.)

CASUALTY EVACUATION

9-47. Casualty evacuation is the movement of casualties aboard nonmedical vehicles or aircraft. Casualties transported in this manner may not receive proper en route medical care or be transported to the appropriate medical treatment facility to address the patient's medical condition. If the casualty's medical condition deteriorates during transport, or the casualty is not transported to the appropriate medical treatment facility, an adverse impact on his prognosis and long-term disability or death may result. When possible, nonmedical vehicles and aircraft should be augmented with a combat medic or combat lifesaver (CLS). The type of en route monitoring or medical care/first aid provided may also be limited. Casualty evacuation should only be used in extreme emergencies or when the medical evacuation system is overwhelmed.

Crew Responsibilities

9-48. It is the TC's responsibility to make sure that WIA crewmen receive immediate first aid and that the PL or PSG is notified of all casualties. The use of crewmen who are trained as CLS is absolutely critical. As a minimum, one member of each tank crew must be a trained CLS. Ideally, however, each crewman should be a CLS. According to unit SOP, TCs need to mark their vehicles so that the unit medics can identify where casualties are located and who has priority.

Evacuation Procedures

9-49. If wounded crewmen require evacuation, the PL or PSG takes one of the following steps:

- Coordinate with the 1SG or company combat medic for ground evacuation.
- Coordinate with the company commander for self-evacuation using organic platoon assets.
- Coordinate with the 1SG or company commander for aerial evacuation.

9-50. Regardless of the method of evacuation, all TCs must have the necessary sustainment graphics available, including casualty collection points for the company and/or combined arms battalion/squadron. Evacuation procedures must be included in the platoon plan and should be rehearsed as part of mission preparation.

9-51. Aerial evacuation, if it is available, is preferred because of its speed. The PL or PSG coordinates with higher headquarters and then switches to the designated frequency to coordinate directly with aerial assets for either medical evacuation (MEDEVAC) or CASEVAC services. He must pick a relatively flat, open, and concealed position for the aircraft's landing zone. The location should be given to the aircraft by radio and marked with colored smoke as the aircraft approaches the area. The platoon provides local security of the landing zone until the evacuation is complete.

Actions Following Evacuation

9-52. After evacuation is complete, the PSG compiles and submits witness statements and casualty feeder reports in accordance with unit SOP. See DA Form 1156 (*Casualty Feeder Card*) for a sample casualty feeder report. The PL redistributes crewmen and, as necessary, directs TCs to take the actions necessary to prepare for operations at reduced manpower levels.

9-53. A wounded crewman's individual weapon becomes the responsibility of the TC, or senior remaining crewmen. Personal effects, weapons, and equipment are turned in to the company supply sergeant at the earliest opportunity. The crewman's protective mask stays with him at all times. All sensitive items remain with the vehicle; these include maps, overlays, and SOPs.

MEDICAL EVACUATION

9-54. Medical evacuation is performed by dedicated, standardized vehicle and aircraft medical evacuation platforms with medical professionals who provide the timely, efficient movement and en route care of the wounded, injured, or ill persons from the battlefield and/or other locations to the supporting medical treatment facilities. The provision of en route care on medically equipped vehicles or aircraft greatly enhances the patient's potential for recovery and may reduce long-term disability by maintaining the patient's medical condition in a more stable manner.

SOLDIERS KILLED IN ACTION

9-55. The company commander designates a location for collection of personnel killed in action (KIA). The remains of each KIA Soldier are placed in a body bag or sleeping bag or rolled in a poncho and are evacuated by the PSG or 1SG. The lower dog tag is removed and retained by the PSG or 1SG. The personal effects of the KIA Soldier remain with the body. The Soldier's weapon, equipment, and issue items become the responsibility of the TC until they can be turned over to the supply sergeant or 1SG.

9-56. As a rule, the bodies of KIA Soldiers should not be placed on the same vehicle as wounded Soldiers. If the PSG or 1SG cannot expedite evacuation, however, a vehicle may have to carry dead and wounded personnel together to its next stop. In the attack, this may be the objective. In the defense, it may be the next BP.

SECTION VI – DETAINED PERSONS

9-57. Detained persons and captured equipment and materiel often provide excellent combat information. This information is of tactical value only if the platoon processes, accurately documents, and evacuates detainees and materiel to the rear quickly.

9-58. In any tactical situation, the platoon has specific procedures and guidelines for handling detainees and captured material. The five "S" procedure (search, segregate, silence, speed, and safeguard) reminds Soldiers of the basic principles for handling detained personnel, to include tagging personnel and all captured equipment and materiel.

9-59. In addition to initial processing, the capturing unit provides guards and transportation to move detainees to the designated collection points. The capturing unit normally carries detainees on vehicles already heading toward the rear, such as tactical vehicles returning from LOGPAC operations. The capturing element must also feed, provide medical treatment, and safeguard detainees until they reach the collection point.

9-60. Once the detained personnel arrive at the collection point, the PSG assumes responsibility for them. He provides for their security and transports them to the company collection point. He uses available personnel as guards, to include the walking, wounded, or Soldiers moving to the rear for reassignment.

Glossary

Acronym/Term	*Definition*
1SG	first sergeant
A	
AA	assembly area
AAR	after action report
ADA	air defense artillery
ambush	An attack by fire or other destructive means from concealed positions on a moving or temporarily halted enemy (FM ADP-0).
AO	area of operation
APC	armored personnel carrioer
APDS	armor-piercing discarding sabot
ARNG	Army National Guard
ARNGUS	Army National Guard of the United States
ASCOPE	areas, structures, capabilities, organizations, people, events
assault	To make a short, violent, but well-ordered attack against a local objective, such as a gun emplacement, a fort, or a machine gun nest (FM 1-02).
assault force	Those forces charged with passing through a breach in an enemy fortified position or strong point and seizing an objective or completing the destruction of the enemy. An assault forces are also, those forces charged with the seizure of the objective in the attack (FM 1-02).
AT	Antitank
ATGM	Antitank guided missile
ATP	Army tactics, techniques, and procedures
attack-by-fire position	Attack-by-fire position designates the general position from which a unit conducts the tactical mission task of attack by fire (FM 1-02).
attack position	The last position an attacking force occupies or passes through before crossing the line of departure (FM 1-02)

Acronym/Term	*Definition*
B	
back brief	A briefing by subordinates to the commander to review how subordinates intend to accomplish their mission.
battle handover line	A designated phase line on the ground where responsibility transitions from the stationary force to the moving force and vice versa (FM 1-02)
BCT	brigade combat team
BDA	battle drill acquistion
BFIST	Bradley fire support team
BFSB	battlefield surveillance brigade
BHL	battle handover line
BII	basic issue items
BIT	built-in test
BP	battle position
BSB	brigade support battalion
C	
CAB	combined arms battalion
canalize	A tactical mission task in which the commander restricts enemy movement to a narrow zone by exploiting terrain coupled with the use of obstacles, fires, or friendly maneuver (FM 3-90).
CAS	close air support
CASEVAC	casualty evacuation
CBRN	chemical, biological, radiological, nuclear
CBRNE	chemical, biological, radiological, nuclear, and high-yield explosives
CBRNWRS	chemical, biological, radiological, nuclear warning and reporting system
CCP	casualty collection points
CID	combat identification
CITV	commander's indepenent thermal viewer
CLS	combat lifesaver

Acronym/Term	*Definition*
counterattack	An attack by part or all of a defending force against an enemy attacking force, for such specific purposes as regaining ground lost or cutting off or destroying enemy advance units, and with the general objective of denying to the enemy the attainment of the enemy's purpose in attacking. In sustained defensive operations, it is undertaken to restore the battle position and is directed at limited objectives (JP 1-02).
COA	course of action
CP	command post
CRM	composite risk management
CRP	communication relay package
D	
DNBI	disease and non-battle injuries
DOD	Department of Defense
DOTD	Directorate of Training and Doctrine
DPICM	dual-purpose improved conventional munitions
DSCA	defense support of civil authorities
DS	direct support
DTMS	Digital Training Management System
E	
EA	engagement area
EAC	echelons above corps
engagement	A tactical conflict, usually between opposing, lower echelon maneuver forces.
engagement criteria	Protocols that specify those circumstances for initiating engagement with an enemy force.
EPW	enemy prisoner of war
ETAC	enlisted terminal air controller
F	
FA	field artillery
FAC	forward air controller
FBCB2	Force XXI Battle Command Brigade and Below
FDC	fire direction center
FIST	fire support team

Acronym/Term	*Definition*
FIT	fault isolation test
FMT	field maintenance team
FOB	forward operating bases
FPF	final protective fires
FPL	final protective line
FRAGORD	fragmentary order
FSC	forward support company
FSCL	fire support coordination line
FSE	fire support element
G	
GPS	global positioning system
GS-R	general support-reinforcing
GS	general support
H	
HB	heavy barrel
HEAT	high-explosive antitank
HE	high explosive
HMMWV	high mobility multipurpose wheeled vehicle
HQ	headquarters
I	
IED	improvised explosive device
IPB	intelligence preparation of the battlefield
K	
KIA	killed in action
L	
LD	line of departure
line of departure	A phase line crossed at a prescribed time by troops initiating an offensive operation (FM 1-02/MCRP 5-12A).

Acronym/Term	*Definition*
linkup point	The point where two infiltrating elements in the same or different infiltration lanes are scheduled to meet to consolidate before proceeding on with their missions (FM 1-02/MCRP 5-12A).
LOGPAC	logistics package
LOS	line of sight
LRF	laser range finder
LRP	logistics resupply point
LRU	line replaceable units
M	
MCoE	Maneuver Center of Excellence
MDMP	military decision-making process
MEDEVAC	medical evacuation
MEL	maximum engagement line
METT-TC	mission, enemy, terrain and weather, troops and support available, time available, civil considerations
MMS	Mast-mounted sight
MOPP	Mission-oriented protective posture
MPAT	multipurpose antitank
MPAT-OR	multipurpose antitank-obstacle reducing
MSR	main supply route
MTC	movement to contact
N	
NCO	noncommissioned officer
NCS	net control station
NLT	not later than
O	
OAKOC	obstacles, avenues of approach, key terrain, observation, cover and concealment
OE	operational environment
OP	observation post
OPCON	operational control
OPORD	operation order

Acronym/Term	*Definition*
OPSEC	operation security
OT	observer-target
P	
PCC	precombat checks
PCI	precombat inspections
phase line	A line utilized for control and coordination of military operations, usually an easily identified feature in the operational area (JP 3-09).
PH	probability of hit
PK	probability of kill
PL	platoon leader
PMCS	preventative maintenance checks and services
PMESII-PT	political, military, economic, social, information, infrastructure, physical environment, time
PMM	preventive medicine measures
POL	petroleum, oils, and lubricants
POSNAV	positioning/navigation
PSG	platoon sergeant
R	
RALS	right add, left subtract
REDCON	readiness condition
RFL	restrictive fire line
ROE	rules of engagement
ROM	refuel on the move
ROMO	range of military operations
route reconnaissance	A directed effort to obtain detailed informa-tion of a specified route and all terrain from which the enemy could influence movement along that route.
RP	release point
RS	reinforcing support
S	
SA	situational awareness
SALUTE	size, activity, location, unit, time, and equipment
SBF	support by fire

Acronym/Term	*Definition*
search and attack	A technique for conducting a movement to contact that shares many of the characteristics of an area security mission
SEP	system enhancement package
SITREP	situation report
SITTEMP	situation template
SOP	standard operating procedure
SP	start point
SPOTREP	spot report
striking force	A dedicated counterattack force in a mobile defense constituted with the bulk of available combat power.
support by fire	A tactical mission task in which a maneuver force moves to a position where it can engage the enemy by direct fire in support of another maneuvering force.
SU	situational understanding
T	
TA	target acquisition
TACFIRE	tactical fire direction system
TACON	tactical control
TC	tank commander
TCP	traffic control point
TDA	table of distribution and allowance
TIS	thermal imaging system
TLP	troop-leading procedure
TOC	tactical operations center
TOE	table of organization
TRADOC	U.S. Army Training and Doctrine Command
TRP	target reference point
TTP	tactics, techniques, and procedures
U	
UAS	unmanned aircraft system
UMCP	unit maintenance collection point
USAF	United States Air Force
USAR	United States Army Reserve

Acronym/Term	*Definition*
V	
VT	**variable time**
W	
WARNORD	warning order
WCS	weapons control satus
WIA	wounded in action
WMD	weapons of mass destruction
WP	white phosphorus
X	
XO	executive officer

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