ATP 3-20.16

Mobile Gun System Platoon

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Mobile Gun System Platoon

Contents

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Figures

Tables

Preface

Army Tactics and Procedures (ATP) 3-20.16 covers the mobile gun system platoon's organization and functions; its internal roles and responsibilities as well as its roles within the Stryker brigade combat team Infantry rife company; the platoon's capabilities and limitations; and the doctrinal guidance, tactics, and procedures the platoon uses in unified land operations.

ATP 3-20.16 provides doctrinal guidance for commanders, staff, and leaders, who plan, prepare, execute, and assess operations of mobile gun system platoons. It is also intended for mobile gun system platoon leaders, platoon sergeants, team leaders, Stryker brigade combat team company level leaders, and supporting units.

It serves as an authoritative reference for personnel who develop doctrine (fundamental principles and tactics, techniques, and procedures), material and force structure, institutional and unit training, and mobile gun system platoon standard operating procedures.

The doctrinal principles and procedures contained in ATP 3-20.16 are to be used as a guide and are not considered prescriptive. ATP 3-20.16 outlines the framework in which mobile gun system platoons operate, either alone or together as part of the combined arms company team. ATP 3-20.16 also includes discussions of doctrine applicable to all mobile gun system platoons.

This publication applies to the Active Army, 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.

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Chapter 1

Introduction

The mobile gun system (MGS) platoon is a versatile force capable of conducting decisive action in differing environments. The MGS platoon relies on the principles of war and the dynamics of combat power to operate effectively. This chapter provides an overview of the operational environment (OE), the continuum of operations, threats, the Army's operational concept of unified land operations, and combat power. It discusses the doctrine that is the basis for MGS platoon procedures, mission command, command and support relationships, and planning considerations.

SECTION I –TEXT REFERENCES

1-1. Table 1-1 contains the references used in this chapter.

Table 1-1. Guide for subjects referenced in text

Subject	*References*
Operational Environment	ADP 3-0
Threats	FM 2-0
Hybrid Threats	TC 7-100
Continuum of Operations	ADP 3-0
Unified Land Operations	ADP 3-0
Combat Power	ADP 3-0
Mission Command	ADP 3-0
Leadership	FM 6-22
Command	JP 1
Graphic Control Measures	FM 1-02
Navigation	FM 3-25.26
Operational Variables	ADP 3-0
Mission Variables	ADP 6-0
Troop-Leading Procedures	FM 3-21.11
Troop-Leading Procedures	ADP 5-0
Risk Management	FM 5-19

SECTION II – OVERVIEW

1-2. This section contains discussions about the OE, combat power, threats, range of military operations, and the warfighting functions.

OPERATIONAL ENVIRONMENT

1-3. The OE of the MGS platoon is a composite of conditions, circumstances, and influences that affect the employment of capabilities and bear on the decisions of the commander. The OE of an MGS platoon includes all threat, friendly, and neutral systems across the range of military operations. It also includes an understanding of the physical environment (air, land, maritime, and space domains), the information that shapes the OE, state of governance, technology, local resources, and culture of the local population. The OE for each operation is different and evolves as the operation progresses.

THREATS

1-4. The MGS platoon leaders (PL) and platoon sergeants (PSGs) must ensure that every member of the platoon is trained and prepared to defend against threats commonly identified on the battlefield. Threats include nation states; organizations; people; groups; conditions; or natural phenomena able to damage or destroy life, vital resources, or institutions. (Refer to FM 2-0 for more information.) Threats are described in the following four major categories or challenges:

- **Traditional.** Traditional threats emerge from states that employ recognized military capabilities and forces in understood forms of military competition and conflict.
- **Irregular.** Irregular threats are posed by an opponent who employs unconventional, asymmetric methods and means to counter traditional U.S. advantages.
- **Catastrophic.** Catastrophic threats involve the acquisition, possession, and use of chemical, biological, radiological, or nuclear (CBRN) weapons.
- **Disruptive.** Disruptive threats involve an enemy using new technologies that reduce U.S. advantages in key operational domains.

HYBRID THREATS

1-5. Hybrid threats are characterized by the combination of regular and irregular forces. Regular forces are governed by international law, military tradition, and custom. Irregular forces are unregulated and as a result, act

with no restrictions on violence or targets for violence. (Refer to TC 7-100 for more information.)

CONTINUUM OF OPERATIONS

1-6. The continuum of operations frames the application of land power. It includes the range of military operations.

RANGE OF MILITARY OPERATIONS

1-7. The range of military operations is an ascending scale of violence ranging from stable peace to general war. It is the backdrop for Army operations. The four levels of range of military operations are—

- **Stable peace**. This is characterized by the absence of significant military violence.
- **Unstable peace**. This occurs when one or more parties threaten or use violence to achieve their objective.
- **Insurgency**. This means subversion and violence by a group or movement that seeks to overthrow or force change of a governing authority.
- **General war**. This is armed conflict between major powers in which the total resources of the belligerents are employed and the survival of a belligerent is in jeopardy.

1-8. The range of military operations describes the dominant major operation being conducted at any time within a land force commander's area of operation (AO). It conveys the nature of the major operation to help the MGS PL understand how the commander broadly intends to operate, and has implications for task organization, resource allocation, protection, and tactical task assignment.

UNIFIED LAND OPERATIONS

1-9. The Army's operational concept is the core of its doctrine. The operational concept provides a framework for how all Army forces conduct operations at all levels. It describes how Army forces adjust to fulfill the requirements for land operations.

1-10. The Army's operational concept is decisive action. That is, Army forces combine offensive, defensive, and stability or defense support of civil authorities (DSCA) simultaneously to seize, retain, and exploit the initiative, accepting prudent risk to create opportunities to achieve decisive results. Army forces employ synchronized action—lethal and nonlethal—proportional to the mission; participants obtain information through a thorough understanding of all variables of the OE. Mission command

conveys intent, and an appreciation of all aspects of the situation guides the adaptive use of Army forces.

1-11. Decisive action requires continuous, simultaneous combinations of offensive, defensive, and stability or DSCA support tasks. The Stryker brigade combat teams (SBCTs) must be prepared to conduct any combination of the following primary operations either independently or as part of a larger force:

- **Offense**. Offensive operations are combat operations that forces conduct 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.
- **Defense.** Defensive operations are combat operations that forces conduct 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.** Stability operations include various missions, tasks, and activities conducted outside the United States in coordination with other instruments of national power. The goals of stability operations are 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.** This refers to the Department of Defense's (DOD) support of U.S. civil authorities for domestic emergencies, and for designated law enforcement and other activities. Forces conduct DSCA operations only within the United States and U.S. possessions and territories. Army forces conduct DSCA operations when the size and scope of events exceed the capabilities or capacities of domestic civilian agencies. Army DSCA operations include the following four primary tasks:
  - Providing support in response to disaster or terrorist attack.
  - Providing support for domestic chemical, biological, radiological, nuclear, and high-yield explosive (CBRNE) incidents.
  - Supporting civil law enforcement.
  - Providing other support as required.

COMBAT POWER

1-12. Combat power is the total means of a unit's destructive, constructive, and information capabilities that Soldiers can apply at a given time. MGS platoons generate combat power by converting potential into effective action. The MGS PL conceptualizes the capabilities of the MGS platoon in terms of combat power. There are eight elements of combat power: leadership, information, mission command, movement and maneuver, intelligence, fires, sustainment, and protection. Leadership and information are applied throughout and multiply the other six elements of combat power. The remaining six elements (mission command, movement and maneuver, intelligence, fires, sustainment, and protection) are collectively known as the warfighting functions.

LEADERSHIP

1-13. Leadership is the multiplying and unifying element of combat power. Confident, competent, and informed leadership intensifies the effectiveness of all other elements of combat power. (Refer to FM 6-22 for more information.)

INFORMATION

1-14. The MGS PL uses information to understand, visualize, describe, and direct the warfighting functions within the platoon. Soldiers constantly use information to persuade and inform target audiences. They also depend on data and information to increase the effectiveness of the warfighting functions.

WARFIGHTING FUNCTIONS

1-15. Warfighting functions are a group of tasks and systems (people, organizations, information, and processes) united by a common purpose that commanders use to accomplish missions and training objectives.

1-16. The MGS PL pays close attention to the considerations that apply to the warfighting functions while planning, preparing, and executing operations. The warfighting functions are—

- **Mission command.** Mission command is related tasks and systems that support commanders in exercising authority and direction.
- **Movement and maneuver.** Movement and maneuver are related tasks and systems that move forces to achieve a position of advantage in relation to an enemy.

- **Intelligence.** Intelligence is related tasks and systems that facilitate understanding of the OE, enemy, terrain, and civil considerations.
- **Fires.** Fires are related tasks and systems that provide collective and coordinated use of the Army indirect and joint fires, including nonlethal fires, through the targeting process.
- **Sustainment.** Sustainment is related tasks and systems that provide support and service to ensure freedom of action, extend operational reach, and prolong endurance.
- **Protection.** Protection is related tasks and systems that preserve the force so the commander can apply maximum combat power.

SECTION III – MISSION COMMAND

1-17. Mission command is the exercise of authority and direction by the commander, who uses mission orders to enable disciplined initiative within the commander's intent to empower agile and adaptive leaders in the conduct of unified land operations. It is commander-led and blends the art of command and the science of control to integrate the warfighting functions to accomplish the mission.

FUNDAMENTALS OF MISSION COMMAND

1-18. Mission command is both a philosophy of command and a warfighting function. To account for the uncertain nature of operations, mission command (as opposed to detailed command) tends to be decentralized and flexible. This uncertain nature requires an environment of mutual trust and shared understanding among commanders, subordinates, and partners.

1-19. When exercising mission command, the MGS PL, assisted by the PSG, employs a variety of techniques to prepare the platoon for conduct of operations. Through mission orders, the PL focuses his order on the purpose of the operation to allow his subordinates the greatest possible freedom of action to accomplish assigned tasks.

1-20. The mission command warfighting function assists with blending the art of command with the science of control, while emphasizing the human aspects of mission command. Mission command systems include, but are not limited to, the arrangement of personnel, networks, information systems, process and procedures, and facilities and equipment.

COMMAND

1-21. 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 resources and for planning the employment of, organizing, directing, coordinating, and controlling military forces for the accomplishment of the assigned mission. It also includes responsibility for health, welfare, morale, and discipline of assigned personnel. (Refer to ADP 3-0 and JP 1 for more information.)

1-22. The authority of command provides the basis for control and is considered more art than science because it depends on actions only humans can perform. The art of command is the creative and skillful exercise of authority through decisionmaking and leadership. The elements of command are authority, decisionmaking, and leadership.

1-23. Authority refers to the right and power to judge, act, or command. It includes responsibility, accountability, and delegation. The PL relies on his education, experience, knowledge, and judgment in applying authority as he makes decisions and leads.

1-24. Decisionmaking includes knowing whether or not to decide and when and what to decide and understanding the consequences of the decision. At the platoon level, many decisions are based upon standard operating procedures (SOPs) and standard unit drills. Standard operating procedures and drills cover an array of routine and emergency actions, such as evacuation of wounded Soldiers, rearming and resupply procedures, and actions on contact. They enable the platoon to operate quickly and efficiently without constant guidance from the PL. Standard operating procedures are especially critical in maintaining combat preparedness when leaders are tired or are under stress as a result of continuous operations.

1-25. Leadership refers to the process of influencing people by providing purpose, direction, and motivation, while operating to accomplish the mission and improve the organization. The MGS vehicle commander (VC) must be an expert at Armor operations, proficient in Infantry platoon mounted and dismounted operations, and knowledgeable of company operations. Competent, confident leadership instills in Soldiers the will to win and provides them with purpose, direction, and motivation in combat. (Refer to ADP 6-0 for more information.)

CONTROL

1-26. Control is the regulation of forces and warfighting functions to accomplish the mission according to the commander's intent. The MGS PL

exercises control by defining limits, computing requirements, allocating resources, monitoring performance, adjusting operations to account for changing conditions, and directing subordinate actions to accomplish the commander's intent. The elements of control are information, communication, and structure.

1-27. Information supports mission command and is accurate, timely, usable, complete, precise, and reliable. Relevant information fuels understanding and fosters initiative.

1-28. Communication allows the dissemination and sharing of information and provides the means through which to exercise immediate and personal control over his unit. Communication is more than the transmission of information; it is an important factor that builds trust, cooperation, cohesion, and shared understanding.

1-29. Structure is a defined organization that establishes relationships and determines interactions among its elements or a procedure that establishes relationships among its activities. Structure encourages collaboration, enabling subordinates to quickly and competently exchange information, reach decisions, and facilitate operational adaptability.

1-30. Determining the appropriate degree of control is situation dependent and a key aspect of mission command. Certain operations or phases of an operation require tighter control than others.

1-31. Span of control is the number of subordinates or activities under a single commander that should not exceed his capability to command effectively.

1-32. The two basic forms of control required during military operations are—

- **Procedural.** This is the technique for regulating forces where actions are governed by written or oral instructions and which do not require authorization to execute.
- **Positive.** This is the technique for actively regulating forces that requires explicit coordination between commanders and subordinate leaders.

1-33. Control measures are the means of regulating forces or warfighting functions. Control measures provide procedural control without requiring detailed explanations. They can be permissive (which allows something to happen) or restrictive (which limits how something is done).

ORDERS AND REPORTS

1-34. The MGS platoon receives and transmits information using orders and reports, from the earliest notification that an operation will occur through the final phases of execution. The PL and PSG must have precise knowledge of orders' formats and reporting procedures. At the same time, they must ensure that every member of the platoon understands how to receive and respond to the various types of orders and how to compile and submit accurate, timely reports.

1-35. An order is a communication (written, oral, or by signal) that conveys instructions from a superior to a subordinate. Orders the MGS platoon uses are warning orders (WARNOs), operation orders (OPORDs), and fragmentary orders (FRAGOs).

1-36. Reports are a unit's primary means of providing information for plans and decisions. Reports must be accurate, timely, and complete. Force XXI Battle Command Brigade and Below (FBCB2) streamlines the reporting process by providing standardized report formats through digital communications. Procedures for preparing, transmitting, and safeguarding reports vary from unit to unit and from situation to situation. For that reason, reporting formats and procedures will be thoroughly covered in the unit and platoon SOPs. (Refer to ADP 5-0 for further information.)

MAPS, OVERLAYS, GRAPHIC CONTROL MEASURES, AND NAVIGATION

1-37. Maps, overlays, graphic control measures, and navigation are described in the paragraphs below.

MAPS AND OVERLAYS

1-38. The MGS PL uses maps and overlays that are prepared on the FBCB2 and are sent digitally to the VC. The PL may receive one or more types of overlays from commanders covering such areas as maneuver, enemy forces, obstacles, and fire support. While this information is important, VCs should use the FBCB2 to filter out unnecessary or supplemental information. This simplifies the overlay and makes it easier to use.

1-39. The FBCB2 is the primary tool the PL uses to organize information concerning the battlefield and to synchronize his assets once the battle begins. The most important role of maps and accompanying overlays posted to the FBCB2, is to help the platoon understand and visualize the scheme of maneuver. Maps also provide VCs with a visual reference to be consulted as

needed. The PL must ensure that each VC has an updated map with the latest graphic control measures posted on the overlays.

1-40. Maps and overlays also assist the PL in performing other functions. During reconnaissance operations, the PL consults his maps and overlays constantly. He does this because reconnaissance operations can vary in complexity, from a quick map reconnaissance to a fully mounted ground reconnaissance of the AO. Maps and overlays help him to communicate the company commander's concept when he issues the OPORD or briefs the VCs on the plan. During mission execution, maps and overlays play an invaluable role in helping leaders maintain situational awareness (SA).

Note. A traditional map and overlay should always be maintained by every vehicle crew in case of a communications failure.

GRAPHIC CONTROL MEASURES

1-41. Graphic control measures are considered rigid and unchangeable. However, placement of platoon battle positions (BPs) should be directed by the terrain and commander's intent as opposed to BPs drawn on a map. Control measures assist the PL in identifying the necessary coordination that must be accomplished with adjacent platoons.

1-42. Graphic control measures provide clarity when an order is issued, and aid mission command once the MGS vehicle begins executing the operation. (Refer to FM 1-02 for more information.)

NAVIGATION

1-43. To maneuver and protect his platoon, the PL must use terrain to his advantage. Land navigation of MGSs requires that the PL master the technique of terrain association. This entails him having the ability to identify terrain features on the ground by the contour intervals depicted on the map. The PL analyzes the terrain using the factors of obstacles, avenues of approach, key terrain, observation, cover and concealment (OAKOC). It also identifies major terrain features, contour changes, and man-made structures along his axis of advance. As the platoon advances, he uses these features to orient the platoon and to associate ground positions with map locations.

1-44. The PL must constantly be aware of key terrain and enemy fields of observation and fire that may create danger areas as the platoon advances. This allows him to modify movement techniques, formations, and routes. He can also maintain cross talk with overwatch elements to ensure the platoon is not surprised by the enemy.

1-45. Navigation under limited visibility conditions is especially challenging. The FBCB2 is the most useful tool in limited visibility conditions. Vehicle thermal sights and night vision devices also provide assistance in these conditions.

1-46. The platoon can employ a variety of techniques and equipment such as using smoke and global positioning systems (GPSs) to assist navigation. (Refer to FM 3-25.26 for more information.)

COMMUNICATIONS

1-47. The primary means of communication for the MGS platoon is frequency modulation (FM). Digital equipment (such as FBCB2) is the secondary means of communication. Both are used to transmit accurate and timely information, which enhances the PL's decisionmaking process and ability to employ effective fires to defeat the enemy.

1-48. FBCB2 is a system of computers, GPSs, and communications systems that work together to provide unprecedented amounts of real-time information to combat leaders. FBCB2 is a battlefield visualization tool that enables the platoon to—

- Maintain friendly situational understanding (SU).
- Track actual and templated enemy positions and obstacles.
- Submit preformatted standardized reports (such as size, activity, location, and time [SALT], situation report [SITREP], medical evacuation [MEDEVAC], CBRN, and call for fire).
- Rapidly disseminate graphic overlays and written FRAGOs.
- Maneuver in dispersed formations.

1-49. During virtually all maneuver and combat operations, dispersion forces the MGS platoon to rely heavily on effective communications by FBCB2, wire, visual signals, and radio. The platoon must understand the proper procedures for using the available systems and the proper application of operational terms. The platoon must also know the procedures for constructing and sending effective, concise messages using each type of system. The tactical situation dictates the communications system the MGS platoon will employ.

MEANS OF TACTICAL COMMUNICATIONS

1-50. The MGS platoon has several means of communications. The PL must carefully plan the use of these resources. He must ensure there is redundancy in the platoon's communications systems, while avoiding dependence on any single means.

1-51. All SOPs play a critical role in ensuring that platoon communications enhance SU and contribute to mission accomplishment. They prescribe prearranged signals that can aid platoon movement by reducing FM and digital transmission times. Other means of communications include (but are not limited to)—

- **Messenger.** Messenger is the most secure means of communications when time permits.
- **Wire.** Wire hot loops from vehicle to vehicle or vehicle to observation post (OP). These are effective in static positions.
- **Visual.** Visual hand-and-arm signals, flags, and flashlights can be used to transmit prearranged messages over short distances.
- **Pyrotechnics.** Pyrotechnics are another technique used to signal prearranged visual messages, such as flares.
- **Sound.** Sound is used to attract attention, transmit prearranged messages, and spread alarms.
- **Radio.** Radio is the most flexible, frequently used, and secure means of communications.

MOBILE GUN SYSTEM PLATOON NETS

1-52. The MGS PL, PSG, VCs, and crewmen employ and monitor the following radio nets.

Platoon

1-53. The MGS platoon net is the key to mission command of the platoon. This is the primary net when conducting all platoon operations. All MGSs within the platoon must have the ability to constantly monitor and transmit on this net. Some units do not use platoon radio nets; in such cases, all platoon vehicles must adhere to communications SOPs and observe strict radio discipline. Every crewman should understand net control guidelines, including proper radiotelephone procedures (RTPs) and techniques for effective communications, which are discussed later in this section. Every Soldier in the platoon must be trained and know how to provide the PL with essential information concisely and without redundancy. This is especially important when contact is made and the volume of traffic on the platoon and company nets increases drastically.

Company Command

1-54. The company commander uses this net to maneuver the company and process routine administrative/logistical (A/L) reports. Platoon leaders and PSGs monitor the net to keep abreast of the current tactical situation with reports from the commander, executive officer (XO), and other PLs. They

transmit on the net to keep the commander informed and talk to other PLs when coordinating the tactical actions of their platoons. Both the PL and PSG must always have the ability to monitor and transmit on this net. All VCs must be able to switch to this net to send reports and receive guidance if they are unable to contact their PL or PSG.

NET CONTROL

1-55. The smooth functioning of the platoon and company nets enables accurate information to be passed quickly to and from the PL. This information flow is critical in maintaining the PL's SU. The following techniques and suggestions help ensure information flowing over the net is organized and controlled so that the PL will understand and respond to it (such as issue orders).

Routing Traffic

1-56. The PSG usually receives and consolidates A/L reports from the VC and passes the reports to the PL or higher headquarters using the procedures prescribed in unit SOPs. The PSG pays close attention to the company net while the platoon net is active; he then relays critical information to the platoon.

Initial Contact

1-57. Any vehicle can alert the platoon to a threat. The element in contact deploys and fights according to the PL's intent. The element not in contact forwards the report to higher headquarters. If the entire platoon is in contact, the PL fights with the platoon while the PSG reports the contact to the commander.

Reporting

1-58. In keeping the PL informed, VCs must avoid redundant reports. Vehicle commanders monitor the FBCB2 so they can avoid reporting information the PL has already received from other VCs. This technique allows the PL to concentrate on fighting. Once the PL develops the situation, he reports the platoon's tactical situation to the commander. To do this, the PL submits spot reports (SPOTREPs) and SITREPs, using the SALT format for reporting enemy information.

Radiotelephone Procedures

1-59. Proper RTPs are the cornerstone of effective mission command in the MGS platoon. Every member of the platoon must understand communications procedures. This ensures efficient communications within

the platoon and enables platoon members to communicate effectively with outside elements such as other platoons or the company headquarters.

1-60. Depending on the enemy's electronic warfare capability, the company commander may elect to use standardized call signs to simplify RTPs. These call signs enable all users of a net to instantly recognize the calling station. Examples would be using the colors red, white, blue, and green to designate 1st, 2d, 3d, and 4th platoons respectively and using bumper numbers to identity MGSs within a platoon.

SECTION IV – COMMAND AND SUPPORT RELATIONSHIPS

1-61. 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.

1-62. Nonorganic combat and sustainment assets can significantly enhance the MGS platoon's combat capability. These elements support the company and platoon under established command and support relationship. Regardless of the nature of the relationship, the company commander is responsible for the integration and synchronization of these assets within the company's scheme of maneuver. (Refer to ADP 3-0 for more information.)

COMMAND RELATIONSHIPS

1-63. Command relationships define superior and subordinate relationships between unit commanders. By specifying a chain of command, command relationships unify effort and give commanders the ability to employ subordinate forces with maximum flexibility. Command relationships identify the degree of control of the gaining commander.

ORGANIC

1-64. Organic forces are those assigned to and from an essential part of a military organization. The unit is listed in the organization's table of organization and equipment or table of distribution and allowances.

ASSIGNED

1-65. Army assigned units remain subordinate to the higher headquarters for extended periods, typically years. Assignment is based on the needs of the Army and is formalized by orders rather than organizational documents. Although force tailoring or task-organizing may temporarily detach units,

they eventually return to either their headquarters of assignment or their organic headquarters. The Army headquarters that receives another Army unit through assignment or attachment assumes responsibility for the administrative control requirements, and particularly sustainment, that normally extend down to that echelon, unless modified by directives or order (ADP 3-0).

ATTACHED

1-66. Attached units are temporarily subordinated to the gaining headquarters, and the periods may be lengthy, often months or longer. They return to their parent headquarters (assigned or organic) when the reason for the attachment ends. The headquarters that receives another unit through assignment or attachment assumes responsibility for the administrative control requirements, and particularly sustainment.

Operational Control

1-67. Commanders normally provide a unit under operational control (OPCON) to the gaining headquarters for a given mission, lasting perhaps a few days. Having OPCON lets the gaining commander task-organize and direct forces.

Tactical Control

1-68. Commanders normally provide a unit under tactical control to the gaining headquarters for a given mission, lasting perhaps a few days. Tactical control lets the gaining commander direct forces, but does not let the gaining commander task-organize the unit.

SUPPORT RELATIONSHIPS

1-69. Support relationships are not a command authority. Commanders establish support relationships when subordination of one unit to another is inappropriate. Assigning support relationships is one aspect of mission command. Leaders assign a support relationship when the—

- Support is more effective if the commander with the requisite technical and tactical expertise controls the supporting unit, rather than the supported commander.
- Echelon of the supporting unit is the same as or higher than that of the support unit.
- Supporting unit supports several units simultaneously. The requirement to set support priorities to allocate resources to support unit exists.

DIRECT SUPPORT

1-70. A unit in direct support (DS) of another organization remains under the command of its parent unit. However, although the supporting unit answers the supported unit's requests directly, the organization's commander may not reallocate, reassign, or task-organize the DS force.

GENERAL SUPPORT

1-71. A unit in general support (GS) to another organization remains under the control of the parent unit. A GS unit supports the organization as a whole, not any specific subunit. Therefore, subunit commanders must request support from the GS unit through their own parent unit.

REINFORCING SUPPORT

1-72. Reinforcing support is a support mission in which the support unit assists the supported unit's mission. Only like units can be given a reinforcing support mission.

GENERAL SUPPORT-REINFORCING

1-73. General support-reinforcing artillery is a tactical artillery mission where an artillery unit has the mission of supporting the force as a whole. It also provides reinforcing fires for another artillery unit. Coordination for support is the responsibility of the DS artillery unit.

SECTION V – PLANNING CONSIDERATIONS

1-74. Leaders plan to translate the commander's visualization into a specific course of action (COA) for preparation and execution, focusing on expected results. Planning is the art and science of understanding a situation, the commander's desired end state, and identifying a way to achieve that end state. The PL uses this understanding to develop his planning based on the missions outlined in the company OPORDs.

1-75. Platoon planning is a continuous function of the operations process. The PL begins planning when he receives mission orders for an operation. The planning process continues throughout the operations process. The PL refines the plan during preparation and execution as his SU improves. Subordinates provide feedback to the PL on possible changes to the plan to improve potential success of the operation.

1-76. The PL uses troop-leading procedures (TLPs), warfighting functions, and mission variables, in conjunction with company OPORDs and platoon SOPs, to conduct planning. For more information about platoon SOPs, refer to Chapter 7.

1-77. The PL considers the type of mission during planning because different missions often require different planning strategies. For example, a defensive mission has different considerations than an offensive mission.

Note. Planning for specific types of operations (offense, defense, stability, other tactical operations, and sustainment) are included within their respective chapters of this manual. (Refer to ADP 5-0 for more information.)

OPERATIONAL VARIABLES

1-78. Operational variables describe not only the military aspects of an OE, but also the population's influence on it. Joint planners analyze the OE in terms of six interrelated operational variables. Army doctrine adds two more. Together they are political, military, economic, social, information, infrastructure, physical environment, and time.

MISSION VARIABLES

1-79. Mobile gun system PLs use mission variables to synthesize operational variables and tactical-level information with local knowledge about conditions relevant to their mission. Mission variables are mission, enemy, terrain and weather, troops and support available, time, and civil considerations (METT-TC). (Refer to ADP 6-0 for more information.)

TROOP-LEADING PROCEDURES

1-80. Troop-leading procedures are a dynamic process used by the MGS PLs to analyze a mission, develop a plan, and prepare for an operation. During the planning phase of a mission, most tactical decisions are made by the company commander, who then announces them as orders that include his intent and concept of the operation. Based on these orders, the PL uses TLPs to organize his time during planning and preparation and to translate the operation into instructions that his Soldiers can understand. He then can lead the platoon more effectively in the execution of the mission. (Refer to FM 3-21.11 for more information.)

1-81. Troop-leading procedures consist of eight steps. The process, while well-structured, is not rigid, and the steps are not necessarily sequential. Several specific tasks (such as initiate movement, issue the WARNOs, and conduct reconnaissance) may recur several times during the process. For example, although activities associated with supervising and refining the plan and other preparations are listed as the last step, they actually take place in all TLPs. The eight steps of TLPs are—

- Receive the mission.
- Issue a WARNO.
- Make a tentative plan.
- Initiate movement.
- Conduct reconnaissance.
- Complete the plan.
- Issue the order.
- Supervise and refine.

Note. Company and platoon SOPs may implement an accelerated TLP process.

1-82. Whenever possible, the eight steps of the TLP process are integrated and accomplished concurrently rather than sequentially. Beginning TLPs as soon as the first bit of information about the upcoming operation is received maximizes available planning time. Usually, the PL uses one-third of the available time to plan, prepare, and issue the order; VCs then have the remaining two-thirds of the time to prepare MGSs and crews for the operation.

1-83. This time allocation, known as the "one-third/two-thirds rule," is applicable at all levels of planning and preparation and for virtually all tactical situations. When time does not permit the PL to implement the one-third/two-thirds rule, such as a FRAGO en route to an objective, the FBCB2 can be utilized by the PL to disseminate orders accurately and rapidly. (Refer to ADP 5-0 for more information.)

COMPOSITE RISK MANAGEMENT

1-84. Risk is the result of the probability of the event occurring and the severity of the expected result. The MGS PL and PSG mitigate these risks to the lowest possible level during the TLP process.

1-85. Hazards and risks are present in every combat and training situation that the MGS platoon faces. Composite risk management (CRM) is an integral part of tactical planning, and must take place at all levels in the chain of command during each phase of every operation. The MGS PL, his noncommissioned officers (NCOs), and all other platoon Soldiers must know how to use CRM and fratricide avoidance measures. This helps personnel execute the mission in the safest possible environment within mission constraints.

1-86. The objectives of CRM are to minimize overall risk and ensure that risk decisions are made at the appropriate level while ensuring mission accomplishment. This enables the MGS platoon to win the battle quickly and decisively, with minimum losses. This section outlines the process that leaders use to identify hazards and implement a plan to address each identified hazard. It also discusses the responsibilities of the PLs and individual Soldiers when implementing a sound CRM program.

1-87. The five steps of CRM are—

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

1-88. Leaders of an MGS platoon must always remember that the effectiveness of the process depends upon SA. Each hazard the platoon faces requires a solution tailored to the particular hazard. Leaders should never approach CRM with a "one size fits all" solution. Rather, they must perform the steps while keeping in mind the essential tactical and operational factors that make each situation unique.

1-89. The PL, with advice from his NCOs, determines how and where he is willing to take tactical risks. However, leaders and individuals at all levels are responsible and accountable for managing risk in general. They must ensure that hazards and associated risks are identified and controlled while planning, preparing, and executing operations. With the assistance of his PSG, NCOs, and individual Soldiers, the PL manages accident risks.

1-90. The MGS PL gives the platoon direction, sets priorities, and establishes the command climate (values, attitudes, and beliefs). By embedding CRM into the individual's behavior, he helps preserve combat power. To achieve this, the PL must exercise creative leadership, innovative planning, and careful management. Most importantly, he must demonstrate support for the CRM process. (Refer to FM 5-19 and DA Pam 385-30 for more information.)

FRATRICIDE AVOIDANCE

1-91. Fratricide is the employment of friendly weapons that results in the unforeseen and unintentional death or injury of friendly personnel or damage to friendly equipment.

1-92. Fratricide avoidance is the commander's responsibility. All Soldiers, across all operating systems, assist him in accomplishing this mission. The

following paragraphs focus on actions the MGS PL and subordinate leaders can take with current resources to reduce the risk of fratricide.

1-93. In any tactical situation, SA on the part of all crewmen, particularly the PL, is critical not only to mission success but also to survival. 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.

1-94. The PL must always be vigilant of changes and developments in the situation that may place his elements in danger. When he perceives a potential fratricide situation, he must use the higher net to coordinate directly with the friendly element involved.

Chapter 2

Role of the Mobile Gun System Platoon

The mission of the MGS platoon is to provide mounted, precision, direct fire support to the SBCT Infantry rifle company. The MGS platoon moves, attacks, defends, and performs other essential tasks to support the company's mission. In accomplishing its assigned missions, it employs firepower and maneuver, synchronizing its capabilities with those of other maneuver elements. When properly supported, the platoon is capable of conducting sustained operations against any threat.

The MGS platoon provides direct supporting fires to Infantry squads during the assault. Its function is to destroy or suppress hardened enemy bunkers, machine gun positions, and sniper positions. It also creates Infantry breach points in urban, restricted, and open rolling terrain. The MGS cannon provides the platoon with limited antiarmor, self-defense capabilities. The MGS is not a tank, however, and should not be employed in the same manner as a tank; nor should the MGS platoon be employed in the same manner as a tank platoon. Chapter 2 discusses the role of the MGS within the SBCT, task organizations, capabilities, and limitations of the platoon.

SECTION I – TEXT REFERENCES

2-1. Table 2-1 contains the references used in this chapter.

Table 2-1. Guide for subjects referenced in text

Subject	*References*
SBCT Rifle Company	FM 3-21.11

SECTION II – ORGANIZATION AND CAPABILITIES

2-2. By itself, any vehicle, including the MGS is vulnerable when conducting decisive actions. Although the MGS platoon is a complete unit, the MGS PL must be prepared to accomplish missions with varying task organizations.

ORGANIZATION

2-3. The MGS platoon is organic to the SBCT Infantry rifle company and consists of three vehicles that are assigned to the PL, PSG, and wingman.

(See Figure 2-1.) The PL can expect to attach single vehicles or the entire MGS platoon to a rifle platoon or to receive rifle squads with Infantry carrier vehicles (ICVs) as attachments.

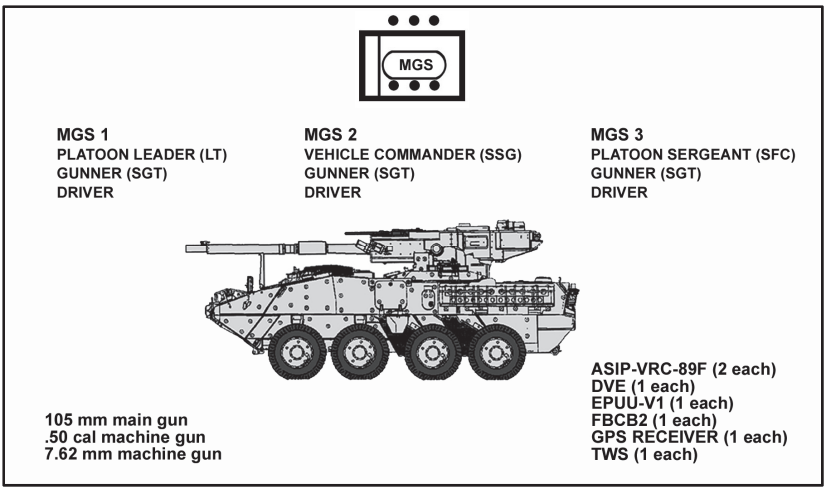

Figure 2-1. Mobile gun system platoon organization

CAPABILITIES

2-4. To win in battle, leaders must clearly understand the capabilities and limitations of their equipment. This knowledge assists the MGS PL in evaluating transportability, sustainment, and mobility considerations for his vehicles and for those with which the platoon may operate as part of a company.

2-5. The MGS offers an array of capabilities on the modern battlefield. It can move rapidly in a variety of terrain conditions, negotiating soft ground, shallow trenches, small trees, and limited obstacles. The following factors, in combination, produce the shock effect that allows the MGS to close with and destroy the enemy in most weather and light conditions:

- Cross-country mobility.
- Enhanced target acquisition.
- Lethal firepower.
- Medium-strength armor protection.

Note: Protection kits mounted to the MGS, such as Slat armor (also known as bar, cage, or standoff armor), may reduce the vehicles movement and maneuverability.

2-6. Digital communications systems enable the MGS to move to virtually any designated location quickly and accurately. Visual signals and the Single-Channel Ground/Airborne Radio System (SINCGARS) facilitate rapid and secure communication of orders and instructions. This capability enables MGS crews to quickly mass the effects of their weapons systems while remaining dispersed to limit the effects of enemy weapons.

2-7. On-board optics and sighting systems enable MGS crews to acquire and destroy enemy armored vehicles and fortifications using the main gun. They also enable them to use machine guns to suppress enemy positions, personnel, and lightly armored targets.

2-8. Because of increased magnification and thermal capabilities of the sighting system on the MGS vehicle, it can be effective when employed in a counter sniper role. Aggressive and thorough scanning techniques by MGS crews can identify and engage potential sniper positions at a greater distance than the other vehicles in the SBCT.

2-9. The MGS's armor protects crewmembers from small arms fire, some artillery, and some anti-armor systems.

LIMITATIONS

2-10. The MGS is limited when it operates in restricted terrain such as built-up areas or dense woods. The reduction of visibility limits the crews SA and creates vulnerability to dismounted enemy infantry attacks. In such situations, the MGS usually requires that mounted or dismounted Infantrymen provide flank and overwatch security to maintain its maneuverability and observation advantage. In addition to the previous limitations, the MGS is also vulnerable to heavy machine gun fire.

2-11. Existing or reinforcing obstacles can restrict or stop MGS movement.

MGS PLATOON TASK ORGANIZATION

2-12. Operational considerations and the variables of METT-TC usually require the MGS platoon to task-organize in one of four ways within the rifle company. The four most commonly employed techniques of task-organizing the MGS platoon are—

- **MGS platoon retained under company control.** In this technique, the MGS PL is responsible for maneuvering the MGS vehicles in accordance with the company commander's intent.
- **MGS platoon minus (-) under company control and an MGS vehicle under Infantry platoon control.** In this technique, the MGS platoon detaches one vehicle to the control of an Infantry

platoon. The selected maneuver Infantry platoon has an MGS vehicle available to support the close fight, and the company commander has an MGS platoon (-) to deploy at the critical place and time of his choosing.

- **Individual MGS vehicles under Infantry platoon control.** In this technique, each MGS vehicle is task-organized to an Infantry platoon. The purpose of this type of task organization is to provide all the Infantry platoons with increased direct fire for suppression and breaching, specifically in urban areas.
- **Individual ICV under MGS platoon control.** In this technique, an Infantry platoon detaches one vehicle to the control of the MGS platoon. The MGS platoon has an ICV and Infantry squad available to provide security and deploy at the critical place and time of the PLs choosing.

2-13. None of the techniques described above are inherently better than others. The task organization has to be tailored to accomplish the mission. Regardless of the technique selected, the following guidelines apply:

- Single MGSs may operate in support of Infantry; however, it is preferable for two or more MGSs to be in support.
- If using MGSs to shield squads and teams moving from building to building as part of the maneuver plan, the leader of the forward element needs to control the MGS vehicles.
- If the company commander controls the MGSs, he needs to move forward to a position where he can effectively maneuver the MGS in support of the Infantry.
- If the company commander controls the MGS platoon, then he does not task-organize them to the Infantry platoons.
- Infantry must support the MGS when the two elements are working together. That is, Infantry must never leave an MGS unguarded and unsecured. This is because MGS vehicles are extremely vulnerable to dismounted enemy attacks when operating in an urban environment.
- The MGS PL and PSG must participate in the mission analysis. Their expertise hastens the understanding of what MGS vehicles can and cannot do, and aids the PL in making the best decisions with regards to MGS employment.
- The PL must specifically allocate time in the planning process for precombat inspections (PCIs) of the MGS vehicles.

SBCT RIFLE COMPANY

2-14. The SBCT rifle company is organized, equipped, and trained to fight pure; it also can be task-organized by higher headquarters to fight with light Infantry or a combined arms task force.

2-15. The company consists of a headquarters, three rifle platoons, and one MGS platoon.

2-16. The company headquarters is equipped with two ICVs, two M1025 or M998 high-mobility, multipurpose wheeled vehicles (HMMWVs), and two "family of medium tactical vehicles" with two 400-gallon water trailers. (See Figure 2-2.) (Refer to FM 3-21.11 for more information.)

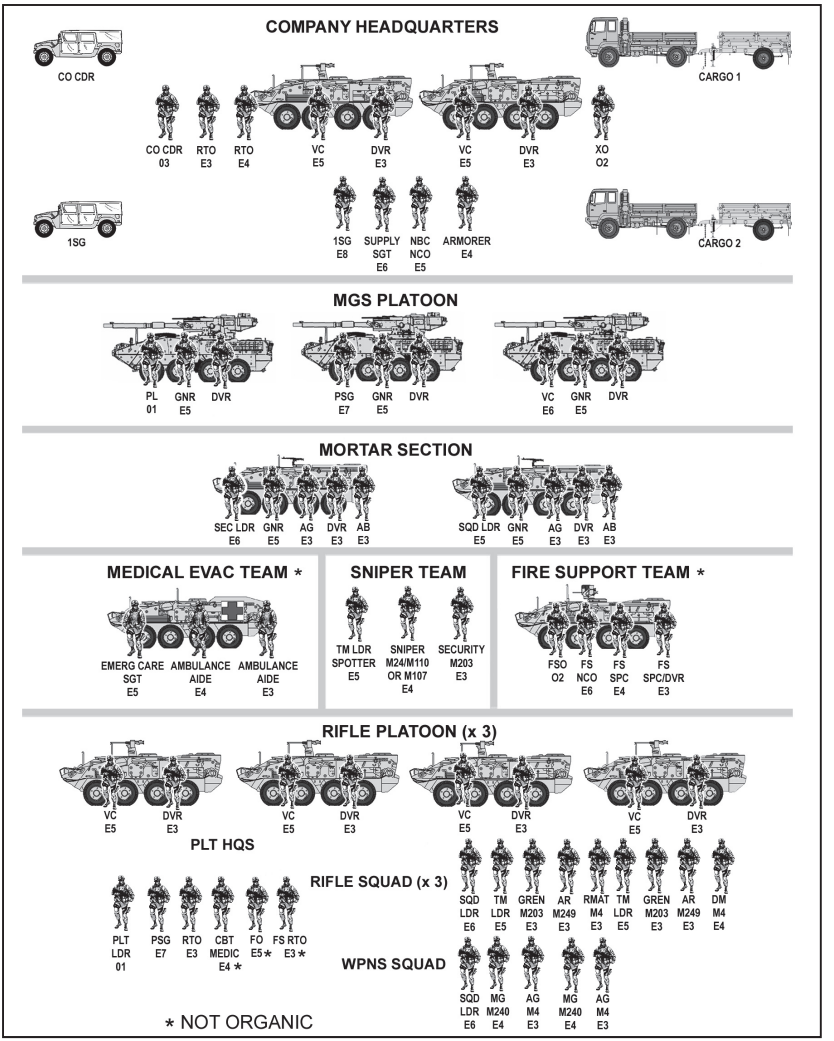

Figure 2-2. SBCT rifle company

SECTION III – DUTIES AND RESPONSIBILITIES

2-17. The MGS crew must be a highly integrated team. Though all members have primary duties, success depends on their effectiveness as a crew. Crews must cross-train so that each member can function at any of the crew positions. They must work together to maintain and service their

MGS and equipment and must function as one in combat. It is vital to the success of the company team that the entire MGS platoon is knowledgeable of Infantry mounted and dismounted tactics, techniques, and procedures (TTPs).

PLATOON LEADER

2-18. The PL is accountable to the commander and is responsible for the discipline and training of his platoon, the maintenance of its equipment, and his platoon's success in combat. The PL must—

- Be proficient in the tactical employment of his element and of the platoon, both by itself and in concert with a company.
- Have a solid understanding of TLPs and be able to apply them quickly and efficiently on the battlefield.
- Know the capabilities and limitations of the platoon's personnel and equipment; at the same time, he must be well-versed in the enemy's organizations, doctrine, and equipment.
- Serve as an effective VC.
- Be flexible, 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 battalion's mission and the battalion commander's intent.
- Be prepared to assume the duties of the company commander in accordance with the succession of command.
- Understand the capabilities and limitations of his vehicles and crews.

PLATOON SERGEANT

2-19. The PSG is second in the chain of command of the platoon, and is accountable to the PL for the training, discipline, and welfare of the Soldiers in the platoon. The PSG—

- Functions as the master gunner for the platoon.
- Supervises initial first aid treatment and evacuation of wounded crewman.
- Coordinates the platoon's maintenance and logistics requirements, and handles the personal needs of individual Soldiers.
- Is the most experienced VC in the platoon.
- Serves as mentor to the crewmen, other NCOs, and the PL.

- Ensures actions on the battlefield complement those of the PL.
- Fights his element effectively, either in concert with the PL's element or by itself.

VEHICLE COMMANDER

2-20. The VC is accountable to the PL and the PSG. He trains and disciplines his crew, maintains assigned equipment, reports logistical needs, and tactically employs the MGS. The VC also—

- Briefs his crew, directs the movement of the MGS, and submits all reports.
- Is an expert in using the MGS's weapons system, requesting indirect fires, and executing land navigation.
- Knows and understands the company mission and the company commander's intent.
- Prepares to assume the duties and responsibilities of the PL or PSG in accordance with the succession of command.
- Maintains the MGS's external communications nets.
- Maintains constant, thorough SA.

GUNNER

2-21. The gunner searches for targets, aims and fires both the main gun and the coaxial machine gun. He is accountable to the VC. The gunner also—

- Serves as the assistant VC and assumes the responsibilities of the VC as required.
- Assists other crewmembers as needed.
- Monitors external communications nets.
- Monitors and maintains the vehicle's fire control system.

DRIVER

2-22. The driver moves, positions, and stops the MGS. He is accountable to the VC, maintains the automotive equipment, and refuels the MGS. The driver also—

- Searches constantly for covered and concealed routes and for covered positions that he can move to if the MGS is engaged.
- Maintains his vehicle's position in formation and watches for visual signals.
- Assists the gunner and VC by scanning for targets and sensing fired rounds.
- Maintains internal control monitoring communications nets.

Chapter 3

Offense

Offense is the decisive form of war. While tactical considerations may call for the platoon to execute defensive operations for a period of time, defeat of the enemy requires a shift to offensive operations. To ensure success, the MGS PL must understand the fundamentals of offensive operations, apply TLPs during planning and preparation, and understand how to integrate mounted and dismounted Infantry into the operation. Chapter 3 discusses the fundamentals of the offense and the planning, preparation, execution, and assessment of offensive tasks.

SECTION I – TEXT REFERENCES

3-1. Table 3-1 contains the references used in this chapter.

Table 3-1. Guide for subjects referenced in text

Subject	*References*
Sequence of the Offense	FM 3-21.11
Rehearsals	ADP 5-0
Actions on Contact	FM 3-21.10
Follow and Support	FM 3-21.11

SECTION II – FUNDAMENTALS OF OFFENSE

3-2. Offensive operations ultimately determine the outcome of decisive combat. Only through offensive operations can a platoon close with an enemy by means of fire and maneuver to destroy or capture them or to repel their assault by fire, close combat, and counterattack.

3-3. The MGS platoon conducts offensive operations to defeat, destroy, or neutralize an enemy force. Additional reasons for undertaking offensive operations are to secure key terrain, gain information, deprive an enemy of resources, deceive and divert an enemy, hold the enemy in position and disrupt his attack, and set the conditions for successful future operations.

CHARACTERISTICS

3-4. The characteristics of offensive operations are surprise, concentration, audacity, and tempo. They are described as—

- **Surprise.** Platoons achieve surprise by striking an enemy at a time or place, or in a manner for which the enemy is unprepared.
- **Concentration.** The platoon concentrates combat power at decisive points and times to achieve the unit's purpose.
- **Audacity.** At the platoon level, audacity is a simple plan of action, boldly executed. Audacity inspires Soldiers to overcome adversity and danger.
- **Tempo.** Tempo is the relative speed and rhythm of military operations over time with respect to the enemy.

TASKS

3-5. The MGS platoon supports the following four offensive tasks:

- **Movement to contact (MTC).** Its purpose is to develop the situation and to establish or regain contact with the enemy force.
- **Attacks**. Units attack to defeat, destroy, or neutralize an enemy. Attacks can be deliberate or hasty, depending on the amount of planning time available.
- **Exploitation**. This extends the destruction of the enemy by maintaining offensive pressure.
- **Pursuit**. Following a successful attack, units pursue a retreating enemy force to complete the destruction of the threat force.

3-6. The platoon can execute MTC and conduct either hasty or deliberate attacks as part of a larger force. The nature of these operations depends largely on the amount of time and enemy information available during the planning and preparation phases. Platoons also execute exploitation or pursuit as part of a larger force.

SEQUENCE OF THE OFFENSE

3-7. As the PL plans for an offensive mission, he generally considers a five-step sequence of the offense. (Refer to FM 3-21.11 for more information.) The five steps are—

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

ROLE OF THE MOBILE GUN SYSTEM PLATOON

3-8. During offensive operations, the MGS platoon conducts tactical movement, actions on contact, consolidation, and reorganization in support of offensive operations. It can destroy, fix, or bypass a threat as required by the commander's intent, the tactical situation, and the rules of engagement (ROE). Rules of engagement are directives issued by military authority and are discussed in further detail in Chapter 5 of this manual.

SECTION III – PLAN

3-9. The planning phase begins when the platoon receives the higher WARNO or OPORD. The PL issues his own WARNO, OPORD, or FRAGO. During this phase, the PL conducts TLPs as outlined in Chapter 1. The PL must develop OPORDs and FRAGOs applicable to his operating systems. The planning phase is a continuous process throughout the preparation, execution, and assessment phases of the operation.

3-10. After he issues the WARNO, the PL initiates rehearsals of tactical movement and battle drills. These generic 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. Each VC must be able to conduct planning and preparation for employment of the platoon.

Note. Sometimes higher headquarters directs the PL to attach an MGS to an Infantry platoon. The PL must make his platoon aware of the new task organization as soon as possible following the OPORD. By doing so, the Infantry platoon and its attached MGS crews will have sufficient time to prepare and rehearse together.

WARFIGHTING FUNCTIONS

3-11. The following sections discuss warfighting functions.

MISSION COMMAND

3-12. The PL's key function in the warfighting function of mission command is to conduct TLPs. Immediately after the commander issues the company order, or during the company rehearsal, the PL 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, and signals between platoons.

Coordination is critical when working with dismounted Infantry, or units that do not have a habitual working relationship.

MOVEMENT AND MANEUVER

3-13. The company OPORD usually specifies company and platoon formations, and techniques of movement. This enables the commander to position his elements where they can most efficiently execute the commander's scheme of maneuver. The PL has the responsibility to recommend a different formation or technique of movement. He does this if the recommended change enables the platoon to contribute to meeting the company mission more effectively and to protect the force.

3-14. The PL develops the platoon maneuver plan so that it supports the commander's intent and specific instructions, and also supports the company decisive operation. He determines the platoon's route, movement technique, and formation based on the factors of METT-TC; the company scheme of maneuver; and the likelihood of contact with the enemy. He pays particular attention to observation and fields of fire; these factors can help him to define potential enemy engagement areas (EAs). The PL must anticipate actions on contact and execution of essential tasks. He also must address actions on the objective to include consolidation and reorganization.

3-15. The PL adjusts attack by fire (ABF) and support by fire (SBF) positions. From these positions, the platoon must be able to engage known or suspected threats, and also support mounted and dismounted Infantry operations. The PL designates target reference points (TRPs) and assigns sectors of fire, observation, and weapons orientation. He specifies platoon fire patterns (if different from those identified by SOPs), and addresses restrictions on direct fire imposed by the ROE in effect for the operation.

INTELLIGENCE

3-16. Battalion and company commanders conduct analysis of the enemy situation and probable enemy COAs. However, it is the PL's responsibility to understand how the enemy's disposition and possible COAs might affect the platoon's AO and mission accomplishment. The PL uses what is developed from higher, but must be able to conduct intelligence preparation of the battlefield by 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.

3-17. The PL then identifies terrain features or determines standoff distances of friendly weapons 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, the PL identifies anticipated contact situations. This process includes estimating whether the enemy will defend in place, delay, or counterattack upon contact; when and where contact is most likely to be made; what type and size of enemy force the platoon will face; and what is then the enemy's intent. Finally, the PL must develop specific plans for the platoon's actions against the enemy.

3-18. 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 observations and fields of fire. This analysis is followed by a ground reconnaissance, conducted with the commander as far forward as possible, and as extensively as time and security considerations permit. 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 point (SP) or to the LD.

FIRES

3-19. Personnel at the company level and higher headquarters conduct most of the support planning. The PL reviews the plan to ensure that responsibilities for initiating, lifting, and shifting indirect fires are designated. As needed, he identifies additional indirect fire targets on known or suspected enemy positions and submits them to the company fire support officer (FSO). The PL evaluates and recommends the use of smoke to help conceal or obscure enemy positions while the platoon is moving through danger areas. Also, he evaluates the need for illumination or smoke rounds for marking or to assist in navigation. For types and purposes of indirect munitions, refer to Chapter 8.

SUSTAINMENT

3-20. Sustainment is the provision of the logistics, personnel services, and health service support needed to maintain operations until mission accomplishment. The PL ensures that Soldiers are familiar with procedures for maintenance, medical treatment, and evacuation. The PSG consolidates logistical and resupply needs of the platoon and reports those needs to the first sergeant (1SG) or XO. Units conduct resupply actions during the transition phase of the operation.

PROTECTION

3-21. The protection warfighting function is the related tasks and systems that preserve the force so the commander can apply maximum combat power. The 12 protection tasks are—

- Air and missile defense.
- Personnel recovery.
- Information management.
- Fratricide avoidance.
- Area operational security.
- Antiterrorism.
- Survivability.
- Force health protection.
- CBRN defense operations.
- Safety.
- Operations security (OPSEC).
- Explosive ordnance disposal.

SECTION IV – PREPARE

3-22. Preparation comprises the actions performed by the platoon to improve its ability to execute an operation. The MGS platoon's success during missions depends as much on preparation as on planning. Activities specific to preparation are—

- Revising and refining.
- Rehearsals.
- Force tailoring and task-organizing.
- Surveillance and reconnaissance.
- Training.
- Troop movements.
- Precombat checks (PCCs) and PCIs.
- Sustainment preparations.
- Subordinate confirmation briefs and back briefs.

3-23. During preparation and execution, the plan is continuously refined as SU improves. Preparation occurs anytime the platoon is not executing. Ideally, preparation begins with the receipt of an order (as does planning) and ends as execution begins. Assessment during preparation monitors the progress of a unit's readiness to conduct the operation. Rehearsals and

inspections are vital to the platoon's success in combat. The following paragraphs detail precombat rehearsals and inspections.

REHEARSALS

3-24. A rehearsal is a practice session that units conduct to prepare for an upcoming operation or event. The PL should never underestimate the value of rehearsals. Rehearsals are the PL's most valuable tools when preparing the platoon for the upcoming operations. Effective rehearsals involve crewmen performing the same kinds of tasks that the actual operation requires, and under conditions similar to those expected for the operation. Participants maneuver their actual vehicles or use vehicle models or simulations while discussing and demonstrating their respective elements' actions.

3-25. Each type of rehearsal achieves a different result and has a specific place in the preparation timeline. The four types of rehearsals are—

- Backbrief. A briefing by subordinates to the commander to validate the subordinates understanding of the mission as well as show how they intend to accomplish it.
- Combined arms rehearsal. A rehearsal in which subordinate units synchronize their plans with each other.
- Support rehearsal. A rehearsal that helps to synchronize each warfighting function with the overall operation.
- Battle drill or SOP rehearsal. A rehearsal that ensures all participants understand a technique or a separate set of procedures.

3-26. Based on his assessment of the platoon's mission, the PL selects the key tasks and battle drills that troops will practice during a platoon-level rehearsal. He also controls the rehearsal's execution, and usually designates someone to role-play the enemy elements he expects to face during the operation. (Refer to ADP 5-0 for more information.)

3-27. 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. The platoon rehearsal should cover the following subjects:

- Movement from current positions.
- Routes (including passage points, contact points, checkpoints).
- Platoon and company formations and movement techniques (mounted and dismounted).
- Vehicle positions within the platoon formation.
- Weapons orientation and fire control.

- Decision points.
- Actions on contact.
- Actions on the objective (consolidation and reorganization).
- Reporting procedures.
- Signals.

INSPECTIONS

3-28. A PCI is a formal, time-intensive inspection that Soldiers conduct 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.

3-29. A PCC is less formal and more mission-specific than a PCI. PCCs emphasize areas, missions, or tasks required for upcoming missions. The VC performs the PCC; however, it is essential that the entire platoon chain of command know how to conduct PCCs and PCIs.

3-30. The PL and the PSG should observe each crew during preparation for combat. Once the VCs report that their crews and vehicles are prepared, the PL and the PSG then conduct the PCI. The platoon PCI will vary depending upon the mission variables, and may cover the following subjects:

- Accountability, serviceability, and cleanliness of—
  - Personnel.
  - Equipment.
  - Weapons and optics.
  - Mission-oriented protective posture (MOPP) gear.
  - Communications equipment.
- Individual knowledge of—
  - Operation order(s).
  - First aid procedures.
  - Current CBRN procedures.
  - Military Occupational Specialty related subjects.
  - Casualty evacuation (CASEVAC) procedures.
- Leader's equipment, including—
  - Map with overlay.
  - Binoculars.
- Vehicles and associated equipment, including—
  - Fluid levels.
  - Maintenance status.
  - Armament.
  - Communications equipment.

Note: The PL and PSG are responsible for identifying items to be checked. The focus of PCCs and PCIs will vary, depending on a unit's mission.

SECTION V – EXECUTE AND ASSESS

3-31. This section contains discussions about actions on contact, movement, overwatch, battle drills, tactical mission tasks, and transitions.

ACTIONS ON CONTACT

3-32. In both offensive and defensive operations, contact occurs when any member of the platoon observes enemy personnel or vehicles, observes or receives direct or indirect fire, or encounters any situation that requires an active or passive response to the threat. This includes reports of enemy contact through the chain of command or from an adjacent friendly element. The platoon initiates actions on contact when it recognizes one of the defined contact situations or on order from higher headquarters. (Refer to FM 3-21.10 for information.) The eight forms of contact are—

- Visual (friendly elements may or may not be observed by the enemy).
- Physical or direct fire with an enemy force.
- Indirect fire.
- With obstacles of enemy or unknown origin.
- With enemy or unknown aircraft.
- Involving CBRN conditions.
- Involving electronic warfare tactics.
- With nonhostile elements such as civilians.

3-33. During the planning process, the PL should anticipate the actions on contact that the platoon might execute based on the enemy situation. The platoon can then rehearse these potential actions during the preparation phase of the operation.

FIVE STEPS OF ACTIONS ON CONTACT

3-34. By following the five steps below, the PL will be able to execute actions on contact using a logical, well-organized decisionmaking process:

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

3-35. The five-step process is not a rigid, lockstep response to enemy contact. Rather, the goal is to provide an orderly framework that enables the platoon to survive the initial contact, and then apply sound decisionmaking and timely actions to complete the operation. In simplest terms, the platoon must react instinctively and immediately to the contact. The PL must decide with equal dispatch, whether to execute a preplanned battle drill or COA, or to recommend and execute an alternate drill or action.

3-36. At times, the PL, and the platoon, will be required to execute several of the steps simultaneously. This makes thorough preparation an absolute requirement in contact situations. To ensure the platoon functions as a team, reacting instinctively but correctly, the PL must establish SOPs and conduct comprehensive training and rehearsals covering each step.

MOVEMENT

3-37. The PL must determine which combat formation or movement technique is best for the operation during the planning process. Based on mission variables, once the platoon has crossed the LD, the movement techniques and formations may change.

3-38. A combat formation is an ordered arrangement of forces for a specific purpose and describes the general configuration of a unit on the ground. Formations are used to establish vehicle positions and AOs during tactical operations. They facilitate control, alleviate confusion, and increase protection, speed, and the effectiveness of fires.

3-39. Formations are not intended to be rigid, with vehicles remaining a specific distance apart at every moment. The position of each MGS in the formation depends on the terrain and visibility. At the same time, individual MGSs should always occupy the same relative position within a formation. This ensures that the members of each crew know who is beside them, understands when and where to move, and are aware of when and where they are expected to observe and direct fires. Weapons orientation for all MGSs should be adjusted to ensure optimum security based on the position of the platoon in the company formation.

Note. In the field, the platoon SOPs or the orders for the operation prescribe the location and sequence of vehicles in the formation. The tactical situation also influences vehicle location. When an individual MGS is tasked to an ICV platoon, consideration should be made to avoid placing the MGS as the rear element. The MGS has significant dead space to its rear and should have an element behind it to provide sufficient security.

MOVEMENT FORMATIONS

3-40. The following paragraphs and illustrations describe the six basic movement formations the platoon will use. These figures and paragraphs show the MGS platoon maneuvering organically. When higher headquarters task-organizes the MGS to operate within the Infantry platoons, the basic positions do not change.

Column

3-41. The column formation provides excellent control and fire to the flanks, but allows less fire to the front. Units use the column formation when speed is critical, when the platoon is moving through restricted terrain on a specific route, or when contact with the enemy is unlikely. (See Figure 3-1.)

Staggered Column

3-42. The staggered column formation is a modified column formation with one element leading and one element trailing behind to provide overwatch. The staggered column permits good fire to the front and flanks. Units use the staggered column formation when speed is critical, when there is a limited area for lateral dispersion, or when contact with the enemy is possible. (See Figure 3-1.)

Wedge

3-43. The wedge formation permits excellent firepower to the front and good firepower to the flanks. (See Figure 3-1.) Units employ the wedge formation when the platoon is moving in open or rolling terrain. Depending on the platoon location within the company formation, the PSG and wing MGS can switch sides of the formation.

Echelon

3-44. The echelon formation permits excellent firepower to the front and to one flank. Units use the echelon formation to screen an exposed flank of the platoon or of a larger moving force. (See Figure 3-1.)

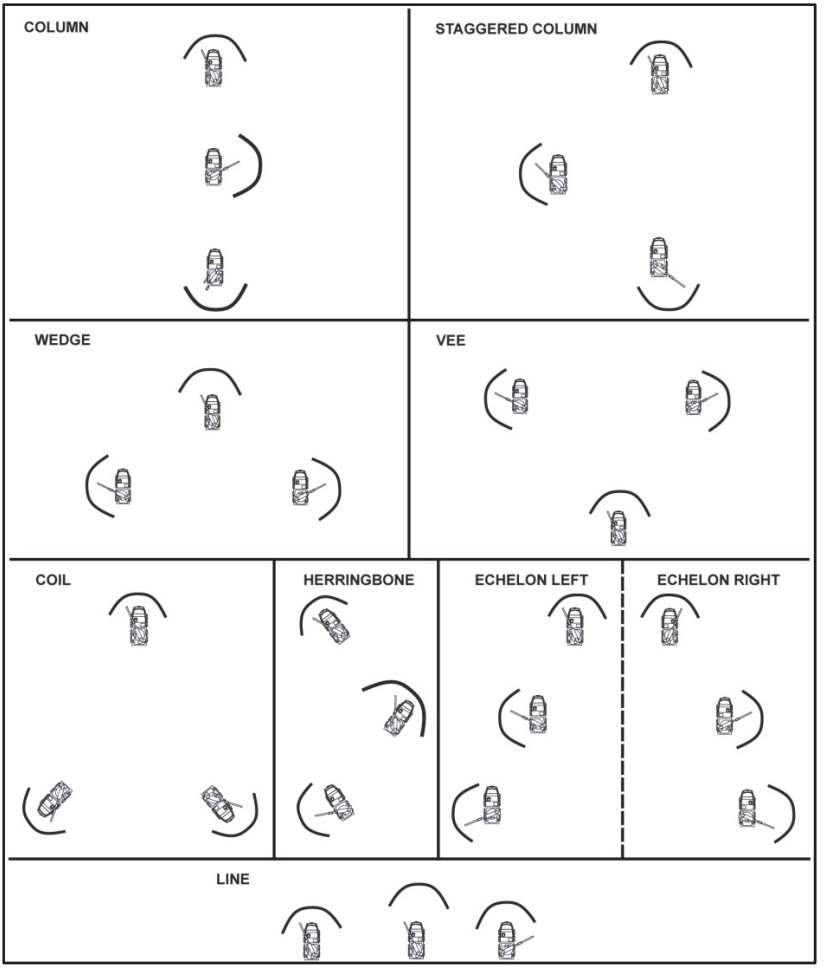

Figure 3-1. Formations

Vee

3-45. The Vee formation provides excellent protection and control, but limits fires to the front. Units use the Vee formation when terrain restricts movement, or when overwatch is required. (See Figure 3-1.)

Line

3-46. The line formation provides maximum firepower forward. It is used when the platoon crosses danger areas and another element provides overwatch, or when the platoon assaults through positions. (See Figure 3-1.)

STATIONARY FORMATIONS

3-47. The platoon uses coil and herringbone formations when it is stationary and 360-degree security is essential. (See Figure 3-1.)

Coil

3-48. When it is operating independently, the platoon uses the coil formation to establish a perimeter defense during extended halts or lulls in combat. The lead vehicle 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. (See Figure 3-1.)

Herringbone

3-49. The platoon employs the herringbone formation when it must assume a hasty defense with 360-degree security while remaining postured to resume movement in the direction of travel. Units usually employ the herringbone formation during scheduled or unscheduled halts in a road march. If terrain permits, vehicles should move off the road and stop at a 45-degree angle, allowing passage of vehicles through the center of the formation. (See Figure 3-1.)

OVERWATCH

3-50. Overwatch is the tactical mission in which an element observes and provides direct fire support for a friendly moving element (mounted and dismounted). Situational understanding is a crucial factor in all overwatch missions where the objective is to prevent the enemy from surprising and engaging the moving unit. The overwatch element itself can be either stationary or on the move.

3-51. The overwatch force must maintain communications with the moving force and provide early warning of enemy elements that could affect the moving force. It also scans gaps and dead space within the moving elements' formations. If the overwatch is unable to scan dead space and engage the enemy, it must alert the moving element of the lapse in coverage. The overwatch also must be able to support the moving force with immediate direct and indirect fires. The overwatch element must never lose visual contact with the moving element, or allow the moving element outside of its weapons range.

Note. While the main function of overwatch is to provide early warning or timely supporting fires or both for a moving element, overwatch crews also must maintain 360-degree observation and security for themselves.

STATIONARY OVERWATCH

3-52. In stationary overwatch, the element or platoon occupies hull-down firing positions that provide effective cover and concealment, unobstructed observation, and clear fields of fire. For details about firing positions, refer to Chapter 4.

3-53. The element or PL assigns sectors of fire. Individual crews aggressively scan their sectors using applicable search techniques to identify enemy positions. They employ all available sights, including the thermal channel and daylight channel of the compact modular sight, binoculars, and night vision goggles.

3-54. The overwatch element scans the location of the moving element, paying close attention to gaps and dead space. If contact is made, the overwatch element initiates a high volume of direct and indirect suppressive fires; it moves between primary and alternate positions as needed to avoid being decisively engaged.

OVERWATCH ON THE MOVE

3-55. The trail element or platoon maintains a designated location in the formation when in "overwatch on the move." It continuously scans the lead element's location, closely monitoring gaps and dead space. The trail element maintains an interval dictated by the capabilities of its weapons systems, the effects of terrain, and the speed with which the Infantry element is moving. It can execute a short halt on key terrain as needed to provide more effective overwatch.

Note. Aggressive movements over cross-country terrain make it difficult for the MGS and ICV crews to conduct detailed scans due to the stabilization systems. Speeds may need to be lowered or a short halt performed to ensure a thorough scan is achieved.

3-56. The MGS platoon must be able to employ any of the following techniques of movement:

- **Traveling.** Characterized by continuous movement of all elements, traveling is best suited to situations in which enemy contact is unlikely and speed is important.

- **Traveling overwatch.** An extended form of traveling that provides additional security when contact is possible but speed is desirable. The lead element moves continuously. The trail element moves at various speeds and may halt periodically to overwatch the movement of the lead element. The trail element maintains dispersion based on its ability to provide immediate suppressive fires in support of the lead element. The intent is to maintain depth, provide flexibility, and sustain movement in case the lead element is engaged.
- **Bounding overwatch.** Used when units expect contact. It is the most secure, but slowest, movement technique. There are two methods of bounding overwatch:

  ▪ ***Alternate bounds.*** Covered by the rear element, the lead element moves forward, halts, and assumes overwatch positions. Then the rear element advances past the lead element and takes up overwatch positions. The initial lead element then advances past the initial rear element and takes up overwatch positions. Only one element moves at a time. This method is usually more rapid than successive bounds.

  ▪ ***Successive bounds.*** In this method, the lead element, covered by the rear element, advances and takes up an overwatch position. Then the rear element advances to an overwatch position abreast of the lead element and halts. The lead element then moves to the next position, and so on. Only one element moves at a time, and the rear element avoids advancing beyond the lead element. This method is easier to control and more secure than the alternate bounding method, but it is slower.

BATTLE DRILLS

3-57. Battle drills are standardized collective actions that each MGS crew executes with minimal instruction and without application of a deliberate thought process. They can be carried out under almost any type of battlefield conditions and from any formation or technique of movement. The factors of METT-TC, however, can affect their execution.

3-58. Battle drills provide opportunities for the Soldier to develop automatic responses to situations in which the immediate and, when needed, violent execution of an action is vital to the platoon's safety and to its success in combat. Drills allow the PL to protect the platoon from the effects of enemy fires, to quickly mass the platoon's combat power and fires, or to move the platoon to a position of advantage over the enemy.

Note. Platoon leaders must always remember that using battle drills does not relieve them of the necessity for logical, timely decisionmaking when critical situations arise on the battlefield.

3-59. The PL usually initiates a battle drill when the MGS platoon makes contact with a threat. However, the platoon can initiate drills following reports or observation of enemy fires.

3-60. The platoon must be expected to execute any of the following standard battle drills:

- Change of formation.
- Contact.
- Action.
- React to indirect fire.
- React to air attack.
- React to a chemical/biological hazard/attack.

3-61. Commanders and leaders at all levels must be ready to augment or adjust these six basic drills based on the enemy, terrain, and ROE. In addition, commanders must ensure their platoons rehearse battle drills until they are able to execute the drills perfectly no matter what mission command problems arise. The drills remain the same when the MGS is task-organized to an Infantry platoon with ICVs or the MGS platoon has ICVs attached.

CHANGE OF FORMATION DRILL

3-62. Commanders use this drill to accomplish a rapid change of formation in response to a change in terrain or enemy situation. The PL must ensure that each VC knows the new formation and the relative position of each MGS in the new formation. He uses visual signals or the radio or both to initiate the drill.

CONTACT DRILL

3-63. The contact drill enables the platoon to orient weapons systems and engage a threat without changing its direction or speed of movement along the axis of advance. Units use this drill when contact is made with small arms fire, or when the platoon sights a threat without being engaged and does not want to stop or slow its movement. The PL initiates the contact drill using digital communications or the radio or both. Over the radio, he uses the contact report format and adds the execution element "FIRE" as a platoon fire command.

3-64. If one MGS masks another MGS's weapons systems, the masked vehicle maintains weapons orientation and flank security as prescribed in the OPORD. This helps to prevent fratricide.

ACTION DRILL

3-65. The action drill allows the entire platoon to change direction rapidly in response to terrain conditions, obstacles, FRAGOs from the commander, or enemy contact. The PL uses visual signals or the radio to order the action drill, which he can initiate with or without enemy contact.

Action Drill Without Enemy Contact

3-66. The PL can execute an action drill to avoid a danger area or obstacle, or to respond to FRAGOs from the commander. When the PL initiates the action drill, MGSs come on line and continue to move in the prescribed direction, unless the PL directs a change of formation.

Action Drill With Enemy Contact

3-67. The platoon can use an action drill following a contact report alerting the platoon that enemy contact involves heavy machine gun or greater weapons systems. The PL directs an action drill to orient his platoon's frontal armor toward the enemy fire while moving to cover and concealment. If the platoon cannot reach a covered and concealed position or achieve weapon standoff, the PL directs the platoon to assault the threat.

REACT TO INDIRECT FIRE DRILL

3-68. When the platoon receives unexpected indirect fire, it moves out of the impact area, unless it is also engaged in direct fire contact or is directed to remain stationary. Crewmembers mask, based on the automatic masking criteria established in the OPORD, or if they suspect the use of CBRN agent/hazard. The PL sends a SPOTREP to the commander.

3-69. If the platoon is moving when it receives suppressive artillery fire, it takes one of two actions–it executes an action drill to avoid the impact area or it continues to move to clear the impact area and continue the mission. If it is stationary, the platoon should attempt to clear the impact area. Once the platoon clears the artillery impact area, individual crews place their hatches in the appropriate position, check antennas, and return to positions or continue the mission.

Note. Several factors, such as the commander's orders, the location of friendly dismounts, or the enemy situation, may prevent the platoon from moving during direct fire engagements or defensive operations. For example, the commander may require the platoon to occupy hide or turret-down positions while continuing the mission. In such cases, the PL must request permission from the commander before clearing the impact area.

3-70. The commander should address the platoon's reaction to anticipated indirect fires in the "actions on contact" subparagraph of the OPORD. When the platoon receives anticipated indirect fires, it reacts according to the commander's guidance that should already have been analyzed and rehearsed by platoon members. If the platoon needs to execute a COA different from that directed by the commander, the PL should request permission from the commander before executing the alternate action.

REACT TO AIR ATTACK DRILL

3-71. The platoon might observe high-performance aircraft, helicopters, or unmanned aircraft systems (UASs) that could influence its mission. When this happens, the platoon initially takes passive air defense measures, unless the situation requires immediate active measures. For a detailed description of each air defense measure, refer to Chapter 8.

REACT TO CHEMICAL/BIOLOGICAL HAZARD/ATTACK DRILL

3-72. The platoon initiates this drill during an operation whenever an automatic masking event occurs. For detailed defensive measures to take when attacked with chemical or biological weapons, refer to Chapter 8.

TACTICAL MISSION TASKS

3-73. The commander may direct the platoon to execute tactical tasks described in the following paragraphs as part of the company's planned scheme of maneuver. He addresses employment of the missions in the company OPORD. In addition, the platoon can use these missions as COAs when it executes actions on contact.

ATTACK BY FIRE

3-74. The purpose of the ABF mission is to destroy an enemy by using long-range fires from key or decisive terrain, or by using standoff of the main gun. The commander might order the platoon to execute this task, either as specified in his original plan or on recommendation by the PL. The platoon can use an ABF to destroy inferior forces when the PL does not

desire to close with the enemy, or when the platoon is part of the company effort. In addition, the platoon can occupy an ABF position as part of a company hasty defense with the goal of destroying a superior force.

3-75. When executing this task, the platoon uses tactical movement to get to a position that allows it to employ weapons standoff, or that offers cover for hull-down firing positions. It also must be ready to move to alternate firing positions for protection from the effects of enemy direct and indirect fires.

3-76. As time permits, the PL designates TRPs and assigns sectors of fire and tentative firing positions for individual MGSs. He issues a platoon fire command specifying the method of fire, firing pattern, and rate of fire. The platoon's rate of fire must be one that the platoon can sustain to accomplish the task in support of the company, while Infantry elements maneuver on to the objective. A successful ABF destroys the enemy forces.

SUPPORT BY FIRE

3-77. The purpose of overwatch or SBF is to suppress the enemy using long-range direct and indirect fires from a dominating piece of terrain, or using the standoff of the main gun. This support sets the conditions that allow moving (supported) friendly mounted and dismounted Infantry elements to engage and destroy the enemy. The commander may order the platoon to provide overwatch or SBF during the movement of a friendly force. He may specify it in his original plan, or on the PL's recommendation.

3-78. The techniques involved in occupying an overwatch or SBF position, and in focusing and controlling fires, are similar to those for an ABF. Some specific considerations exist, however. As noted, the overwatch/SBF task is always tied directly to the movement or tactical execution of other friendly forces. When executing overwatch or SBF, the platoon must maintain a high level of SU relative to the supported force. This enables the platoon to lift and shift direct and indirect fires as needed to prevent fratricide. Throughout this type of operation, the supporting platoon maintains cross talk with the moving force on the company net. In addition to reducing fratricide risk, cross talk enables the platoon to provide early warning of enemy positions it has identified, and to report battle damage inflicted on the enemy force. These considerations must always be adhered to when supporting mounted and dismounted Infantry.

3-79. A successful overwatch/SBF operation suppresses the enemy, permitting the moving (supported) force to conduct tactical movement, breaching operations, or an assault.

BYPASS

3-80. To maintain the tempo of the attack, the commander may order the platoon to bypass the threat. Taking the enemy's COA could be part of the commander's original plan, or a recommendation from the PL. The platoon can take the COA against either an inferior force or a superior force. The commander may designate one platoon to suppress the threat, allowing the other platoons to use covered and concealed routes, weapon standoff, and obscuration to bypass known enemy locations.

Note. Units may find it necessary to execute contact drills while conducting the bypass.

3-81. Once clear of the enemy, the supporting platoon hands the enemy over to another force, breaks contact, and rejoins the company. If necessary, the PL can employ tactical movement to break contact with the enemy and continue the mission. He also can request supporting direct and indirect fires and smoke to suppress and obscure the enemy as the platoon safely breaks contact.

FOLLOW AND SUPPORT

3-82. The platoon employs follow and support forces in the offfense to maintain the momentum of an operation. The MGS platoon may be task-organized in several ways to conduct follow and support missions. (Refer to FM 3-21.11 for more information.)

OCCUPY

3-83. The platoon may execute an occupation of a hasty defensive position if it is fixed or suppressed by enemy fire and no longer has the ability to move forward or bypass. It may also set up a hasty defense when the enemy executes a hasty attack. The platoon maintains contact or fixes the enemy in place until additional combat elements arrive or until it is ordered to move. When the platoon must conduct a hasty defense, the commander has responsibility for continuing to develop the situation. For a detailed description on hasty occupation of a BP, refer to Chapter 4.

TRANSITION

3-84. Transition is the phase of an operation in which the platoon conducts consolidation and reorganization on the objective. The platoon transitions for one of two reasons:

- Ensure that the platoon is prepared to destroy an enemy's counterattack.

- Prepare to resume the attack as soon as possible.

CONSOLIDATION

3-85. Consolidation consists of actions taken to secure an objective and to defend against an enemy's counterattack. The company commander designates platoon positions and weapons orientation. The platoon takes the following steps:

- Eliminate remaining enemy resistance.
- Establish OPSEC and coordinate mutual support and security with adjacent platoons.
- Occupy positions on defensible terrain as designated in the OPORD or FRAGO. Vehicles move to covered and concealed positions and the PL designates sectors of fire. If the location designated in the order is not defensible, the PL notifies the commander and searches for terrain that is defensible, thus supporting the commander's intent. The PL informs the commander of the new location.
- Execute procedures for a hasty defense to prepare for possible counterattacks.

REORGANIZATION

3-86. Reorganization is the process of preparing for continued fighting, and usually is accomplished by SOPs. The MGS crew's areas of responsibility, during reorganization, are as follows:

- PLs—
  - Forward a consolidated SITREP to the commander.
  - Oversee consolidation of Soldiers who are killed in action (KIA).
  - Reestablish communications with elements that are out of contact.
- PSGs—
  - Compile SITREPs from VCs and, as required by unit SOPs, submit a consolidated report to the 1SG or XO.
  - Direct cross-leveling of supplies within the platoon.
  - Redistribute personnel, as necessary, to maintain combat readiness.
  - Oversee evacuation of casualties.
  - Coordinate the movement of enemy prisoners of war (EPWs) to the collection point.

- VCs—
  - Reload machine guns and redistribute main gun ammunition to ready areas.
  - Move crewman who have been wounded in action (WIA) to a covered position and provide first aid. Move personnel who have been KIA to a covered position out of direct view.
  - Send a SITREP to the PSG reporting casualties, supply status of equipment, ammunition, and fuel.

Chapter 4

Defense

Defensive operations are combat operations conducted to defeat the enemy attack, gain time, economize forces, and develop conditions favorable for offensive or stability operations. Usually, the defense alone cannot achieve a decision. However, it can create conditions for a counteroffensive operation that enables friendly forces to regain the initiative. This chapter discusses the fundamentals of the defense and the planning, preparation, execution, and assessment of defensive tasks.

SECTION I – TEXT REFERENCES

4-1. Table 4-1 contains the references used in this chapter.

Table 4-1. Guide for subjects referenced in text

Subject	*References*
Defensive Operations	ADP 3-0
Sequence of the Defense	FM 3-21.11
Obstacle Effects	FM 3-21.11

SECTION II – FUNDAMENTALS OF DEFENSE

4-2. Defensive operations counter enemy offensive operations. They defeat attacks and retain terrain, guard populations, and protect key resources. Defensive operations create the conditions necessary to regain the initiative.

4-3. Commanders conduct aggressive security operations, surveillance, and reconnaissance. Such actions locate enemy forces and deny them information. Defenders engage enemy forces with fires, spoiling attacks, and security operations to weaken them before they reach the main battle area. Commanders use combined arms and joint capabilities to attack an enemy's vulnerabilities and seize the initiative. The MGS platoon conducts defensive operations in support of the SBCT Infantry company to achieve the following:

- Gain time.
- Retain key terrain.
- Deter or defeat an enemy's offensive operations.

- Achieve economy of force.
- Protect the populace, critical assets, and infrastructure.
- Develop intelligence.

CHARACTERISTICS OF DEFENSIVE OPERATIONS

4-4. The characteristics of an effective defense are preparation, security, disruption, massed effects, flexibility, maneuver, and operations in depth. The MGS PL must ensure that his platoon is able to optimize these characteristics if/when it conducts defensive operations. (Refer to ADP 3-0 for more information.)

PREPARATION

4-5. The critical element affecting preparation for the defense is time management. Preparation normally begins during planning and continues into execution by uncommitted units. Effective use of available time allows the PL to conduct a thorough reconnaissance of EAs, BPs, displacement routes, friendly positions, and the axis for possible counterattacks. Section IV of this chapter describes preparation at the platoon level in detail.

SECURITY

4-6. Operations security helps the PL to maintain security during planning, preparation, and execution of the defense. The PL must integrate his security plan with that of the company. The PL enhances the platoon's early warning capability by identifying potential mounted and dismounted avenues of approach. Then, he positions early warning devices or coordinates with Infantry platoons to emplace OPs to cover these avenues. He must coordinate with the commander for Infantry dismounts to make sure his platoon is fully integrated into the company security plan.

DISRUPTION

4-7. Augmenting the platoon's direct fires with reinforcing obstacles and indirect fires is a key step in disrupting enemy operations.

MASSED EFFECTS

4-8. Platoons achieve massed effects by maximizing the number of MGSs that can fire into an EA or that can move from primary positions to alternate and supplementary positions to concentrate fires on the enemy.

FLEXIBILITY

4-9. The PL contributes to the flexibility of company operations by developing a thorough understanding of the company plan, including "on order" and "be prepared" missions. He must be alert to any possible

contingencies that have not been addressed by the commander. During the preparation phase of the defense, the platoon increases flexibility by conducting thorough reconnaissance and mounted rehearsals of all possible plans. A crucial indicator of the platoon's flexibility is its ability to move quickly, and under all battlefield conditions, between primary, alternate, and supplementary fighting positions. This applies to primary and subsequent BPs as well.

MANEUVER

4-10. Maneuver allows the defender to take full advantage of AO and to mass and concentrate when desirable.

OPERATIONS IN DEPTH

4-11. Simultaneous application of combat power throughout the AO improves the chances for success while minimizing friendly casualties.

DEFENSIVE TASKS

4-12. The three defensive tasks are area, mobile, and retrograde. The focus of an area defense is retention of terrain; defending units engage the enemy from an interlocking series of positions and destroy it, largely by direct fires. Units execute a mobile defense to destroy the attacking force by permitting the enemy to advance into a position that exposes it to counterattack by a mobile reserve. Retrograde involves organized movement away from the enemy. Retrograde operations gain time, preserve forces, place the enemy in unfavorable positions, or avoid combat under undesirable conditions.

4-13. In support of defensive operations, the MGS platoon operates as part of the company to execute one or more of the defensive techniques discussed in the below paragraphs.

COMMON DEFENSE CONTROL MEASURES

4-14. Defensive control measures provide the PL the flexibility needed to respond to changes in the situation. Common defensive control measures are discussed below.

BATTLE HANDOVER LINE

4-15. The battle handover line (BHL) is a designated phase line on the ground where responsibility transitions from the stationary force to the moving force and vice versa.

BATTLE POSITION

4-16. A battle position is a defensive location oriented on a likely enemy avenue of approach. The five battle positions—primary, alternate, supplementary, subsequent, and strong point are defined as follows:

- **Primary position**. A defensive position that covers the enemy's most likely avenue of approach into the AO.
- **Alternate position.** A defensive position that the commander assigns to a unit or weapon for occupation when the primary position becomes untenable or unsuitable for carrying out the assigned task.
- **Supplementary position.** A defensive position located within a unit'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.
- **Subsequent position**. A defensive position that a unit 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.
- **Strong point.** A defensive location that 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. The strong point is prepared for all-around defense.

DIRECT FIRE CONTROL MEASURES

4-17. The PL communicates to subordinates the manner, method, and time to initiate, shift, and mass fires, and when to disengage by using direct fire control measures. For a detailed discussion of direct fire control measures, refer to Chapter 7.

DISENGAGEMENT LINE

4-18. A disengagement line is a phase line located on identifiable terrain that, when crossed by the enemy, signals to defending elements that it is time to displace to their next positions.

FIRE SUPPORT CONTROL MEASURES

4-19. Indirect fires in the defense are used to engage the enemy at extended ranges to attack enemy force as the enemy's attack advances. Common fire support control measures, discussed in Chapter 7, are used to control indirect fires in the defense.

FORWARD EDGE OF THE BATTLE AREA

4-20. The forward edge of the battle area is the foremost limits of the areas in which the preponderance of ground combat units deploy, excluding the areas in which security forces are operating.

MAIN BATTLE AREA

4-21. The main battle area is the area in a defensive operation where the commander intends to deploy the bulk of the unit's combat power and conduct decisive operations to defeat an attacking enemy.

FINAL PROTECTIVE LINE

4-22. A line of fire selected where an enemy assault is to be checked by interlocking fire from all available weapons and obstacles.

FORMS OF THE DEFENSE

4-23. Subordinate forms of the defense have special purposes and have their own unique planning considerations. The three forms of the defense are defense of a linear obstacle, perimeter defense, and reverse slope defense.

Defense of an Obstacle

4-24. The defense of an obstacle may be conducted as an area defense or mobile defense along or behind the obstacle. Normally an area defense is preferred because it accepts less risk by not allowing the enemy to cross the obstacle. Obstacles such as mountain ranges or river lines will generally favor a forward defense.

Perimeter Defense

4-25. The perimeter defense allows the defending unit to orient in all directions. The platoon conducts a perimeter defense to accomplish a specific mission. Commanders conducting a perimeter defense must consider the same factors as a strongpoint operation. Additional factors that may dictate this defensive technique include when it—

- Must hold critical terrain or defend itself in areas where the defense is not tied in with adjacent units.
- Has been bypassed and isolated by an enemy and must defend in place.
- Conducts occupation of an assembly area (AA) or reserve position.
- Begins preparation of a strongpoint.

- Is directed to concentrate fires into two or more adjacent avenues of approach.

Reverse Slope Defense

4-26. A reverse slope defense is organized on the portion of a terrain feature or slope with a topographical crest that masks the main defensive positions from enemy observation and direct fire. All or part of the defending force may employ this technique.

SEQUENCE OF THE DEFENSE

4-27. As part of a larger element, the MGS platoon conducts defensive operations in a sequence of integrated and overlapping steps. The general sequence of operations applies to planning and executing all defensive operations–occupation and establishment of security, preparation and continued security operations, security area engagement, main battle engagement, and follow-on missions. (Refer to FM 3-21.11 for more information.)

ROLE OF THE MOBILE GUN SYSTEM PLATOON

4-28. When defending a position, the platoon may receive the tasking to destroy, block, or canalize enemy forces; to retain terrain; or to displace, with the goal of occupying a subsequent BP based on the commander's intent. In a counterattack or reserve mission, the MGS platoon conducts tactical movement to occupy BP or ABF positions; it executes hasty attacks, assaults, or other actions on contact based on the commander's intent for the counterattack.

4-29. Additional tactical mission tasks performed by the MGS platoons during a company defense, although not inclusive, may include disrupt, isolate, turn, defeat, fix, and contain.

SECTION III – PLAN

4-30. The planning phase of a defensive operation is a continuous process that begins when the PL receives a WARNO, FRAGO, or OPORD from higher headquarters. It ends when the PL issues his own WARNO, FRAGO, or OPORD. Planning continues throughout all aspects of the preparation, execution, and assessment phases of the operation as the platoon gains more information through the higher headquarters plan, and from further reconnaissance and rehearsals.

RECONNAISSANCE

4-31. A successful MGS platoon defense is one that is coordinated and effectively integrated into the company scheme of maneuver. Reconnaissance is key to achieving this during the planning phase. Whether time permits a thorough ground reconnaissance or only a quick map reconnaissance, it is critical that the PL understand where the commander wants to kill the enemy. Also, it is essential that he identify platoon sectors of fire, tentative platoon BPs, and TRPs that define the company EA. Additionally, it is critical that the PL know the exact location of all Infantry elements of the company.

4-32. Ideally, the PL takes part in two reconnaissance operations during the planning phase. He is usually part of the commander's reconnaissance, along with the XO, other PLs, the FSO, and the 1SG. The PL's own reconnaissance includes his VCs and PSG. To save time, the commander and PL attempt to issue their OPORDs or, at a minimum, a detailed WARNO during the respective ground reconnaissance operations.

4-33. During the commander's reconnaissance, the PL must identify, record, and mark the tentative TRPs, trigger lines, fighting positions, and routes he thinks the platoon will use when executing the defense. It is important for him to have sufficient day and night marking materiel such as engineer stakes and tape, chemlights, or thermal paper. He records the eight-digit grid coordinates of each position; this enables him to provide precise locations that the platoon can use in navigation or orientation. Ideally, the PL can record positions electronically using GPS or FBCB2 systems. If a GPS device is not available, he must rely on his map reading skills to manually identify and record accurate position locations.

WARFIGHTING FUNCTIONS

4-34. The MGS 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 carefully evaluates his warfighting functions. The following paragraphs provide information that will aid the PL in his evaluation.

MISSION COMMAND

4-35. The PL must understand the company plan and decision points; he develops his plan based on these factors as well as the commander's intent. The commander usually determines operational considerations such as OPSEC, occupation of firing positions, initiation of direct fires, primary and

supplementary platoon sectors of fire, and disengagement criteria. However, he may permit the PL to make decisions covering some or all of these areas.

MOVEMENT AND MANEUVER

4-36. The primary concern in selecting fighting positions is the platoon's ability to concentrate and mass lethal fires into its sectors of fire. Whenever possible, primary and alternate fighting positions should enable engagement of the enemy in the flank and from two directions. The platoon should always plan supplementary fighting positions that enable it to defend against enemy forces that penetrate adjacent platoon positions, or that move along additional avenues of approach for which the commander has assumed risk.

4-37. 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. The PL must ensure that his direct fire plan ties his vehicles in with the elements to his left and right flanks.

4-38. Ideally, the platoon will occupy 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 create the opportunity for flank engagements.

Note. Units orient primary and alternate fighting positions on the same sectors of fire. Supplementary fighting positions orient on different sectors of fire. Subsequent BPs are those that orient on sectors of fire along the same avenue of approach as the primary/alternate positions. Supplementary BPs are oriented on sectors of fire along different avenues of approach.

4-39. Disengagement criteria and the resulting disengagement plan should identify a break point and provide for internal overwatch if it is not provided by another platoon. The plan should designate covered routes to alternate, supplementary, and subsequent fighting positions and BPs.

4-40. As the planning phase progresses, individual VCs, under the direction of the PSG, should begin prioritizing work based on guidance provided in the platoon WARNO. Priorities include thoroughly preparing vehicles and Soldiers with the proper equipment and information for the upcoming mission. In addition, crews may conduct rehearsals of standard actions, such as berm drills and ammunition transfer.

Flank Positions

4-41. The MGS PL uses flank positions to engage enemy flanks with direct fires. The PL must plan effective direct fire control and fratricide avoidance measures when employing flank positions.

Mobile Gun System Sector Sketch and Platoon Fire Plan

4-42. Each MGS crew is required to develop a sector sketch card as it prepares its BPs for occupation. This is a rough topographical sketch of the MGS's assigned sector, which may be prepared traditionally (hand written), or using the MGS's digital equipment. The sector sketch aids the crews in target acquisition and provides information for the PL to develop his platoon fire plan. For more detailed examples on sector sketches, refer to Chapter 7.

INTELLIGENCE

4-43. The MGS platoon makes security decisions based on enemy capabilities. MGS platoons use OPs from the ICV platoons to provide early warning of the enemy's actions. Their readiness condition (REDCON) status and other OPSEC preparations enable them to respond in a timely manner. For more detailed discussion on OPSEC measures, refer to Chapter 6.

4-44. Operational security 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, the PL must ensure that platoon reconnaissance elements have the capability to protect themselves effectively.

4-45. As the PL conducts the reconnaissance, he conducts a terrain analysis. The PL uses the results of this analysis with his knowledge of possible enemy COAs, to identify key terrain that may define potential enemy objectives. He identifies mounted and dismounted avenues of approach, and determines the probable formations the enemy might use to occupy SBF positions or to assault the platoon's position. Also based on his analysis and available fields of observation and fire, the PL confirms vehicle positions that enable the platoon to mass fires into the EA.

4-46. The PL should complete his reconnaissance by conducting initial coordination with adjacent platoons to establish mutual support, cover dead space between the platoons, and identify the locations of dismounted friendly Infantry.

FIRES

4-47. The PL posts targets on his digital overlay. Although the company FSO conducts the fire support planning, the PL can, if necessary, provide the FSO with nominations for additional targets for inclusion in the battalion fire support plan. As these targets are approved, the PL plots them on his digital overlay. If a target is disapproved, he notes its grid coordinates so he can submit a speedy call for fire, if needed, using the grid method. For a detailed discussion on methods of transmitting calls for fire, refer to Chapter 8.

4-48. The company FSO plans, coordinates, and requests both mortar and 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 sector of responsibility.

4-49. A crew or higher should overwatch each artillery target's technical and tactical triggers. The decision point triggers the call for fire on a target to ensure that the impact of the rounds coincides with the enemy's arrival. The location of the trigger 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 FSO should assist in determining all triggers.

4-50. The company FSO plans, coordinates, and requests both mortar and artillery targets. PLs and PLT forward observers request targets thru the company FSO. 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. For a detailed discussion on smoke operations, refer to Chapter 8.

4-51. The PL is responsible for supervising engineer efforts and incorporating them into his timeline. Such efforts include plans for linkup, supervision, and handoff of engineer assets.

SUSTAINMENT

4-52. At this point, the platoon executes its defensive priorities of work, which are to—

- 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 chemical alarms, hot loops, and by upgrading camouflage protection.

4-53. The PSG conducts resupply operations to replenish basic loads in accordance with the company plan. Ammunition may be prepositioned on the battlefield to facilitate resupply once the battle begins. The PL determines prestock requirements based on the commander's intent and scheme of maneuver. He discusses prestock requests with the commander and identifies resupply locations, the types (usually ammunition) and amounts of supplies involved, the time required to conduct resupply, and any necessary security considerations.

PROTECTION

4-54. The PL must prioritize survivability efforts. He should specify the sequence (first through third) in which his MGSs will receive digging assets. When designating priorities, the PL considers the survivability of unimproved positions, and the relative importance of each firing position within the BP. The MGS will be severely limited in a turret-down position due to the lower level of its optics. The VC will only be able to scan through the commander's panoramic viewer (CPV).

4-55. The engineer PL, section leader, or dozer 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 a dug-in position.

Note. The SBCT possesses limited digging assets.

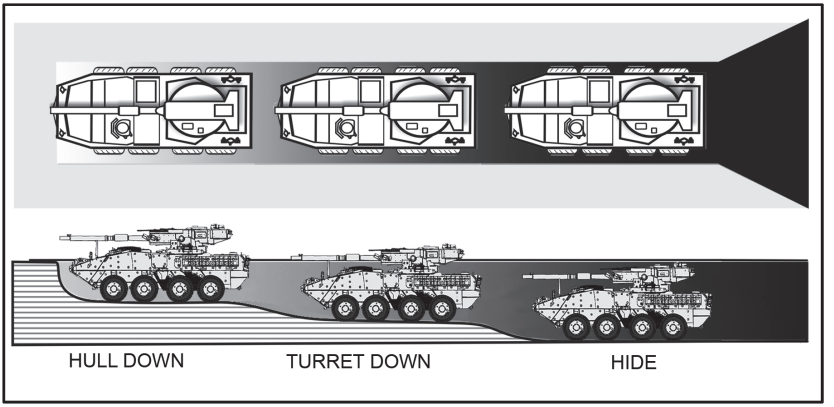

Figure 4-1. Dug-in firing positions

Note. Using turret-down position limits the ability to identify targets in the EA by only using the CPV as a standalone sight.

COUNTERMOBILITY CONSIDERATIONS (OBSTACLE)

4-56. In general, units use obstacles to disrupt, turn, fix, and block an enemy based on the factors of METT-TC. If the commander does not specify an intent for use of obstacles, the PL should analyze the situation and plan hasty or engineer emplaced obstacles. (Refer to FM 3-21.11 for more information.)

4-57. The PL's key considerations in countermobility 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. The PL must keep in mind that both the MGS platoon and the company have only limited ability to transport and emplace obstacles. This means that in most situations the platoon must depend on the battalion for obstacle planning and transport, and on engineers for emplacement.

4-58. The commander's intent guides the emplacement of obstacles based on the following principles and characteristics:

- Obstacles integrate with and reinforce the scheme of maneuver and the direct fire plan.
- They integrate with existing obstacles and tie into natural terrain.

- The platoon frequently employs obstacles and positions them where they will surprise enemy forces.
- The platoon should overwatch obstacles by direct and indirect fires at all times.

AIR DEFENSE

4-59. For a detailed discussion of air defense planning and employment, including considerations for air defense artillery (ADA) assets, refer to Chapter 8.

SECTION IV – PREPARE

4-60. Preparation of a BP begins after the PL has issued a WARNO and conducted leader's reconnaissance. The WARNO ends at the "defend not later than (NLT)" time. The PL designates these preparations as priorities of work and identifies them in subsequent platoon WARNOs or OPORDs. He must weigh the competing demands of security, firing position and obstacle preparation, rehearsals, and coordination against the amount of time available for the preparation; this requirement places a premium on effective TLPs and time management during the preparation process.

BUILDING THE ENGAGEMENT AREA

4-61. The EA is where the commander intends to trap and destroy an enemy using the massed fires of all available weapons. The success of any engagement depends on how effectively the commander can integrate the obstacle plan, the indirect fire plan, and the direct fire plan within the EA to achieve the company tactical purpose.

4-62. At the company level, development of the EA is a complex function. It demands parallel planning and preparation if the company is to accomplish the many tasks for which it is responsible. Despite this complexity, however, EA development resembles a drill because the commander and his subordinate leaders use an orderly, fairly standard set of procedures.

4-63. Beginning with evaluation of METT-TC factors, the development process covers the following steps:

- Identify all likely enemy avenues of approach.
- Determine likely enemy schemes of maneuver.
- Determine where to kill the enemy.
- Plan and integrate obstacles.
- Emplace weapons systems.

- Plan and integrate indirect fires.
- Rehearse the execution of operations in the EA.

4-64. MGS leaders need to be experts in using the seven steps listed above to build their sectors of the company EA. By doing this, MGS leaders are able to destroy the enemy force where the command wants. (Refer to FM 3-21.11 for more information.)

LEVELS OF PREPARATION

4-65. The commander may designate any one of the following three levels of preparation for each BP:

- **Prepare.** This level includes the steps that the platoon conducts during the planning and preparation phases for the deliberate occupation of a BP.
- **Reconnoiter.** This level of preparation consists of the steps that the platoon conducts during the ground reconnaissance of the planning phase.
- **Occupy.** At this level, units enter and conduct activities in the BP. This completes preparation of the position from which the platoon will initially defend. The platoon has fully reconnoitered, prepared, and occupied the position prior to the "defend NLT" time specified in the OPORD.

RECONNAISSANCE OF THE BATTLE POSITION

4-66. The PL and VCs dismount and move to the BP. If possible, platoon vehicles provide overwatch for the reconnaissance group. Otherwise, the PL requests a security element from the company. The reconnaissance group can then move mounted or dismounted around the BP and EA.

4-67. If the PL has already conducted a leader's reconnaissance with the commander, he uses information from his own reconnaissance to acquaint his VCs 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 VCs. 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, at a minimum, issue a detailed WARNO.

4-68. Members of the reconnaissance party should use marking materiel (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 updating graphics using the FBCB2.

4-69. To be most effective, the reconnaissance begins from the enemy's perspective in the EA, with the party looking toward the BP. The PL must receive permission from the commander to move in front of the BP. The PL should explain the enemy situation, outlining probable COAs and the effects of terrain on the enemy's movement. He also identifies the enemy's potential SBFs as well as assault avenues through the platoon's BP.

4-70. The PL and VCs then mark the company EA with platoon and element sectors of fire. They may also mark artillery TRPs, trigger lines, and tentative obstacle locations. Fire control measures may be designated and marked as needed using easily identifiable terrain features.

4-71. When reconnaissance of the EA is complete, and all VCs are sure of where the PL wants to destroy the enemy, the PL and VCs move back to the hide positions. They discuss details of the platoon fire plan, including the trigger line, engagement criteria, fire pattern, disengagement criteria and disengagement plan, routes to supplementary or subsequent BPs, and locations of the Infantry elements. They also make plans to identify and mark primary and alternate fighting positions.

4-72. Prior to departing the hide position, the PL briefs the OPs on actions to take if the platoon does not return on time or if contact is made with the enemy. He also must coordinate with adjacent platoons to establish overlapping fields of fire, eliminate gaps and dead space between the platoons, and confirm the location of friendly dismounted Infantry. More information on coordination is found later in this section.

4-73. Based on the amount of time available and the results of the commander's reconnaissance with the PL, the MGS platoon occupies a BP by executing either a hasty occupation or a deliberate occupation.

Hasty Ocupation

4-74. The MGS platoon conducts a hasty occupation under a variety of circumstances. During an MTC, the platoon can prepare to destroy a moving enemy force by conducting a hasty occupation of BPs or ABF positions in defensible terrain. During defensive operations, hasty occupation can take place during counterattack missions after disengagement and movement to subsequent or supplementary BPs, or in response to FRAGOs reflecting a change of mission.

4-75. A hasty occupation usually occurs in response to a prearranged signal or a FRAGO. Often, only a minimum of planning time and information is available prior to execution. In some situations, however, such as after disengagement, the platoon may occupy prepared positions it has previously reconnoitered. At a minimum, the PL must have the following information when he orders hasty occupation of a BP:

- Where the company commander wants to kill the enemy. The commander designates company TRPs either to define the company EA and platoon sectors of fire or to identify locations where the platoon will mass its fires.
- The tentative location of the BP.
- The platoon's task/purpose.

4-76. The PL passes this information to the platoon. He may supplement it with tentative element or vehicle fighting positions within the BP and platoon TRPs, defining element sectors of fire. As an alternative, he can elect to use the company TRP alone to mass platoon fires to the left and to the right of the TRP. Depending on the situation, the PL issues the information in person or over the radio.

4-77. The PL then directs the platoon to approach the position from the flank or from the rear. Based on terrain factors, the platoon assumes a modified-line formation facing the center of the EA. Vehicle dispersion is generally 100 to 250 meters between MGSs, again based on EA and terrain considerations. Vehicle commanders automatically move to turret-down positions; they execute a short halt and overwatch the EA.

4-78. The PL continues to develop the situation. He identifies additional TRPs defining the company EA or platoon, or element sectors of fire. He also designates tentative vehicle positions (as necessary), routes into and out of the BP, and the location of subsequent BPs. As time permits, the PL establishes the following fire control measures:

- Trigger line and engagement criteria.
- Fire pattern that will be used.
- Disengagement criteria and disengagement plan and the locations of friendly mounted and dismounted Infantry.

4-79. The platoon is now ready to move to hull-down firing positions to engage the enemy. The PL reports "ESTABLISHED" to the company commander. If the enemy has not reached the trigger line and time is available, the PL initiates the steps needed for a deliberate occupation of the BP.

Deliberate Occupation

4-80. The MGS 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; its mission is to provide security for the occupying force.

4-81. The platoon begins by occupying a hide position behind the BP. It assumes a formation that provides 360-degree security based on considerations of METT-TC and OAKOC. Vehicle commanders move to the PL's vehicle and prepare to reconnoiter the position. The PL briefs his gunner on which actions to take if the reconnaissance group does not return by a specified time, or if contact occurs.

OCCUPATION PROCEDURES

4-82. After completing the reconnaissance and coordination, the PL and VCs, with an understanding of the commander's intent, move back to their vehicles. The VCs remount, start vehicles simultaneously, and move to BPs behind their primary fighting positions. On order, the platoon moves simultaneously into turret-down firing positions.

4-83. The PL checks with the OPs to make sure the enemy situation has not changed and then orders platoon vehicles to occupy their primary hull-down firing positions. MGS crews orient on the EA and complete their sector sketch. Each crew sends its completed sector sketch to the PL; the crew retains a copy of the sector sketch for its own reference. The PL updates the platoon fire plan on the FBCB2 and sends it digitally to each VC. Mobile gun systems then move to their respective hide positions and assume the appropriate REDCON status. For more information about sector sketches and platoon fire plans, refer to Chapter 7.

4-84. Using the sector sketches or digital overlays and his knowledge of the situation, the PL prepares the platoon fire plan. He then plots the following information:

- Individual MGS and supporting Infantry (if applicable) positions.
- Platoon sector or EA.
- Target reference points (direct and indirect).
- Range lines, trigger points, and break points (these may coincide).

- Observation posts (if used).
- Obstacles (if used).
- Indirect fire targets, including final protective fires (FPF), if allocated.
- Dead space.
- Avenues of approach (ground and air).
- Overlapping sectors of fire.

4-85. The PL completes the fire plan, entering all required marginal information. He reports "ESTABLISHED" to the commander and forwards the fire plan to him and the platoon via digital means.

COORDINATION

4-86. Throughout the preparation phase, the PL coordinates with adjacent Infantry platoons, supporting dismounted Infantry, and other elements to ensure that platoon sectors of fire overlap, and that sustainment requirements are met. Coordination is initiated from left to right and from higher to lower. The PL, however, should initiate sustainment coordination if he desires support other than that specified in the company OPORD. He must also ensure that the platoon conducts necessary internal coordination.

ADJACENT UNIT COORDINATION

4-87. The information that the platoon exchanges with adjacent elements includes—

- Locations of all vehicles and Infantry dismounts.
- Locations of primary, alternate, and supplementary firing positions and locations of flanks.
- Overlapping fields of observation and direct fire.
- Locations and types of obstacles.
- Locations of any dead space between units and procedures for covering dead space.
- Indirect fire targets and signal operating instructions information.
- Locations of OPs and patrol routes.
- Routes into and out of BPs and routes to subsequent and supplementary BPs.
- Current enemy SITREP.

PLATOON COORDINATION

4-88. Effective internal coordination within the platoon enhances the SU of MGS crews, and alerts them to the actions needed to prepare the defense. One method of ensuring this coordination is dissemination of enemy and friendly information in the form of intelligence updates. In addition, sector sketches and the platoon fire plan facilitate coordination of fires before the fight begins.

FIRES

4-89. The PL should confirm locations of artillery and mortar targets, adjust them as needed, and mark them for daylight and limited visibility recognition. He also should mark triggers that will be used to request artillery on moving targets. These locations are based on the enemy's doctrinal rates of movement, the terrain, the time of flight of artillery rounds (the company fire support team [FIST] has this information), and the priority of the target. Marking of triggers also may be necessary when readily identifiable terrain features are not available.

4-90. The PL can use either of two methods to accurately mark triggers and target locations. In one method, a member of the platoon moves to the locations using the map, GPS, or terrain association, and marks the sites. In the second, a member of the platoon notes the impact location of rounds during artillery registration, and moves to and marks these target locations. In both methods, markings must be visible under both daylight and limited visibility conditions.

INTELLIGENCE

4-91. Operational security is critical during defensive preparations. The platoon should adhere to the procedures to limit the effectiveness of enemy reconnaissance efforts.

4-92. Intelligence is constantly updated by higher headquarters as the battlefield situation develops (such as, when the enemy fights through a screening or covering force). The PL keeps the platoon informed with periodic intelligence updates. The updated information may force him to reevaluate and adjust his timeline to ensure preparations are as complete as possible.

4-93. During the preparation phase, the PL may conduct reconnaissance of subsequent or supplementary BPs. Simultaneous planning for these positions during the preparation of initial positions is a critical component in effective time management.

MOBILITY AND SURVIVABILITY

4-94. Because engineer assets are at a premium during defensive preparations, the platoon should make optimum use of them; they should not be idle for any reason other than maintenance checks and services. As directed in the platoon OPORD, a member of the platoon, either the PL or a designated VC, must physically link up with the engineers and escort them to each firing position. The escort provides local security and instructions to the engineers.

Mobility Considerations

4-95. Engineer mobility operations in the defense are usually of lower priority than those involving survivability and countermobility. Engineers can improve routes from the platoon's hide position to its primary, alternate, and supplementary fighting positions as well as to successive and supplementary BPs. Such efforts are labor-intensive, however, and should be evaluated carefully based on the commander's priority of work for the engineers.

Survivability Considerations

4-96. Engineers improve the platoon's survivability by digging or improving hide, turret-down, or hull-down positions. They frequently work with the VC, since it is the VC who ultimately should be responsible for the improvement of his firing position. The VC must ensure that the location, orientation, and depth of the hole are correct before the engineer departs for the next fighting position. He also should be aware of the importance of selecting a site with a background that can break up the silhouette of his vehicle this helps to prevent skylining.

4-97. Several factors can help the platoon significantly increase the number of kills it achieves while executing the defense. Firing positions should maximize weapon standoff or the platoon's ability to mass fires from survivable positions. As previously discussed, firing positions and obstacles should be complementary. The PL must coordinate with engineers to ensure that the platoon's direct fires can cover the entire area of any obstacle the commander intends to emplace in the platoon's sector of fire. Additionally, the platoon should know the exact location of the start point, end point, and turns of the obstacle. This knowledge contributes to the accuracy of calls for fire. The PL also can locate a TRP on the obstacle to ensure more accurate calls for fire.

Note: The MGS's ability to scan effectively while dug-in will be severely limited due to the low level of the sights. This leaves the crew with only the CPV to scan with.

SUSTAINMENT

4-98. Chapter 9 addresses resupply methods and procedures in detail. If prepositioning is authorized by the commander, the PL determines the amount and type of prestock (usually ammunition) that the operation requires. He then directs the PSG to select and prepare the prestock location and coordinate the delivery of the prestock supplies.

4-99. The platoon can prestock resupply successfully in virtually any location where supplies can be hidden and protected (such as in or behind the primary fighting position, along the displacement route, or in the firing positions of a subsequent BP). Preparation of the site includes providing cover, concealment, and protection for platoon delivery personnel, and vehicles during the transfer process. The site must also protect the supply materiel from enemy observation and the effects of artillery and weather.

4-100. Once the supplies are delivered, the prestock site should be concealed. The platoon should conduct periodic security checks or keep the site under constant surveillance to ensure the prestock's safekeeping.

REHEARSALS

4-101. Rehearsals are especially effective in helping the platoon practice and coordinate the following necessary tactical skills:

- Occupation procedures.
- Calls for fire.
- Initiation, distribution, and control of direct and indirect fires.
- Movement to alternate and supplementary firing positions.
- Displacement to subsequent and supplementary BPs.
- Actions in the EA.

4-102. Rehearsals can begin as soon as the platoon receives the company WARNO, 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 rehearsals and "force-on-force" rehearsals. The platoon should continually raise the level of difficulty by conducting the rehearsals

at night and at various MOPP levels. The PL should integrate radio traffic and calls for fire during all rehearsals.

INSPECTIONS

4-103. Precombat checks and PCIs continue throughout the preparation phase focusing on equipment and knowledge of the MGS crews of the assigned mission. Inspection procedures are discussed in detail in Chapter 3.

SECTION V – EXECUTE AND ASSESS

4-104. Successfully executing the defense is contingent on the planning and preparation that the platoon conducted. This section contains a "best case" discussion of the procedures (in chronological order), and considerations that apply during the execution of a typical MGS platoon defensive mission.

HIDE POSITION

4-105. The platoon's hide positions are located behind its primary battle or fighting positions. The platoon occupies hide positions in one of two ways, either as a unit, using perimeter defense techniques discussed in Chapter 6, or with individual vehicles occupying hide positions behind their primary fighting positions. The first of these two methods is used when hide positions are behind the BP.

4-106. While in the hide position, the platoon employs all applicable OPSEC measures to limit aerial, thermal, electronic, and visual detection. 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.

Note. The PL may decide to occupy turret-down positions rather than hide positions. The PL bases his decision largely on terrain considerations (such as availability of cover and concealment). Also, he determines whether or not the enemy situation is vague, and if observation of the EA is necessary.

OCCUPATION OF FIRING POSITIONS

4-107. The PL monitors intelligence reports provided on the company net and upgrades the platoon's REDCON status as the enemy approaches, or as directed. Once the previously identified occupation criteria are met, the PL

orders the recovery of the OP, the platoon then occupies its primary fighting positions. Based on reconnaissance, rehearsals, and known time-distance factors, each VC moves to his position through cover along a previously reconnoitered route. The VCs use GPS waypoints to assist in controlling movement. Ideally, the platoon occupies turret-down positions with enough time to orient weapons systems, and acquire and track targets before the enemy crosses the direct fire trigger line.

4-108. The observation range of OPs is usually limited to the EA. Because of this, OP reports should not be the sole criterion upon which the platoon decides to occupy fighting positions. If the enemy situation becomes unclear, the PL may request permission to occupy turret-down positions for the purpose of scanning the EA.

CALLS FOR FIRE

4-109. As an enemy approaches the direct fire trigger line, the PL keeps his crews updated on the situation being reported on the company net. He monitors the SPOTREPs and the calls for fire that are sent on the company net and FBCB2. He can send any new enemy information higher via digital means. The PL employs available artillery to engage targets that are not being requested by other PLs or the company commander. He initiates calls for fire on moving enemy elements using previously identified triggers and the "AT MY COMMAND" method of control. For details on calls for fire, refer to Chapter 8.

DIRECT FIRES

4-110. The following paragraphs contain direct fire discussions on fire commands, trigger lines, movement, and reporting.

FIRE COMMANDS

4-111. The PL initiates MGS direct fires using a fire command as discussed in Chapter 7. The fire command enables him to use a single element or an individual vehicle to engage single targets (such as a reconnaissance 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 MGS 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

4-112. The trigger line is a backup to the fire command. In the absence of communications from the PL, an established direct fire trigger line allows

each VC to engage enemy vehicles in his sector of fire. The criteria for the direct fire trigger line should specify the number of enemy vehicles that must pass a designated location before the VC can engage without any instructions from the PL. Selection of the trigger line is dependent on METT-TC factors. Considerations might include—

- A maximum range or a point (such as an obstacle) at which the platoon will initiate fires to support the company scheme of maneuver.
- The survivability of enemy armored vehicles.
- The fields of fire that the terrain allows.
- The planning ranges for the platoon's weapons systems.

Note. The planning ranges for the MGS platoon's weapons systems are 105-mm main gun, 2000 meters; caliber .50 M2 machine gun, 1800 meters; and 7.62-mm coaxial machine gun, 900 meters. For further information about types and purposes of main gun munitions, refer to Chapter 7.

MOVEMENT

4-113. Individual MGSs 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. Influencing each VC's decision to move between firing positions are such factors as the enemy's movement rate; the number of advancing enemy vehicles; the accuracy with which an enemy is acquiring and engaging friendly fighting positions; and the lethality of an enemy's weapons systems.

REPORTING

4-114. During the direct firefight, VCs describe the situation for the PL, who in turn describes the situation for the commander. Contact reports, SPOTREPs, and SITREPs are used appropriately and as needed. In the defense, the platoon uses contact reports to alert the platoon to previously unidentified enemy targets. The SPOTREPs and SITREPs list the number, types, and locations of enemy vehicles observed, engaged, and destroyed. These reports also provide the strength and status of friendly forces.

4-115. Everyone involved in the reporting process must send reports that present the situation accurately and clearly. They 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. The FBCB2 is the primary means of communicating that the platoon uses whenever time and the situation permit. However, when speed of information is needed (such as during actions on contact) it may be necessary to use FM voice.

RESUPPLY

4-116. The platoon may expend main gun ammunition quickly in a direct fire fight. Based on the terrain and expected enemy situation, the PL must develop and execute resupply procedures to maintain a constant supply of main gun rounds. The PSG must stay abreast of the platoon's resupply needs, and send digital reports for emergency resupply to the 1SG and the XO as soon as the tactical situation dictates. He must balance the necessity for maintaining direct fires on the enemy with the demands imposed on the platoon's crews by the ammunition transfer process, and the retrieval of prestock supplies. For details on prestock resupply, refer to Chapter 9.

DISPLACEMENT

4-117. Displacement may become necessary in several types of situations. For example, a numerically superior enemy may force the platoon to displace to a subsequent BP. In another situation, a penetration or enemy advance on a secondary avenue of approach may require the platoon or element to occupy supplementary BPs or firing positions. The PL chooses between two methods of displacement depending on whether or not the move is conducted with overwatch (and cover).

DISPLACEMENT WITH COVER

4-118. If the displacement is covered, the entire platoon usually displaces as a whole. It employs smoke grenades to screen the displacement. 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 MGS. The crews of individual MGSs orient their weapons systems toward the enemy as they move to the subsequent or supplementary positions along previously identified and reconnoitered routes.

DISPLACEMENT WITHOUT COVER

4-119. If the displacement is not covered by another element, the PL designates one element to overwatch displacement of the other element. The overwatch element is responsible for providing suppressive fires covering the entire platoon sector of fire. It also initiates artillery calls for fire, mixing smoke with tank killing munitions, to help cover the displacement. When overwatch is no longer needed to cover the displacing element's

movement, the overwatch element may request one last artillery call for fire in front of its own position, and then displace to the subsequent or supplementary BP.

Note. In some instances, the platoon might have to use bounding overwatch to the rear during tactical movement to the successive or supplementary position. This may become necessary when such factors do not allow the original overwatch section to displace without the benefit of an overwatch of its own. Such factors include the distance to the new position, the enemy's rate of advance, and terrain considerations (fields of fire).

COMPLETION OF DISPLACEMENT

4-120. The displacement is complete when the platoon has occupied the subsequent or supplementary BP and all vehicles are prepared to continue the defense. If the PL and VCs were able to reconnoiter and rehearse the disengagement and occupation, the occupation should go quickly. If reconnaissance and rehearsals were not possible, the PL must conduct the steps of a hasty occupation as outlined earlier in this chapter.

DISENGAGEMENT

4-121. The company commander establishes disengagement criteria and develops a disengagement plan to support the company scheme of maneuver. Disengagement criteria are primarily based on a specified number and type of enemy vehicles reaching a specified location (usually called the break point) to trigger displacement. Other considerations, such as ammunition supplies and friendly combat power, also influence the decision to displace. Usually, the dismounted Infantry element of the company disengages before the MGS platoon due to the amount of time necessary to remount the ICV.

COUNTERATTACKS

4-122. The platoon is capable of conducting limited counterattacks, either alone or as part of a larger force. It can employ one of two methods—counterattack by fire or counterattack by fire and movement.

PURPOSES

4-123. The platoon may conduct (or take part in) a counterattack to—

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

- Initiate offensive operations.

COORDINATION AND CONTROL

4-124. Coordination and control are critical to the success of the counterattack. Locations of routes and positions of all mounted and dismounted elements must be planned and disseminated to all units. This helps the counterattack force and other elements control indirect and direct fires. If adjustments to any route or position become necessary, the counterattack force must take immediate action to ensure that other forces lift and shift fires; otherwise, fratricide could occur.

COUNTERATTACK METHODS

4-125. There are two methods to counterattackes: counterattack by fire and counterattack by fire and movement. Each are discussed below.

Counterattack by Fire

4-126. When the company executes a counterattack by fire, an MGS platoon conducts tactical movement on a concealed route to a predetermined BP or ABF position. From the BP or ABF position, the platoon can engage the enemy in the flank or rear or both. The remaining platoons hold their positions and continue to engage the enemy. The intent of this method is to use weapon standoff and cover to full advantage, and to destroy the enemy by direct fires.

Counterattack by Fire and Movement

4-127. The intent of this method is to close with and destroy the enemy. The counterattack force uses tactical movement to gain a position of advantage from which it attacks the enemy (from the flank, whenever possible). It conducts an assault based on the particular situation and on the factors of METT-TC.

RESERVE FORCE

4-128. The commander's defensive scheme of maneuver may include employment of the MGS platoon as a reserve force. This force may function to regain key positions through counterattack, block enemy penetrations, protect the flanks of the friendly force, or provide a base of fire for disengaging elements.

TRANSITIONS

4-129. Once the enemy's 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 conduct transition by consolidating and reorganizing quickly so it will be ready to destroy follow-on enemy forces and execute any other required tasks.

CONSOLIDATION

4-130. To consolidate a defensive position, the platoon—

- Eliminates remaining enemy 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 MGSs are disabled.
- Secures EPWs.
- Reestablishes OPSEC by emplacing mounted and dismounted OPs and early warning devices 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

4-131. Reorganization is the process of preparing for continued fighting, and usually is conducted according to unit SOPs. The platoon uses the same means to accomplish reorganization in the defense as it uses in the offense. For details on reorganization, refer to Chapter 3, Section V.

Chapter 5

Stability

The MGS platoon has unique capabilities that make it an important asset to Army units executing missions during stability operations. The platoon may be called upon to perform a variety of missions in a wide range of political, military, and geographical environments, and in both combat and noncombat situations. Usually, these operations are decentralized, and might require the MGS PL to make immediate decisions. The distinction between these roles and situations are not always clear, presenting unique challenges for the platoon, its leaders, and its crew. Chapter 5 covers fundamentals, purposes, and types of stability operations.

SECTION I – TEXT REFERENCES

5-1. Table 5-1 contains the references used in this chapter.

Table 5-1. Guide for subjects referenced in text

Subject	*References*
Stability Tasks	FM 3-07
Rules of Engagement	JP 1-02
Cordon and Search	FM 3-06.20
Vehicle and Personnel Search Procedures	FM 3-20.98

SECTION II – FUNDAMENTALS OF STABILITY OPERATIONS

5-2. Stability operations conducted outside the United States and U.S. territories promote and protect U.S. national interests by influencing political, civil, and military environments, and by disrupting specific illegal activities. U.S. forces accomplish these goals by supporting diplomatic initiatives, improving military-to-military relations, and deterring or resolving conflict. The overarching purpose of the goals is to promote and sustain regional and global stability. Stability operations encompass a range of actions that shape the strategic environment and respond to developing crises. The military activities that support stability operations are diverse, continuous, and often long-term in nature.

STABILITY TASKS

5-3. Stability operations complement offensive and defensive operations. They may be the decisive operation within a phase of a campaign, or major combat operations. Although military forces set the conditions for success, the other instruments of national power are decisive. The purposes of stability operations are to—

- Isolate threats from the local population.
- Gain support for the indigenous government.
- Shape the environment for interagency and host-nation success by providing the necessary security and control for the host nation and interagency elements to function.
- Develop an indigenous capacity for a viable market economy, rule of law, and democratic institutions. This requires security, control, essential services, and governance provided by the military, host nation, or both.

5-4. During hostilities, stability operations help prevent armed conflict from spreading. Stability forces may conduct defensive and offensive operations 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. (Refer to FM 3-07 for more information.)

5-5. Stability tasks include—

- **Establish civil security.** This means protecting the populace from serious external and internal threats.
- **Establish civil control.** This means 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 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 lifesaving medical care, the prevention of epidemic disease, and the provision of— food and water; emergency shelter (from the elements); and basic sanitation (sewage and garbage disposal).

- **Support to governance.** This includes 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.

ROLE OF THE MOBILE GUN SYSTEM PLATOON

5-6. As noted, the MGS platoon has unique capabilities that make it an important asset to execute missions during stability operations. Whether it is operating organic to the company or task-organized to a light or heavy force, the platoon can support a wide range of operations in various political and geographic environments.

SECTION III – PLAN

5-7. Although stability operations can take place in any part of the world, they are most likely to occur in third world countries where social, political, economic, and psychological factors contribute to political instability. Each country or region is unique, with its own history, culture, goals, and problems. U.S. forces deployed to these areas can experience rapid and dramatic changes in situations and missions. The MGS PL must understand this environment; he must plan for rapid changes in the situation or mission, and constantly be prepared to adapt to them. In addition, the platoon must be prepared to operate in any type of terrain and climate.

PLANNING CONSIDERATIONS

5-8. Stability operations 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 on 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 also the planning and operational considerations discussed in this section.

APPLY FORCE SELECTIVELY AND DISCRIMINATELY

5-9. Commanders must ensure their units apply force consistent with and adequate to achieve assigned objectives, and employ combat power selectively in accordance with assigned missions and prescribed legal and

policy limitations. Commanders tailor the tactical application of combat power within the framework of the ROE.

ACT DECISIVELY TO PREVENT ESCALATION

5-10. Army forces 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, Army forces assure friend and foe alike that they can protect themselves, and the people and facilities under their charge, and also achieve stability objectives.

UNDERSTAND POTENTIAL CONSEQUENCES

5-11. Individual and small unit actions can have consequences disproportionate to the level of command or amount of force involved. In some cases, tactical operations and individual actions can have strategic impact, such as the negative psychological impact the sight of an MGS may have on the local populace during stability operations. Recognizing and avoiding these potential problems requires trained, disciplined, and knowledgeable leaders and Soldiers at every level. 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

5-12. Although extreme tension may underlie stability operations, the general tempo of these operations is slow. Nonetheless, the speed of specific military action can vary widely. For example, fast, violent, tactical movement by a reaction force can relieve encircled friendly forces; deliberate occupation of stationary defensive positions can provide overwatch at the traffic control point (TCP).

5-13. Throughout stability operations, friendly forces can expect the enemy to execute both overt and covert operations in efforts to test friendly reaction times and security procedures. Units that are predictable or that lack OPSEC leave themselves susceptible to attack. For the MGS 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 the platoon executes security procedures.

INTELLIGENCE

5-14. Intelligence is crucial during stability operations planning, preparation, and execution. Prior to being committed, forces must collect and process intelligence to focus on supporting all planning, training, and operational requirements.

DECENTRALIZED OPERATIONS

5-15. Although stability operations are usually centrally planned, execution often takes the form of decentralized, small scale actions conducted over long distances. Responsibility for making decisions on the ground falls to junior leaders. Thorough understanding of the commander's intent and the applicable ROE or rules of interaction (ROI) are critical at each operational level.

RULES OF ENGAGEMENT

5-16. Rules of engagement are directives issued by competent military authority that delineate the circumstances and limitations under which U.S. forces will initiate and continue combat engagement with other forces encountered (JP 1-02). Rules of engagement help commanders accomplish the mission by regulating the use of force in operations. Rules of engagement are implemented to help ensure that force is applied in a disciplined, principled manner that complies with law and policy and minimizes collateral damage while facilitating mission accomplishment.

5-17. Understanding, adjusting for, and properly executing ROE are steps vital to the success of stability operations. Each situation's ROE determine which, if any, of the unit's TTPs require adjustment. Rules of engagement will change throughout the range of military operations. Because of this, leaders must be familiar with the current ROE and explain the ROE to Soldiers.

5-18. Rules of engagement never compromise a Soldier's right to self-defense. Each Soldier must understand the ROE and be prepared to execute them properly in every possible confrontation. Rules of engagement violations can have operational, strategic, and political consequences that can affect national security; also, the enemy can exploit such violations.

PROTECTION

5-19. Local politics and news media are highly influential, and have the ability to affect stability operations. Armed forces should bear this in mind, and take the necessary precautions during stability operations to minimize casualties and collateral damage. At the same time, however, protection is a

constant priority and must not be jeopardized. Armored forces are commonly deployed in a protection role.

5-20. When attempting to limit the level and scope of violence that Army forces use during stability operations, leaders must avoid making tactically unsound decisions or exposing the force to unnecessary risks. On the other hand, an overpowering use of force correctly employed and appropriately applied, can reduce subsequent violence or prevent a response from the opposing force. The ROE and the OPORD from the battalion or brigade must address these considerations.

5-21. Operations security, tempered by restrictions in the ROE and ROI, is an important tool that enables the PL to accomplish his protection goals. Every Soldier and leader should follow security procedures that encompass the full range of antiterrorist activities. Examples include proper RTPs; strict noise, light, and litter discipline; properly worn uniforms; and appropriate demeanor. Security measures of equal importance include effective use of cover and concealment, obstacles, operations, early warning devices, protection by armored vehicles, and safe locations for eating and resting.

SUSTAINMENT

5-22. The OE that the platoon faces during stability operations may be very austere, creating special sustainment considerations. These considerations 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

5-23. News coverage is now broadcast via international television and radio, and the Internet. Consequently, 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, therefore, Army personnel must realize that operating contrary to official U.S. policy may damage the nation's interests and international standing.

5-24. MGS platoon crewmen must learn how to deal effectively with electronic and print media representatives (such as reporters and photographers). Platoon training should thoroughly address any information restrictions that the Armed Forces impose on the media. Soldiers must also

understand which subjects they are authorized to discuss, and which subjects they must refer to higher authorities for discussion. Higher authorities include their chain of command or the public affairs office, which usually issues daily guidance dealing with these subjects.

OPERATIONS WITH OUTSIDE AGENCIES

5-25. U.S. Army units may conduct certain stability operations in cooperation with a variety of outside organizations. These outside organizations include other U.S. armed services or government agencies and international organizations. Examples of international organizations are private volunteer organizations (such as Doctors Without Borders) and nongovernmental organizations (such as the Red Cross).

SOLDIERS' RESPONSIBILITIES

5-26. U.S. Soldiers may have extensive contact with host nation civilians during stability operations. As a result, their personal conduct has a significant impact on the opinions, and thus the support, of the local population. It is vital that Soldiers understand that misconduct by U.S. forces (even those deployed for only a short time) can damage rapport that took years to develop. U.S. Soldiers must treat local civilians and military personnel as personal and professional equals, affording them the appropriate customs and courtesies.

5-27. Every Soldier must be updated continuously on changes to operational considerations (such as environment, ROE/ROI, media, and protection). Such changes can affect the way a Soldier reacts in a given situation. Keeping the Soldier informed of actual and impending changes can greatly enhance his SA, and his ability to adapt to changing conditions. Leaders must disseminate information quickly and accurately.

5-28. Every Soldier is a sensor. The collection of information is a continuous process, and Soldiers are obligated to report all information. Information is provided by many sources, including friendly forces, enemy elements, and the local populace. From the friendly standpoint, each Soldier must be familiar with information requirements, including local priority information requirements. At the same time, enemy soldiers continuously seek information on U.S. actions, often blending easily into the civilian population. U.S. Soldiers must be aware of this and use OPSEC procedures at all times.

5-29. To emphasize Soldier responsibilities during stability operations, 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. Leaders should stress that terrorists and thieves might attempt to infiltrate positions or mount vehicles either to steal equipment and supplies, or to cause harm to U.S. forces or facilities.

5-30. To enhance civilian cooperation and support, the MGS PL must obtain a key word and phrase card from the unit's intelligence and security officer (S2). This card assists in translation of key English phrases into the language of the host nation. These phrases should apply specifically to the AO.

TASK ORGANIZATIONS

5-31. The MGS platoon can task-organize to operate with a variety of units. This versatility helps the platoon accommodate the unique requirements of stability operations. This could include a tank and mechanized Infantry company team, or an Infantry company or battalion. Additionally, the platoon may operate with other elements such as linguists, counterintelligence teams, and civil affairs teams from the brigade.

SECTION IV – PREPARE

5-32. This section contains discussions about training for stability operations and leader requirements during the operations.

TRAINING FOR STABILITY OPERATIONS

5-33. Disciplined, well-trained, combat-ready leaders and crewmen adapt to the specialized demands of stability operations. To achieve this degree of readiness before deployment, the platoon must train thoroughly on such factors as the OE, the ROE/ROI, protection, and individual Soldier responsibilities. Also, personnel must update their training regularly after deployment.

LEADER REQUIREMENTS

5-34. Flexibility and SA are paramount requirements, especially for the MGS PL. The platoon's role and objectives in stability operations are not always clear. The PL is sometimes called upon to make on-the-spot decisions that could have immediate, dramatic effects on the strategic or operational situation. In this uniquely tense setting, leaders must not disregard the will of belligerent parties and the lethality of these groups' weapons. To do so would compromise the success of the mission and risk Soldiers' lives.

SECTION V – EXECUTE AND ASSESS

5-35. Mobile gun system platoons usually execute stability activities, which take maximum advantage of the MGS platoon's inherent capabilities of firepower, maneuver, and survivability. The platoon executes move, attack, and defend missions using procedures similar to those described throughout this manual.

5-36. However, the factors of METT-TC and the operational considerations of stability operations can modify conditions needed to accomplish the mission. This means that occasionally the MGS platoon assist with operations that usually are handled by specially trained and equipped elements. For example, the platoon could assist the Infantry platoons during crowd and riot control if a shortage of military police exists.

5-37. One consideration when MGS platoons operate in such a role is that dismounted missions negate the MGS platoon's inherent advantages (lethality, mobility, and survivability).

5-38. The following discussion examines several situations the MGS platoon could face during stability operations. The list is not all-inclusive; assessment of METT-TC factors and the operational considerations applicable in the AO might identify additional mission requirements.

5-39. The PL must keep in mind that the relatively simple situations illustrated here cannot adequately portray the ever-changing, often confusing conditions of stability operations. As noted, flexibility is a key to success (and survival) under such conditions. The PL should attempt to shape the role or mission to match the platoon's unique characteristics and capabilities as much as possible.

ESTABLISH A CHECKPOINT

5-40. The SBCT company and MGS platoon frequently establish checkpoints during stability operations. Checkpoints can be either hasty or deliberate.

PURPOSE

5-41. The MGS platoon or vehicle may be directed to support the Infantry company or platoon in establishing a checkpoint. Checkpoints have the following purposes:

- Obtain intelligence.
- Identify enemy combatants or seize illegal weapons.
- Disrupt enemy movement or actions.

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

Deliberate Checkpoints

5-42. Deliberate checkpoints might be permanent or semipermanent. They are typically constructed and employed to protect an operating base or well-established supply route. Deliberate checkpoints are often used to secure the entrances to lodgment areas or base camps. They may also be used at critical intersections or along heavily traveled routes to monitor traffic and pedestrian flow.

5-43. Deliberate checkpoints can be constructed so that all vehicles and personnel are checked or where only random searches occur (ROE and METT-TC dependent). They are useful deterrents and send a strong law and order or U.S. presence message. Deliberate checkpoints and their locations are known to terrorists and insurgents.

5-44. PLs must consider that deliberate checkpoints may quickly become enemy targets and Soldiers operating deliberate checkpoints are highly visible and viable targets for enemy attack.

Hasty Checkpoints

5-45. Such checkpoints are planned and used only for a short, set period. Hasty checkpoints are normally employed during the conduct of a vehicle or foot patrol. The hasty checkpoint is similar in nature to the deliberate checkpoint but only uses transportable materials.

OVERWATCH A BLOCKADE/ROADBLOCK

5-46. The MGS platoon (or element) overwatches blockades or roadblocks. Roadblocks can be either a manned position or a reinforcing obstacle covered by fires only. The MGS platoon coordinates with dismounted Infantry from the company for local security (OPs and dismounted patrols). Personnel improve positions by using procedures for deliberate occupation of a BP. For details on BP improvement procedures, refer to Chapter 4. Platoon and company SOPs list equipment needed to conduct a roadblock or checkpoint overwatch.

CONDUCT CONVOY ESCORT

5-47. The MGS platoon conducts convoy escort duties using procedures covered in Chapter 6.

SUPPORT BREACHING OPERATIONS

5-48. The MGS platoon (or element) overwatches breaching operations along the MSR or provides overwatch to engineer elements as they clear the route. In doing so, the platoon conducts tactical movement as outlined in Chapter 3.

5-49. Based on METT-TC factors, the MGS platoon may use tactical movement techniques to provide overwatch for the proofing vehicle. If mines are detected, the platoon continues to overwatch the breaching unit until all mines have been detected and neutralized. If the obstacle is not within the breaching unit's capability, engineers are called forward. At all times, 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, damaged or changed road surfaces, and freshly dug earth. These conditions may indicate the presence of newly emplaced improvised explosive devices (IEDs).

SUPPORT CORDON AND SEARCH OPERATIONS

5-50. During cordon and search operations, the MGS platoon occupies overwatch and hasty defensive positions to isolate a search area. Close coordination and communication with the search team are critical. Also important is employment of OPs and patrols to maintain surveillance of dead space and gaps in the cordoned area.

5-51. The MGS platoon (or element) 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. (Refer to FM 3-06.20 for more information.)

5-52. The MGS platoon may support the Infantry by conducting vehicle and personnel searches as part of the cordon and search operation as required. (Refer to FM 3-20.98 for more information.)

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Chapter 6

Tactical Enabling Operations

Chapter 6 describes other tactical operations the MGS platoon might conduct to complement or support its primary operations of move, attack, and defend. The platoon may execute these additional operations separately or as part of a larger force.

SECTION I – TEXT REFERENCES

6-1. Table 6-1 contains the references used in this chapter.

Table 6-1. Guide for subjects referenced in text

Subject	*References*
Reconnaissance Operations	FM 3-21.11
Security Operations	FM 3-21.11
Establishing an OP	FM 3-21.11
Types of Reconnaissance Patrols	ATTP 3-21.9
Combat Patrols	ATTP 3-21.9
Escort Mission Considerations	ATTP 3-21.9
Escort Actions at an Ambush, Obstacle, and Halt	ATTP 3-21.9
Linkup Steps	ATTP 3-21.9
Actions at Danger Areas	ATTP 3-21.9
Breaching Operations	ATTP 3-90.4
Reinforcing Obstacle Types and Descriptions	FM 90-7

SECTION II – RECONNAISSANCE

6-2. Reconnaissance is a mission the platoon undertakes to obtain, by visual observation or other detection methods, information about the activities and resources of the enemy, or to secure data concerning the meteorological, hydrographic, or geographic characteristics of a particular area.

6-3. Mobile gun system platoons may perform a mounted reconnaissance or support a dismounted reconnaissance by overwatching an Infantry platoon whose mission may be to collect information to confirm or deny current intelligence or predictions. This information may concern the terrain, weather, and population characteristics of a particular area as well as the threat. Reconnaissance usually precedes execution of the overall

operation and extends throughout the AO. (Refer to FM 3-21.11 for more information.)

RECONNAISSANCE PATROLS

6-4. Reconnaissance patrols provide timely and accurate information on the enemy and terrain. They confirm the leader's plan before it is executed. The commander must brief the PL the specific information requirements for each mission. Types of reconnaissance patrols are described below.

ROUTE

6-5. Route reconnaissance patrols obtain detailed information about a specified route, and about all terrain where the enemy could influence the movement along that route.

AREA

6-6. Area reconnaissance focuses only on obtaining detailed information about the terrain or enemy activity within a prescribed area. As soon as it does so, it either reports the information by radio or digital means, or returns to the larger unit to report. This patrol can obtain, verify, or confirm or deny extremely specific information for the commander.

ZONE

6-7. Zone reconnaissance is a directed effort to obtain detailed information on all routes, obstacles, terrain, and enemy forces within a zone defined by boundaries.

LEADER'S

6-8. Leader's reconnaissance patrols reconnoiter the objective just before an attack or, in the case of a point reconnaissance, prior to sending elements forward to locations where they will observe. It confirms the condition of the objective. It also gives subordinate leaders a clear picture of the terrain where he will move, and of the part of the objective he must seize or observe. The patrol can consist of the unit commander or representative, the leaders of major subordinate elements, and sometimes a few security personnel and the unit guides. This patrol returns to the main body as quickly as possible.

RECONNAISSANCE BY FIRE

6-9. The focus of reconnaissance by fire is on the key terrain that dominates danger areas, on built-up areas that dominate the surrounding terrain, and on unclear wooded areas. The commander can order reconnaissance by fire in his original plan or on recommendation from the

PL. The commander may direct the platoon to execute reconnaissance by fire when contact with the enemy is expected, or when contact has occurred but the enemy situation is vague, and the ROE allows it. The platoon then conducts tactical movement, occupying successive overwatch positions until it makes contact with the enemy or reaches the objective.

6-10. At each overwatch position, the PL may designate TRPs. Then, he either requests indirect fires or employs direct fires on likely enemy locations. This forces the enemy to return direct fire or to move, thus compromising its positions. The PL then directs individual MGSs or his platoon to fire their .50-caliber or coaxial machine guns or both into targeted areas. Also, there are some situations in which the platoon can use main gun fire.

6-11. Some individual MGSs and sections may not be designated to reconnoiter by fire. Instead, they observe the effects of the firing vehicles, identify enemy forces not previously destroyed, and engage those forces. Reconnaissance by fire is the least preferred reconnaissance method when others are available to the PL. The mission variables of METT-TC will determine the reconnaissance method employed by the platoon.

Note. A disciplined enemy might not return fire, or might not move if it determines that the pattern or type of fires employed will be nonlethal. The PL must analyze the situation and direct the use of appropriate fires on suspected positions.

SECTION III – SECURITY

6-12. Security is the measures the MGS platoon takes to protect it against all acts designed to impair its effectiveness. Security measures are an inherent aspect of all military operations and can be moving or stationary.

6-13. The platoon conducts security operations to—

- Provide early and accurate warning of enemy operations.
- Provide the protected force with time and maneuver space to react to the enemy and to develop the situation.
- Enable the commander to effectively employ the protected force.

6-14. Mobile gun system platoons conduct local security measures. They may also be tasked to provide security measures for larger units (called the main body). Measures include screen, guard, cover, and area security. These tasks are executed in the larger unit's security zone (front, flank, or rear of the main body). (Refer to FM 22-6 for more information). Leaders given

these missions or participating in the mission of a larger unit must, at a minimum, understand their engagement criteria and whether or not to become decisively engaged. (Refer to FM 1-02 for more information.) Security measures are defined in the following ways:

- **Local.** Local security consists of low-level security operations conducted near a unit to prevent surprise by the enemy. Local security measures are the same as those outlined for exterior guards in FM 22-6.
- **Screen.** Screen is a form of security operations that primarily provides early warning to the protected force. A screen consists of a combination of OPs and security patrols.
- **Guard.** Guard is a tactical mission task where the guard force protects the main body by fighting to gain time while observing and preventing the enemy's observation and direct fire against the main body. Units conducting a guard mission cannot operate independently because they rely on the fires and warfighting functions of the main body. Guard missions consist of a combination of OPs, BPs, combat patrols, reconnaissance patrols, and MTC for protection.
- **Cover.** Cover is a form of security operations with the primary task to protect the main body. This is executed by fighting to gain time while also observing and preventing the enemy's ground observation and direct fire against the main body. Ordinarily, only battalion-size element and larger have the assets necessary to conduct this type of security operation.
- **Area.** Area security is a form of security operations conducted to protect friendly forces, installations, routes, and actions within a specific area. During conventional operations (major theater of war scenarios), area security refers to the security measures used in friendly controlled areas. Many of the tasks traditionally associated with stability operations and small-scale contingencies fall within the scope of area security. These include road blocks, TCPs, route security, convoy security, and searches.

OBSERVATION POSTS

6-15. Observation posts are especially important in maintaining the platoon's OPSEC and enhancing its AO. 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. Observation posts can be employed either mounted or dismounted.

SELECTION OF THE OBSERVATION POST SITE

6-16. Before deploying an OP, the PL analyzes the terrain in his sector; 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 area or sector. Ideally, the fields of observation of adjacent OPs and units will overlap to ensure full coverage of the sector.
- Effective cover and concealment. Positions with natural cover and concealment help to reduce the OP's vulnerability, an enemy's 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.
- Not be in a site that would logically be the target of an enemy's observation or that would serve as artillery TRPs.
- Does not skyline observers. Platoons should avoid hilltops, and position the OP farther down the slope of the hill.
- Ideally the OP site is within range of platoon small arms fire. This enables the platoon to cover the OP if withdrawal becomes necessary.

MOUNTED OBSERVATION POSTS

6-17. 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 sector. They enable the PL to take advantage of his vehicles' capabilities: magnified thermal and daylight optics, sophisticated communications, lethal weapons systems, and enhanced survivability.

6-18. The CPV on the MGS is especially valuable in the mounted OP. The MGS can occupy a turret-down position and use the CPV to scan the designated sector without moving its turret.

6-19. 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 a member of the crew to provide close-in local security for the vehicle. Special consideration must be made for the MGS

when dismounting an OP. The MGS will be severely degraded if contact is made with only two members remaining in the vehicle. The dismounted crewman occupies a position far enough away that sounds from the vehicle do not prevent the OP from hearing an approaching threat. 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 or troop commander's OPSEC plan.

DISMOUNTED OBSERVATION POSTS

6-20. 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, VCs will need to emplace OPs to protect blind spots. Use of supporting Infantry is the best answer, but gunners may be required to fill this mission if Infantry is not available. They also augment or replace mounted OPs based on the commander's OPSEC plan. As previously stated, the MGS will be severely degraded if contact is made while only two crewmen are aboard. Use of supporting Infantry is the best COA to occupy a dismounted OP. (For details on establishing an OP, refer to FM 3-21.11.) The MGS platoon uses the following steps to occupy, staff, and improve a dismounted OP:

- The PL or the PSG determines the need for the OP and identifies the location based on the physical characteristics outlined previously in this section.
- The PL or the PSG assembles OP personnel at his vehicle.
- The unit SOP designates OP personnel. 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 the 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 SOPs. Equipment usually includes—
  - Individual weapons, M4 rifle, and grenades.
  - Seasonal uniform with modular lightweight load-carrying equipment.
  - Communications equipment such as wire, flag set, flashlight, and radio.
  - Appropriate MOPP gear and CBRN detection equipment.

Note. The use of nonsecure radios is not recommended; this includes hand-held radios. If used, however, platoons must exercise extreme caution.

- The local SOP guides flag use, but in general, a green flag is for friendly elements, a yellow flag is for unknown elements, and a red flag is for enemy elements.
- 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.

6-21. The PL or the PSG leads OP personnel to the OP site, and briefs them on the following information:

- Their missions' purpose, which is to see/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 will be replaced. As a general rule, OP personnel should be replaced every two hours. During cold weather, this rotation may be done more frequently.
- A plan for night-vision operations. Rotating between Soldiers with one Soldier not scanning for longer than 20 minutes, will enable them to keep their night vision and maintain good scanning techniques.
- What steps to take to improve the position, once they are in place. These include—
  - Establish communications.
  - Camouflage the position and routes into and out of it.
  - Prepare a sector sketch based on the platoon fire plan.
  - Dig in, to provide protection from indirect and direct fires. Generally, it is advised to dig when dismounted

Infantry dig. If possible, emplace hasty obstacles for additional protection.

COMBAT OUTPOST

6-22. A combat outpost is a reinforced OP capable of conducting limited combat operations. Using combat outposts is a technique for employing security forces in restrictive terrain that precludes mounted security forces from covering the area. Units also use combat outposts when smaller OPs are in danger of being overrun by enemy forces infiltrating into and through the security area. The commander 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.

6-23. Both mounted and dismounted forces can employ combat outposts. While the mission variables of METT-TC determine the size, location, and number of combat outposts established by a unit, a reinforced platoon typically occupies a 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.

6-24. The commander organizes a combat outpost to provide an all-around defense to withstand a superior enemy force. When the enemy has significant armored capability, a combat outpost may be given more than a standard allocation of antitank (AT) weapons. Forces manning combat outposts can conduct aggressive patrolling, engage and destroy enemy reconnaissance elements, and engage the enemy's main body prior to their extraction. The commander should plan to extract his forces from the outpost before the enemy has the opportunity to overrun them.

SECTION IV – PATROLS

6-25. A patrol is a detachment 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 MGS platoon conducts patrols as directed by the commander. The platoon will depart 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.

6-26. When a patrol consists of a single unit, such as the MGS platoon, the PL is responsible. When a patrol consists of 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.

6-27. 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. The patrol leader must always report to the commander upon returning to the main body, he then describes the patrol's actions, observations, and condition.

COMBAT PATROL

6-28. The platoon conducts combat patrols to destroy or capture enemy forces or equipment; to destroy installations, facilities, or key points; or to harass enemy forces. They also provide security for larger units. The three types of combat patrol missions the MGS platoon may conduct or support are raid, ambush, and security patrols. Types of patrols are described below. (Refer to ATTP 3-21.9 for more information.)

RAID

6-29. A raid is a surprise attack against a position or installation for a specific purpose other than seizing and holding the terrain. It is conducted to destroy a position or installation, to destroy or capture enemy soldiers or equipment, or to free prisoners. A raid retains terrain just long enough to accomplish the intent of the raid. A raid always ends with a withdrawal off the objective and a return to the main body.

AMBUSH

6-30. An ambush is a surprise attack from a concealed position on a moving or temporarily halted target. It can include an assault to close with and destroy the target, or it can include only an ABF.

SECURITY

6-31. A security patrol is sent out from a unit’s location during a halt or when the unit is stationary, to search the local area, and to detect, engage and destroy enemy forces near the main body. This type of combat patrol is normally sent out by units operating in close terrain with limited fields of observation and fire.

Note. MGS platoons or vehicles will most likely be tasked-organized during a combat patrol that has the mission to raid, due to the requirement of Infantry squads to conduct the actual dismounted mission.

SECTION V – CONVOY ESCORT

6-32. This mission requires the MGS platoon to provide the convoy with security and close-in protection from direct fire while on the move. The 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, METT-TC factors), the platoon may perform convoy escort either independently or as part of a larger unit's convoy security mission.

MISSION CONTROL

6-33. Mission control is critical because of the task organization of the convoy escort mission. The relationship between the platoon and the convoy commander must provide unity of command and effort if combat operations are required during the course of the mission. In most cases, the MGS platoon executes the escort mission under the security force commander's control. The security force commander is usually OPCON or attached to the convoy commander. At times, however, the platoon will be OPCON or attached directly to the convoy commander. This occurs when the platoon provides security for tactical operations centers, or when it operates independently with a small convoy.

6-34. The convoy commander should issue a complete OPORD to all VCs in the convoy prior to execution of the mission. This is vital because the convoy itself may be task-organized from a variety of units, and because some vehicles may not have FBCB2 equipment or tactical radios such as civilian or U.S. government contractor vehicles. 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 VC).
- Order of march.
- Actions at halts.
- Actions in case of vehicle breakdown.
- Actions on contact.
- Chain of command.
- Communications and signal information.

TACTICAL DISPOSITION

6-35. During all escort missions, the convoy security commander and MGS 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 METT-TC, 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

6-36. When sufficient escort assets are available, the convoy commander usually will organize the convoy into three distinct elements: advance guard, close-in protective group, and rear guard.

6-37. The MGS platoon usually task-organizes 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.

6-38. When the MGS 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 factors of METT-TC.

INDEPENDENT ESCORT OPERATIONS

6-39. When the MGS platoon executes a convoy escort mission independently, the convoy commander and PL disperse the MGSs throughout the convoy formation to provide forward, flank, and rear security. Whenever possible, vehicles should maintain visual contact with their leaders. 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 Infantry to proof the convoy route.

6-40. 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 must be sufficient to provide flank security. Depending on the terrain, the trail element may not be able to overwatch the movement of the lead element.

ACTIONS ON CONTACT

6-41. As the convoy moves toward its new location, the enemy may attempt to harass or destroy it. This contact usually occurs in the form of an ambush, often with the use of a hastily prepared obstacle. The safety of the convoy then rests on the speed and effectiveness with which escort elements can execute appropriate actions on contact.

6-42. Based on METT-TC factors, the convoy commander may designate portions of the convoy security force, such as the MGS platoon or an MGS element, to be a reaction force. The reaction force performs its escort duties, conducts tactical movement, or occupies an AA as required until contact with the enemy occurs. Then the convoy commander gives it a reaction mission.

ACTIONS AT AN AMBUSH

6-43. An ambush is one of the most effective ways to interdict a convoy. Conversely, 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.

6-44. In almost all situations, the platoon will take several specific, instantaneous actions when it must react to an ambush. These actions are—

- 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 moves them out of the kill zone 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 security commander can then request support from the reaction force; he can also call for and adjust indirect fires.

6-45. 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.

6-46. In most situations, MGSs continue to suppress the enemy or execute an assault to destroy enemy forces. Contact should be broken only when the tactical situation requires.

ACTIONS AT AN OBSTACLE

6-47. 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, including IEDs, may canalize or stop the convoy to set up an ambush.

6-48. The route reconnaissance is not always possible to employ. When it is employed, 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.

6-49. When it identifies an obstacle, 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 an 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 to take:
  - Bypass the obstacle.

- Breach the obstacle with the assets on hand.
- Relay a SPOTREP higher and request support by combat reaction forces, engineer assets (if they are not part of the convoy), or aerial reconnaissance elements.
- Artillery units are alerted to be prepared to provide fire support.

ACTIONS DURING HALTS

6-50. 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, the lead element positions escort vehicles 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 factors of METT-TC.
- 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

6-51. An AA is a site at which maneuver units prepare for future operations. A well-planned AA will have—

- A location on defensible terrain.
- Concealment from enemy ground and air observation.
- Good drainage and a surface that will support all of the maneuver unit's vehicles.
- Suitable exits, entrances, and internal roads or trails.
- Sufficient space for dispersion of vehicles and equipment.
- Area to conduct TLPs/rehearsals if necessary.

QUARTERING PARTY ACTIONS

6-52. A quartering party (also known as an advance party) usually assists the platoon in the occupation of an AA. In accordance with company SOPs, the quartering party may include an MGS per platoon. The company XO,

1SG, or a senior NCO leads the quartering party. The quartering party prepares the AA by doing the following:

- Reconnoiters for enemy forces, CBRN contamination, condition of the route to the AA, and suitability of the area such 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.
- Organizes the area based on the commander's guidance. This includes designating and marking tentative locations for the platoon, trains, and command post vehicles.
- Improves and marks entrances, exits, and internal routes.
- Marks or removes obstacles (within the party's capabilities).
- Secures perimeter of the AA.
- Establishes limited security by selecting OPs to view most likely enemy avenues of approach.
- Clears any safety hazards from the area.

OCCUPATION PROCEDURES

6-53. Once the AA has been prepared, the quartering party awaits the arrival of the company. During this wait, the quartering party maintains surveillance and provides 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 AA. Standard operating procedures and prearranged signals and markers (for day and night occupation) should aid the VCs in finding their positions. The most important consideration at this time is for elements to move quickly into position to clear the route for follow-on units.

6-54. 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. For a discussion on OPSEC, refer to Chapter 8. These actions enable the platoon to defend from the AA as needed. The platoon can then prepare for future operations by conducting TLPs and their priorities of work in accordance with the company OPORD. Preparations include the following actions:

- Establish and maintain security (REDCON status).
- Conduct TLPs.
- Perform maintenance on vehicles and communications equipment.
- Verify weapons system status; conduct boresighting, 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 activities.
- Establish troop command post and wire communications within the AA.

6-55. The platoon usually occupies an AA as part of the company. (See Figure 6-1.) The company may be adjacent to or independent of the battalion. The company commander assigns a sector of responsibility and weapons orientations for each platoon. When the platoon occupies an AA alone, it establishes a perimeter defense (explained later in this chapter).

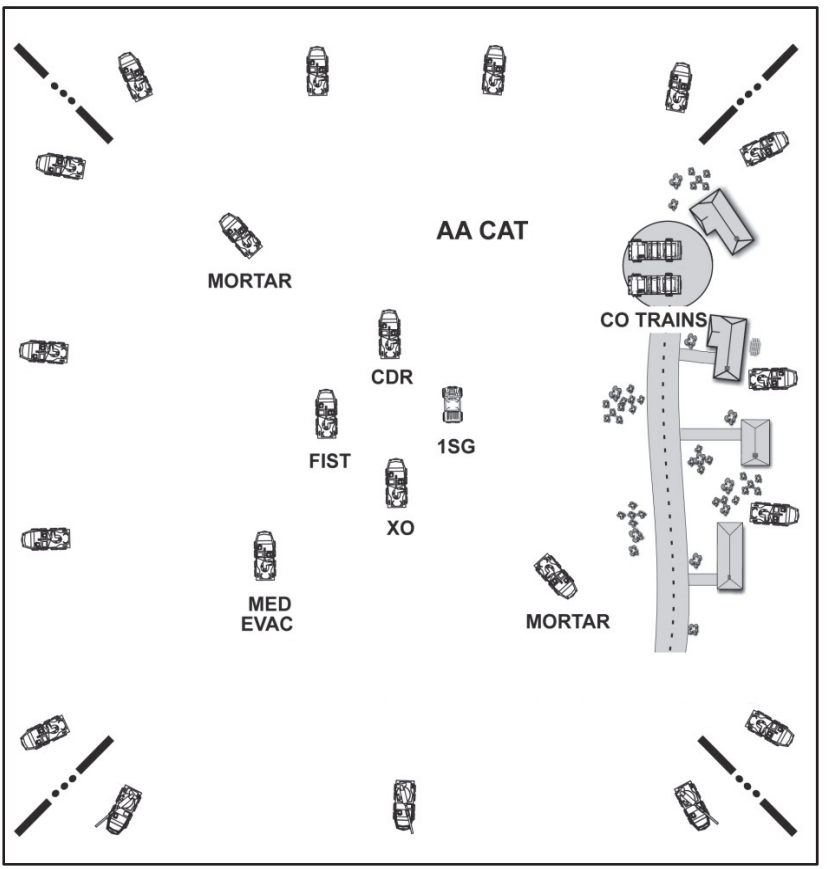

Figure 6-1. Company assembly area

OCCUPATION BY FORCE

6-56. In some cases, a company occupies an AA without first sending out a quartering party; this is "occupation by force." During occupation by force, the PL—

- Orders a hasty occupation of a BP at the platoon's designated location.
- Establishes local security.
- Directs adjacent unit coordination.
- Begins TLPs.
- Establishes priorities of work.
- Reconnoiters for enemy forces.
- Checks for CBRN contamination.

SECTION VII – LINKUP

6-57. Linkup entails the meeting of friendly ground forces. Digital and night vision devices enhance the execution of linkup operations and reduce the likelihood of fratricide. The MGS platoon conducts linkup activities independently or as part of a larger force. The platoon may be tasked to lead the linkup force due to its sight capabilities. (Refer to ATTP 3-21.9 for more information.) The linkup consists of three steps:

- **Step 1**. Far recognition signal, which establishes communications before the units reach direct fire range.
- **Step 2**. Coordination, in which forces coordinate needed tactical information before initiating movement to the linkup point.
- **Step 3**. Linkup far- and near-recognition signals, movement to and security of the linkup point.

SECTION VIII – PASSAGE OF LINES

6-58. Passage of lines occurs when one unit moves through the stationary positions of another, as part of a larger force. The MGS platoon participates in a passage of lines as part of the company. 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) a threat or AOs.

PLANNING AND COORDINATION

6-59. Units are highly vulnerable during a passage of lines. Vehicles might be concentrated; fires might be masked. The passing unit might not be able to maneuver and react to enemy contact. Detailed reconnaissance and coordination are critical to overcoming these potential problems, and ensuring that units conduct the passage of lines quickly and smoothly. The commander usually conducts all reconnaissance and coordination needed for the passage. At times, he may designate the XO, 1SG, or a PL to conduct liaison duties for reconnaissance and coordination. The following items of information must be coordinated:

- Unit designation and composition, including type and number of passing vehicles.
- Passing unit arrival time(s).
- Current enemy situation.
- Location of contact points, passage points, and passage lanes.
- Guide requirements.
- Order of march.
- Any existing or possible CBRN conditions.
- Communications information (to include frequencies, digital data, and near and far recognition signals).
- Chain of command, including location of the BHL.
- Anticipated and possible actions on contact with an enemy.
- Additional procedures for the passage.

6-60. In addition, the following items of information must also be coordinated, but need to be confirmed by reconnaissance:

- Stationary unit's mission and plan (to include OPs, patrols, and obstacle locations).
- Location of attack positions or AAs.

6-61. However, using GPS waypoints simplifies the process and, as a result, speeds the passage when coordinating the following items of information:

- Supporting direct and indirect fires, including location of the restrictive fire line (RFL).
- Available sustainment assets and their locations.

EXECUTION

6-62. The passage of lines can be executed as either a forward or rearward passage of lines.

FORWARD PASSAGE OF LINES

6-63. In a forward passage, the passing unit first moves to an AA 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.

6-64. As the passing unit, the MGS platoon conducts tactical movement 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 RFL. Once clear of passage lane restrictions, the platoon conducts tactical movement in accordance with its orders.

REARWARD PASSAGE OF LINES

6-65. Because of the increased chance of fratricide during a rearward passage, rehearsals and coordination of recognition signals and direct fire restrictions are critical. The passing unit contacts the stationary unit while it is still beyond direct fire range, and conducts coordination as discussed previously. All RFLs and near-recognition signals are emphasized.

6-66. As the passing unit, the MGS platoon then continues tactical movement toward the passage lane. Gun tubes are oriented in the direction of the threat, and the platoon is responsible for its security until it passes the RFL. If guides are provided by the stationary unit, the passing unit may conduct a short halt to link up and coordinate with the guides. The platoon moves quickly through the passage lane to a designated location behind the stationary unit.

SECTION IX – RELIEF IN PLACE

6-67. A relief in place occurs when one unit assumes the mission of another unit. It may occur during offensive operations or during defensive operations, preferably during periods of limited visibility. The following are two methods for conducting a relief in place:

- **Simultaneous.** All elements are relieved simultaneously.
- **Sequential.** The relief takes place one element at a time (by individual vehicle or by groups of vehicles).

6-68. A relief in place requires detailed planning, coordination, and reconnaissance before the operation is executed. Once it begins, precise movement and effective communications are essential. Operational security is critical throughout the operation.

COORDINATION AND RECONNAISSANCE

6-69. When time is available and the situation permits, the incoming PL coordinates with the existing 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.
- The location of weapons and fighting positions.
- Sector sketch and fire plans.
- 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, petroleum, oils, and lubricants (POL), wire lines, and other materiel to the incoming unit.
- Command and signal information.

6-70. Reconnaissance of relief positions is the same as for any BP. The incoming PL should obtain information on the following topics:

- The EA direct/indirect fire trigger lines, TRPs, obstacles, disengagement criteria, and adjacent unit's data.
- Primary, alternate, and supplementary fighting positions.
- Routes to and within the BP.
- Hide positions.
- Location of guides.

RELIEF PROCEDURES

6-71. After reconnaissance and coordination are complete, the PLs continue their TLPs and prepare to execute the relief. Initially, the relieving unit moves to an AA behind the unit to be relieved. The two units conduct final coordination and exchange information.

6-72. 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 needed.

- The relieving vehicles occupy hide positions while the relieved unit remains in primary positions. Once OPs are in place, the relieved unit withdraws.

SECURITY AND COMMUNICATIONS

6-73. As noted, OPSEC is critical during the relief. Effective OPSEC prevents enemy reconnaissance and intelligence assets from identifying 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. Digital links are established according to unit SOPs/OPORDs.

6-74. By monitoring the same frequency, leaders at all levels have the ability to contact other units involved in the relief. This ability enables leaders to warn of emergency situations. Because of the proximity of the relieved and relieving elements, however, leaders must remember that the net will be crowded, with many stations competing for limited availability of "air time."

6-75. There are two methods for returning to separate unit frequencies once the relief is completed. One technique is to have the incoming unit switch back to its original frequency. The other technique is to have the outgoing unit switch to an alternate frequency. The latter technique offers the following advantages:

- The relieving unit establishes communications and is prepared to defend immediately once the relieved unit departs.
- Maintaining radio traffic on the same frequency before, during, and after the operation helps deceive an enemy as to whether or not a relief has occurred.

SECTION X – BREACHING OPERATIONS

6-76. Obstacle breaching requires the use of a combination of TTPs 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. He must also understand the capabilities and limitations of the assets that the platoon and its parent unit can employ to overcome obstacles. Also, the PL must understand the basic tenets of breaching operations, and the roles the

platoon may be tasked to play in a breach. (Refer to ATTP 3-90.4 for more information.)

TYPES OF OBSTACLES

6-77. Obstacles are usually covered by observation and enhanced by direct or indirect fires. This discussion examines the two categories of obstacles, namely–existing and reinforcing.

EXISTING OBSTACLES

6-78. These exist naturally on the battlefield and are not emplaced through military effort. They fall into two major classifications: natural and man-made. They are defined as follows:

- Natural obstacles include—
  - Ravines, gullies, gaps, or ditches over 3 meters wide.
  - Streams, rivers, or canals over 1 meter deep.
  - Mountains or hills with a slope in excess of 60 percent (30 degrees).
  - Lakes, swamps, and marshes over 1 meter deep.
  - Tree stumps and large rocks over 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 include built-up areas:
  - Towns.
  - Cities.
  - Railroad embankments.

REINFORCING OBSTACLES

6-79. Reinforcing obstacles are obstacles specifically constructed, emplaced, or detonated through military effort. Whenever possible, both friendly and enemy forces enhance the effectiveness of their reinforcing obstacles by tying them in with existing obstacles. Some examples of reinforcing obstacles include mines, abatis, tank ditches, and wire obstacles. (Refer FM 90-7, Appendix A, for more information.)

BREACH PLANNING

6-80. The company commander conducts breach planning, and assigns his platoons to serve on the support force, the breach force, or the assault force. Depending on the tactical situation, the MGS platoon usually serves as the support force or assault force. The support force usually leads the company during movement and identifies the obstacle. It then suppresses any enemy

elements that overwatch the obstacle. This gives the breach force the opportunity to penetrate the obstacle. The assault force moves through the breach to continue the attack.

BREACHING FUNDAMENTALS

6-81. When the commander and PL expect to make contact with enemy obstacles, they must plan and rehearse actions at an obstacle. They tailor their preparations to templated locations for the expected obstacles. They must ensure the platoon knows how to accomplish early detection of both anticipated and unexpected obstacles, and how to react instinctively when contact is made. The MGS platoon can support the breach and assault force, or act as the assault force itself.

Note. A critical consideration is that the MGS platoon has only limited ability to deal independently with an obstacle or restriction. The MGS platoon can breach an obstacle only when augmented by engineers. The commander and PL must keep in mind that the platoon cannot internally accomplish all of the suppression, obscuration, security, reduction, and assault (SOSRA) steps of the breach.

6-82. Upon encountering an unexpected obstacle, the vehicle in contact sends a contact report to the PL while moving to a covered and concealed position. The PL then forwards the report to the commander, and maneuvers the rest of the platoon to better overwatching positions. Once in overwatch, the PL ensures that near side security is set, works up an obstacle report, and sends the report to the commander with a recommended COA.

6-83. If the commander needs to develop the situation further, ideally, he will use scouts or Infantry to reconnoiter the obstacle, while the MGSs continue to provide overwatch. This usually requires the commander to move mounted or dismounted elements to the far side. If this reconnaissance locates a bypass route, the commander sometimes orders the unit to execute a bypass as the preferred COA. If a bypass is not possible, he may order a breaching operation with the MGSs supporting the effort in overwatch. (Refer to ATTP 3-90.4 for more information.)

BREACHING ORGANIZATION

6-84. The commander in charge of the breaching operation designates support, breach, and assault forces. In most situations, he may task the MGS platoon to serve as either the support or assault force.

SUPPORT FORCE

6-85. This element usually leads movement of the breach elements. After identifying the obstacle, it moves to covered and concealed areas, and establishes SBF positions. The support force leader sends a 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. He must keep in mind that a bypass may lead to an enemy kill zone.

6-86. In either case, the support force suppresses any enemy elements that are overwatching the obstacle. This allows 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 an 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.

Note. Because of its limited number of main gun rounds, the MGS platoon does not use rounds unless a target requires it. M240 and .50-caliber weapons, however, can and should be used to engage suspected enemy locations. Because engaging the enemy with .50-caliber weapons leaves the VC with minimum protection, this method should be the last measure employed.

BREACH FORCE

6-87. In the company, the breach force usually is composed of elements from the ICV platoons and the battalion engineer company (if available). The MGS platoon may be tasked to assist an ICV element as part of the breach force.

6-88. The breach force leader receives a digital SPOTREP identifying the location and type of obstacle or bypass. Then he must ensure that the breach force is organized and prepared 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 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 enable it to suppress enemy elements overwatching the obstacle. At other times, it may assault an enemy, with suppressive fires provided by the support force.

BREACHING METHODS

6-89. Breaching methods available to the ICV platoon are—

- Explosive breaching done with a mine-clearing line charge (MICLIC) or detonation cord main line with blocks of C4 and Bangalore torpedoes.
- Canister rounds from the MGS that can be used to breach wire obstacles.
- High-explosive plastic (HEP) rounds from the MGS that can be used to breach walls and create Infantry entry points into a structure.
- Antipersonnel obstacle breaching systems, which are used for dismounted breach lanes through wire and antipersonnel minefields.
- Manual breaching, during which Soldiers use such items as grappling hooks, shovels, picks, axes, wire cutters, and chain saws.
- Mechanical breaching, in which Soldiers use ropes with grappling hooks and chains attached to vehicles to move obstacles. Engineer or host nation road construction vehicles push or pull obstacles from the route.

MARKING THE LANE

6-90. 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. To minimize breaching time, the proofing vehicle may simultaneously mark the lane. (See Figure 6-2.) Unit SOPs dictate marking methods and materiel, which commonly include the following:

- Pathfinder system.
- Engineer stakes with tape.
- Guides.
- Chemlights.
- Expended shell casings.
- Highway cones.
- VS-17 panels.

COMPLETING THE BREACH

6-91. Throughout the operation, the ICV or engineer 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.

6-92. After marking is completed, and to expedite the movement of the assault force, the breach force PL reports the location of the lane and the method of marking.

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

ASSAULT FORCE

6-93. While the breach is in progress, the assault force assists the support force, or follows the breach force while it maintains cover and dispersion. Once a lane is cleared through the obstacle, the assault force moves through the breach. It secures the far side of the obstacle by physical occupation or continues the attack in accordance with the commander's intent.

6-94. The MGS platoon is ideally suited for assault force operations against mobile enemy defenses in open terrain. MGSs also work well with Infantry from the ICV platoons as an assault force attacking dug-in enemy positions in close terrain.

SUPPRESSION, OBSCURATION, SECURITY, REDUCTION, AND ASSAULT

6-95. The following SOSRA actions occur during a breaching operation:

- Sufficient support elements are employed to suppress enemy elements that overwatch the obstacle. The support force uses direct and indirect fires to accomplish its mission.
- The support force requests immediate or preplanned smoke to obscure breach force operations from an enemy.
- The breach force creates, proofs, and marks a lane through the obstacle, allowing the assault force to secure the far side of the obstacle.
- Actions taken to further mark and reduce the obstacle enable the assault force or follow-on forces to assault enemy forces beyond the obstacle and continue the attack.
- Assault to destroy the enemy on the far side, or secure the far side and conduct battle handover with follow-on forces.

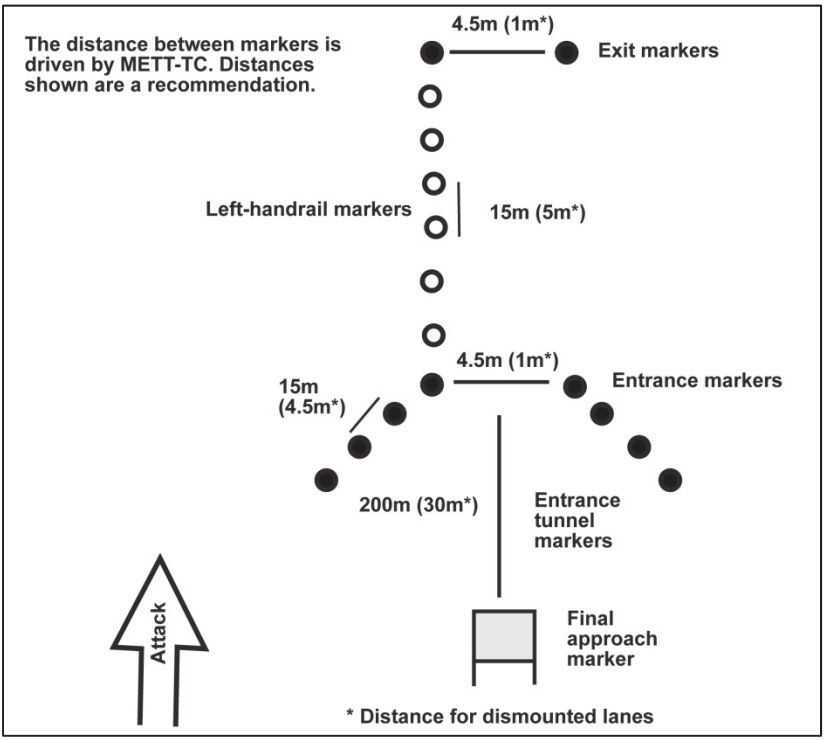

Figure 6-2. Initial lane marking

INFANTRY ENTRY POINT IN A WALL ENGAGEMENT

6-96. The MGS can create an Infantry entry point in a reinforced wall measuring approximately 8 by10 feet and 8 inches thick by using five rounds of HEP to create the desired entry point. The rounds should be fired at a target that is less than 200 meters from the vehicle. The desired entry point measures 30 inches wide by 50 inches high.

Note. Leaders at all levels must understand how dangerous this operation is and take every possible precaution to protect dismounted Infantry Soldiers. The HEP round used by the MGS is effective at opening a hole (usually 22 to 27 inches in diameter) in 8-inch rebar reinforced concrete. The hazard associated with HEP rounds requires detailed execution and planning. The hazards created are not only over pressure and audible from the firing of the round, but also from the blast and fragmentation of the warhead and the concrete from the round impacting. The blast and fragmentation hazard increase if the MGS fires at a wall from an angle.

SECTION XI – TROOP MOVEMENT AND TACTICAL ROAD MARCH

6-97. The main purpose of the road march is to relocate rapidly, not to gain contact. It employs fixed speeds and timed intervals. Road marches are planned at the battalion and company levels. They are, however, executed by platoons. MGS platoons conduct tactical road marches when moving long distances and positioning themselves for future operations.

PREPARATION AND SOPs

6-98. The success of a road march depends on thorough preparation and sound SOPs. Platoon preparations should address—

- Movement to the SP.
- Speed control.
- Formations.
- Intervals.
- Weapons orientation.
- Actions at halts.
- Actions at the RP.
- Enemy situation.
- Terrain conditions, visibility, and weather.

6-99. Standard operating procedures should provide detailed information about actions—

- At scheduled/unscheduled halts.
- In case a vehicle becomes lost.
- If a vehicle becomes disabled.
- On contact.

COMPOSITION

6-100. A road march consists of three elements:

- Quartering party (or advance party).
- Main body.
- Trail party.

6-101. Usually, the MGS platoon 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 VI of this chapter for more detailed discussion.)

MARCH COLUMNS

6-102. The following discussion focuses on the three primary road march techniques: open column, close column, and infiltration.

Note. The commander chooses the formation to be used during the march based on which technique is employed. The road march is usually executed in column or staggered column formation.

OPEN COLUMN

6-103. The platoon usually conducts the open-column technique for daylight marches. This technique can also be used at night with blackout lights or night-vision equipment. The distance between vehicles varies, usually from 50 meters to 200 meters, depending on light and weather conditions.

CLOSE COLUMN

6-104. The platoon usually employs the close-column technique for marches conducted during periods of limited visibility. The distance between vehicles is based on the ability to see the vehicle ahead; usually less than 50 meters.

INFILTRATION

6-105. The infiltration technique involves the movement of small groups of personnel or vehicles at irregular intervals. The platoon uses this technique

when sufficient time and suitable routes are available and when maximum security, deception, and dispersion are desired. This technique provides the best possible passive defense against enemy observation and detection.

Note. Infiltration is most commonly used by dismounted elements.

CONTROL MEASURES

6-106. The following manual and digital control measures help the PL control his platoon during the road march.

MAP WITH OVERLAY

6-107. At a minimum, the overlay must show the SP, the RP, and the route. The route is the path of travel connecting the SP and the RP.

6-108. The SP location represents the beginning of the road march route, and should be located on easily recognizable terrain. The SP should be 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-distance factor to the SP. This will enable the platoon to arrive at the SP at the time designated in the commander's OPORD.

6-109. 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 on to their respective positions, assisted by guides, waypoints, or graphic control measures.

CRITICAL POINTS

6-110. Critical points are locations along the route of march where interference with movement may occur, or where timing is critical. The SP, RP, and all checkpoints are critical points. Checkpoints are critical because the PL uses them to control movement and to orient his platoon. Examples of checkpoints during the move include key junctures or terrain, specific buildings, and structures.

STRIP MAPS

6-111. Strip maps are annexes to the movement order, and assist in navigation. Whenever possible, all VCs should have copies of the appropriate strip map. It must include the SP, RP, and checkpoints, and must list the distances between these points. Detailed blown-up sketches should be used for scheduled halt locations and other places where confusion can occur.

MISSION COMMAND

6-112. Communication is critical to the success of the road march. Visual signals, FM, FBCB2, and graphic control measures aid navigation and inform the commander of the tempo and rate of march.

6-113. The headquarters controlling the march may post road guides and traffic signs at designated TCPs. Guides help to maintain a smooth flow of traffic at critical points 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 enables march elements to identify them during periods of limited visibility.

ACTIONS DURING THE MARCH

6-114. The following paragraphs discuss the possible actions that can be taken during the march.

MOVING TO THE START POINT

6-115. 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 while the platoon begins to move out, the PL and VCs reconnoiter the route to the SP. Then, they issue clear movement instructions and conduct thorough rehearsals, paying particular attention to signals and timing.

MARCH SPEED

6-116. An element's speed in a march column changes as the element encounters various routes and road conditions. This can produce an undesirable "accordion" effect; that is, some elements moving faster/slower than others, creating inconsistent distances between elements. The movement order establishes the march speed and maximum catch-up speed. During the march, the platoon's lead vehicle must not exceed either the fixed march speed or the top catch-up speed. In addition, it should accelerate slowly out of turns and choke points; this allows the platoon to gradually resume the march speed after moving past the restriction.

ORIENTATION

6-117. Each MGS in the platoon has an assigned sector of gun tube orientation. VCs assign sectors of observation for crewmen to cover their portion of the platoon sector, and also to achieve 360-degree observation. Certain vehicles or an individual on each vehicle should be designated as an

air guard to conduct air, rather than ground, observation. As previously addressed, it may be necessary to have an overwatching element cover dead space unobservable by the crew.

HALTS

6-118. The platoon must be prepared to conduct both scheduled and unscheduled halts while participating in a road march.

Scheduled

6-119. The platoon conducts scheduled halts to allow maintenance, refueling, and personal relief activities, and to allow other traffic to pass. The movement order establishes the time and duration of halts; and the unit SOP specifies actions to be taken during halts. The first priority at a halt is to establish and maintain local security. Usually, the platoon takes a maintenance halt of 15 minutes after the first hour of the march and a 10-minute break every two hours thereafter.

6-120. During long marches, the unit may conduct a refuel on the move (ROM) operation. Depending on OPSEC considerations and the company OPORD, the platoon may conduct ROM for all vehicles simultaneously, or by element. The OPORD specifies the amount of fuel or the amount of time at the pump for each vehicle. It also provides instructions for OPSEC at the ROM site, and at the staging area to which vehicles move after refueling.

Unscheduled

6-121. The platoon conducts unscheduled halts for a variety of circumstances; such as when the unit encounters obstacles or contaminated areas, or if a disabled vehicle blocks the route. The movement commander must then take action to determine the cause of the halt.

6-122. A disabled vehicle must not be allowed to obstruct traffic. The crew should move the vehicle off the road immediately, report its status, establish security, and post guides to direct traffic. When possible, the crew repairs the vehicle and rejoins the column at the column's rear. 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. The trail element usually comprises the maintenance team with a recovery vehicle and some type of security (the company XO handles security if he is not part of the quartering party). If the crew cannot repair the vehicle, the trail element recovers the vehicle.

6-123. When possible, the platoon should bypass obstacles that occur or have been reported. If obstacles cannot be bypassed, the lead march unit should go into a hasty defense to cover and overwatch. If engineers are available to

assist, the lead march unit can breach the obstacle. When the obstacle is breached, the other march units move at decreased speed, or move off the road and monitor the appropriate radio net.

ACTIONS ON CONTACT

6-124. If contact occurs during the road march, the platoon executes actions on contact as described in Chapter 3. Ambushes are fought without delay. If ambushed, the march unit in the kill zone increases speed, fights through, and reports the ambush.

ACTIONS AT THE RELEASE POINT

6-125. The platoon moves through the RP without stopping. The PL picks up the assigned guide, or follows the guide's signals to the AA. Depending on terrain and the equipment available, guides and marking materiel may be posted at or near exact vehicle locations. (For details on AA procedures, refer to Section VI of this chapter.)

SECTION XII – FOLLOW AND SUPPORT

6-126. The MGS platoon conducts follow and support missions when the enemy situation is extremely fluid or unknown. Usually, it executes the mission in support of dismounted Infantry or scout platoons. On rare occasions, the platoon follows and supports other MGS platoons or company forces within the battalion.

6-127. During the follow phase of the mission, the platoon conducts tactical movement, or occupies hasty BPs while the lead (supported) element moves. There is no requirement to overwatch the movement of the lead element. In fact, this could be counterproductive. For example, the noise of an MGS platoon that is following too closely could alert an enemy to the presence of the supported scout platoon or dismounted Infantry. The MGS platoon does, however, maintain a high degree of situational awareness. It maintains communications with the lead element, either by transmitting on a higher net or by monitoring the supported unit's net.

6-128. When the lead element makes contact with an enemy force it cannot destroy or bypass, it requests the support of the MGS platoon to destroy or suppress the enemy. Based on the request, the platoon conducts linkup and coordination, and then executes an offensive COA as discussed in Chapter 3.

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Chapter 7

Direct Fire Planning and Control

To maximize the effects of its fires, the MGS platoon must know how to effectively focus, distribute, and control them. Depending on the situation, fire distribution and control can be accomplished by individual MGSs or by the platoon as a whole. On many occasions, particularly in defensive operations, the PL will be in a position to direct the fires of the entire platoon. At other times, especially during offensive operations, fire distribution and control may begin with the PSG or a VC. As the situation develops, the PL then takes control of the platoon fires and distributes them effectively.

Chapter 7 provides standardized methods for directing and controlling fires applicable to the individual MGS and the entire platoon. It covers the procedures used from the time targets are acquired, through placement of fires on those targets, to reporting the effects of those fires to the company commander. Considerations for fire distribution and control during offensive and defensive operations are also included. Although the discussion focuses on actions at the platoon and element level, these actions are always integrated into, and become part of, the company plan.

Note. The following discussion focuses on MGS platoon operations only. (Refer to FM 3-21.11 for more information.)

SECTION I – TEXT REFERENCES

7-1. Table 7-1 contains the references used in this chapter.

Table 7-1. Guide for subjects referenced in text

Subject	*References*
SBCT Infantry Rifle Company Operations	FM 3-21.11
Infantry Considerations During Fire Distribution	FM 3-21.11

SECTION II – FUNDAMENTALS OF DIRECTING AND CONTROLLING DIRECT FIRES

7-2. This section contains discussions about focus, distribution, and control for direct fires.

FOCUS

7-3. The platoon's ability to focus fires on a threat is critical to combat survival. Proper scanning techniques and immediate, violent execution of battle drills initially orient the platoon toward the threat. (Refer Chapter 3 for details on battle drills.)

7-4. At that point, the PL must supplement the drills by—

- Employing TRPs to mass the platoon's fires at one location.
- Knowing the wingman concept in controlling platoon fires.
- Using platoon SOPs to aid in controlling fires.

TARGET REFERENCE POINTS

7-5. Once he has oriented the platoon, the PL uses a terrain feature, or known point, to identify and reference each TRP, ensuring each TRP is easily identifiable from the ground by each VC. When TRPs are used to delineate the left and right planning limits for platoon fires, the PL should designate a TRP near the center of the sector. The center TRP roughly divides the left and right sectors in which each MGS will scan and engage targets. From its primary, alternate, or supplementary position, each MGS should be able to engage targets in the other MGS's sector of fire. This enables the PL to distribute fires in response to changes in the enemy situation.

7-6. One MGS then scans for and engages targets to the left of the center TRP while one MGS does the same to the right of the center TRP. The third MGS scans the center sector, thereby ensuring overlapping fires. Based on the tactical situation, either the PL or individual VCs can identify TRPs to cover the outer limits of the sector of fire.

PLATOON FIRES AND THE WINGMAN CONCEPT

7-7. As described in Chapter 2, the MGS platoon is the smallest maneuver element that conducts operations. Even though platoons may separate into elements as the situation requires, the PL is still responsible for controlling all three MGSs in his platoon. Examples in which the platoon would separate into sections are during execution of traveling overwatch or bounding overwatch.

7-8. During combat operations, survival of the platoon depends on the PL's ability to control the entire platoon. He must not, therefore, focus solely on firing his own MGS. The PL should have the most experienced gunner on his vehicle. The gunner must be able to understand the fire plan or operation so that he can actively participate in the engagement without the PL's direct supervision. During an engagement, the PL must first ensure that the platoon is firing in concert. Then, he must pass critical combat information to his crews using the appropriate communications techniques and nets. Examples of critical combat information include calls for fire, report criteria, and instructions.

7-9. The wingman MGS assists the PL in controlling the platoon. During operations, the wingman orients his vehicle based on the leader's vehicle and, unless otherwise ordered, the wingman moves, stops, and shoots when his leader does, according to the platoon SOPs.

ROLE OF PLATOON STANDARD OPERATING PROCEDURES

7-10. When specific orders are too time-consuming or are not possible, a well-rehearsed platoon SOP ensures fast, predictable actions by all MGS crews. MGSs must drill the SOP repeatedly so that each MGS within the platoon reacts automatically to any tactical situation. The SOP should precisely cover guidelines and procedures in such areas as target acquisition responsibilities, drills, reaction procedures, use of EAs and TRPs, and operations with mounted and dismounted Infantry. Crewmen must then learn these SOP items by memory; doing this provides direction in the absence of orders.

7-11. The PL should supplement his SOP by developing standardized procedures for offensive and defensive fire planning. These procedures should be detailed enough to enable rapid fire planning after the terrain has been analyzed. The PL can refine and improve these initial plans as time permits.

Note. Platoon members use visual control measures and accompanying SOP actions to start and stop engagements, shift fires, and signal prearranged actions. Knowledge of these measures is critical to prevent fratricide when working with mounted and dismounted Infantry. On the other hand, an important consideration for the PL in developing the unit SOP is that the dynamics of battle usually require radio use to control fires. Radio instructions that initiate SOPs and issue fire commands must be brief and precise.

DISTRIBUTION

7-12. The PL employs two methods to ensure effective distribution of direct fires: fire patterns and firing techniques. The MGS PL must always be aware of the presence of mounted and dismounted Infantry in the vicinity. Safety concerns, such as sabot petals, concussion, and ricochets, may significantly modify his choice of fire distribution methods. (Refer to FM 3-21.11 for more information.)

FIRE PATTERNS

7-13. The entire platoon must thoroughly understand the three basic fire patterns–frontal, cross, and depth. In addition, each MGS crew must understand its responsibilities, according to the SOP, when using the fire patterns for target engagement. The basic fire patterns cover most situations and promote rapid, effective platoon fire distribution. Usually, they are used in the defense, but may be modified for employment with techniques of movement. They may be used at both platoon and element levels.

7-14. Regardless of the pattern used, the goal of a fire pattern is to engage near and flank targets first, and then shift fires to far and center targets. Mobile gun systems should engage targets near to far and most dangerous to least dangerous, in their sector. A "most dangerous" threat is any enemy heavy machine gun or larger weapon system preparing to engage the platoon. The platoon sector is defined by TRPs, which are used to mass platoon fires at specific locations and to mark the left and right planning limits for platoon fires. As directed or when 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. The patterns are—

- **Cross.** The cross fire pattern is used when obstructions prevent some or all MGSs within the platoon from firing to the front or when an enemy's frontal armor protection requires use of flank shots to achieve penetration. This pattern is especially useful in urban operations. In the cross fire pattern, each MGS engages targets on the flank of its position. The right flank MGS engages the left portion of the target area while the left flank MGS engages the right portion. As targets are destroyed, MGSs shift fires inward. The cross fire engagement rule is outside in, near to far. Figure 7-1 illustrates the cross pattern.
- **Frontal.** The frontal fire pattern is used when all MGSs within the platoon can fire to their front. (See Figure 7-2.) Flank MGSs engage targets to their front; right MGS shoots right target, left MGS shoots left target. Mobile gun systems then

shift fires toward the center as targets are destroyed. The frontal fire engagement rule is near to far, flank to center.

- **Depth.** 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 MGSs engaging in their sector may have to fire in depth. If the whole platoon is firing, it may be possible for each MGS to fire in depth on a portion of an enemy formation. (See Figure 7-3.) The left MGS engages the far target and shifts fire toward the center of the formation as targets are destroyed; the center MGS engages the center target and shifts fire toward the rear as targets are destroyed. The right MGS engages the closest (front) target and shifts fire to the rear as targets are destroyed.

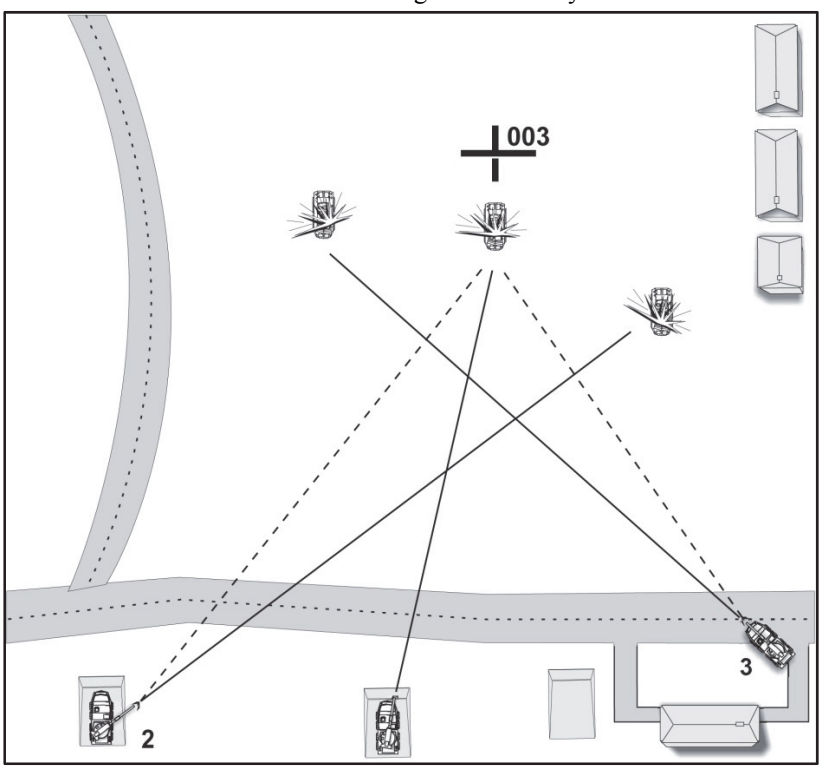


Figure 7-1. Cross fire pattern and simultaneous fire technique to engage one enemy platoon

FIRING TECHNIQUES

7-15. 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. The three firing techniques are simultaneous, alternating, and observed. The platoon can use these firing techniques for any of the above fire patterns. The PL determines which technique to use based on METT-TC, OAKOC, and the commander's intent. Figure 7-1 through Figure 7-3 illustrate a variety of situations in which the firing techniques are employed. The illustrations include the following applicable fire commands:

Note. See details of fire commands later in this section.

- **Simultaneous.** This is the primary firing technique that the platoon uses during most offensive engagements when the unit encounters surprise targets. The platoon also uses simultaneous fire in most defensive engagements when the array of an enemy is numerous enough to require multiple engagements by each MGS in the unit. In that case, all MGSs engage simultaneously in their assigned sectors. Figure 7-1 through Figure 7-3 illustrate various simultaneous fire situations.
- **Alternating.** The platoon usually uses alternating fire when in a defensive position, and occasionally in the offense. This technique allows a constant volume of fire from different locations. It also provides additional security for the nonfiring element to reposition. In alternating fire, one element of the platoon fires, and then backs down to reposition to another firing position. While they are repositioning, the other elements fire from a different location, and then repeat the repositioning drill conducted by the first element. This process continues until all targets are destroyed.
- **Observed**. Usually, observed fire is used when the platoon is in protected defensive positions, and engagement ranges are in excess of 2,000 meters. The first MGS engages designated targets while the second MGS observes. The second MGS prepares to engage targets in the event the first MGS misses consistently, experiences a malfunction, or runs low on ammunition. This technique enables maximum observation and assistance while protecting the location of the observing MGS.

Note. The alternating fire/observed fire techniques can be used at the same time, when the situation permits.

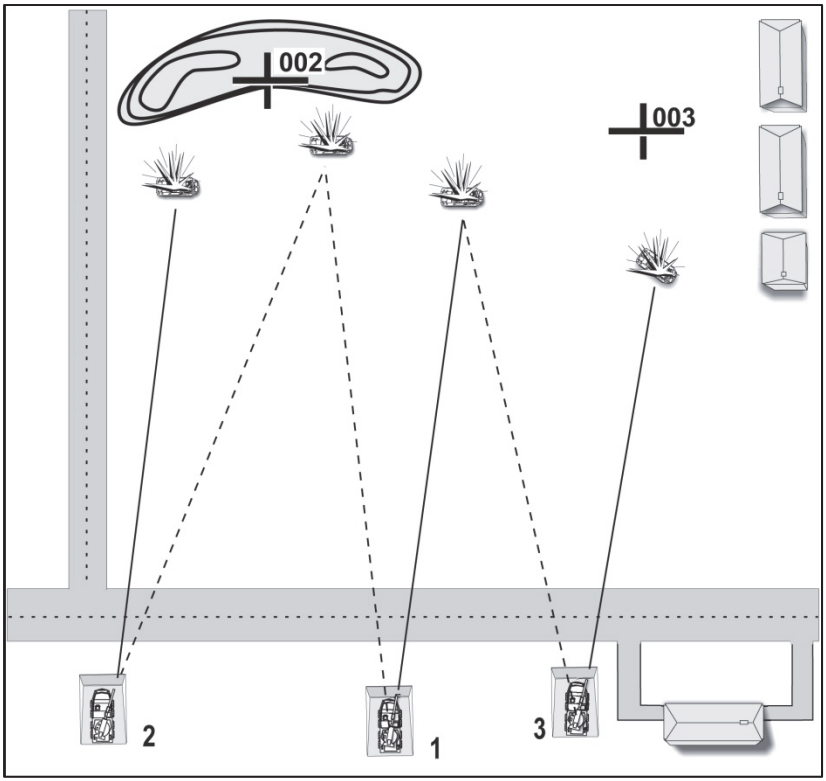


Figure 7-2. Frontal fire pattern and simultaneous fire technique to engage multiple enemy vehicles

CONTROL

7-16. The MGS PL uses two processes to control fires–fire planning and effective use of fire commands. The PL decides how to control fires based on the factors of METT-TC, especially the specific tactical situation and the time available to plan and prepare.

7-17. The more thoroughly the PL can plan an operation, the more effective the platoon's fires are likely to be. The amount of time available for fire planning, however, largely depends on the factors of METT-TC collectively. There are also important considerations based on whether the operation is offensive or defensive in nature, and the commander's employment of mounted and dismounted Infantry.

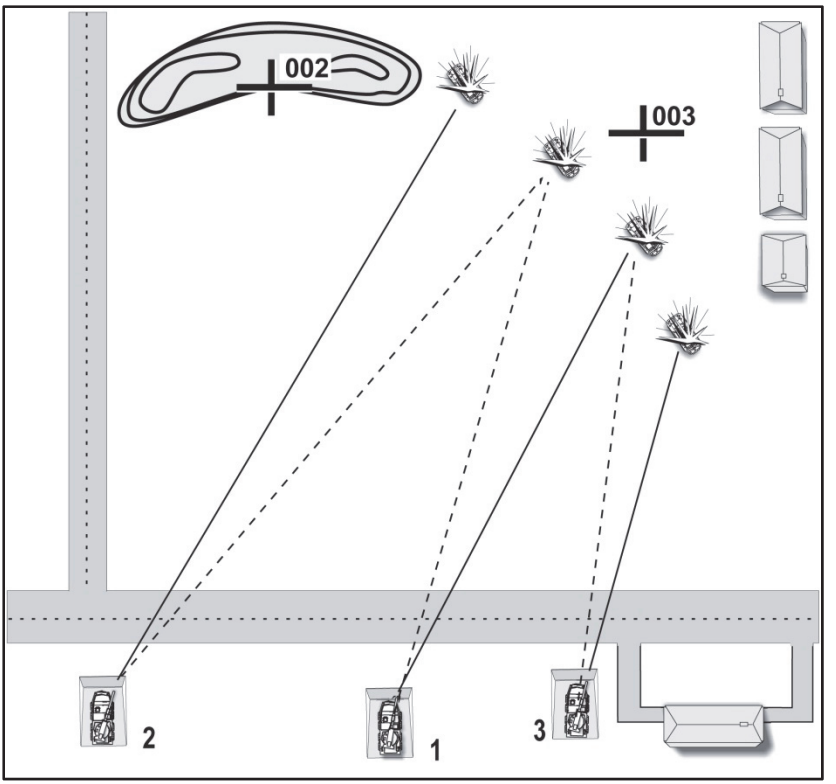


Figure 7-3. Depth fire pattern and simultaneous fire technique to engage multiple enemy vehicles

7-18. For example, some defensive operations may allow the PL hours or days to conduct fire planning. Intelligence assets may be able to acquire, track, and report enemy elements as they move toward the platoon. The PL can then initiate fires with a platoon fire command or a predetermined event (such as the enemy crossing a trigger line). He can also rely on detailed planning and preparation to help him distribute fires effectively during the fight. Further fire commands may be required, but the object of the planning phase is to anticipate events and coordinate fires before the fight starts. A well-planned defense requires minimum radio traffic over the platoon net during execution; trigger points, priority of engagements, and targets are established in advance.

7-19. In other situations, especially during offensive operations (such as a meeting engagement or in an MTC), the platoon has only limited time to plan and prepare. At best, the PL may have time to issue a full platoon fire

command. On the other hand, a member of the platoon may acquire and engage a "most dangerous" target before the PL has an opportunity to initiate his fire command. In the absence of adequate planning time, the PL must initially rely on established, well-rehearsed SOPs to distribute and control fires, and ensure fast, predictable engagement by all MGSs. (See Chapters 3 and 4, and later in this chapter for more information about fire planning for offensive and defensive situations.)

7-20. No matter the situation, the platoon must learn and rehearse target acquisition responsibilities; use of TRPs and fire patterns; procedures for initiating, shifting, and stopping fires; and the location of other platoons within the company. The survival of both the mounted and dismounted Infantry and the MGS platoon itself depend on it.

FIRE COMMANDS

7-21. Effective use of fire commands is a function of the leader's knowledge of the enemy, the fire control process, and the time available to plan, prepare, and rehearse. Using a standard format for a platoon or element, 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 element fire command formats must be established by unit SOP and then practiced by PLs and PSGs to ensure optimum proficiency. Fire commands must be brief and clear. Platoon members often use approved abbreviated methods for identifying target locations; these abbreviated methods must be familiar and understandable to all members of the platoon.

7-22. The PL may provide coordinating instructions or additional information to individual VCs; this information is not part of the platoon fire command. When one MGS sends a contact or SPOTREP, and it is reasonable to believe all other MGSs in the platoon have received it, the PL issues only the elements needed to complete the fire command. In all cases, a VC has the freedom to engage a target without a platoon fire command if he is in immediate contact with the enemy.

7-23. The battlefield situation and platoon SOP dictate the number of elements used in a fire command. The standard platoon fire command includes up to seven elements, transmitted in the following order:

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

- Orientation.
- Control (optional).
- Execution.

7-24. If for any reason an MGS is not prepared to fire, the VC informs the PL or PSG immediately. The VC estimates and reports the time required for the MGS to become ready to fight. Examples of why an MGS would not be ready to fire are because it is conducting ammunition transfer or it has experienced an equipment malfunction.

7-25. As he prepares and issues the fire command, the PL must remember that MGSs must occupy hull-down positions before firing. The execution element uses a codeword (for example, TOP HAT) to signal this move.

Note. Once engagement of the enemy begins, the VC controls fires by issuing subsequent fire commands or individual elements of the fire command. This focuses and distributes fires of individual MGSs or the entire platoon. When necessary, the VC starts a subsequent fire command immediately after the gunner announces his sensing and intended correction. Table 7-2 is an example of a platoon fire command; note that the optional element specifying the weapon or ammunition has been omitted. (See Figure 7-1 through Figure 7-3 for examples of how fire commands are used to control and distribute fires in a number of tactical situations.) The engagement is terminated when all targets are destroyed or when the PL announces, CEASE FIRE.

Table 7-2. Example platoon fire command

Alert	GREEN
Target Description	THREE PCs
Orientation	VICINITY TRP ZERO ZERO SIX
Control (Optional)	CROSS
Execution	AT MY COMMAND: TOP HAT, FIRE

OFFENSIVE FIRE PLANNING

7-26. Fire plans for an offensive operation are not as detailed as those for a defensive operation. Because of this, the PL must take advantage of the available resources that will make it easier for him to effectively distribute the platoon's firepower. Such resources include advance planning, reconnaissance (including leader's and map reconnaissance), TRPs, platoon targets, and platoon SOPs.

7-27. Before moving out, the PL should plan how the platoon will engage known or suspected enemy locations. He should identify and assign sufficient TRPs and platoon targets; this enables him to adjust fields of fire quickly. When doing this, he must consider tactical aspects of the operation, including—

- The mission to be accomplished.
- Friendly forces, to include mounted and dismounted Infantry.
- Enemy strengths and weaknesses.
- Likely or known enemy locations.
- Restrictive fire lines.
- Actions on contact.

7-28. The PL establishes additional platoon targets as the platoon moves during the operation.

- Indirect fire support and smoke employment (preplanned targets).
- Control measures, including phase lines, checkpoints, the limit of advance, and TRPs.
- The route to be followed.
- The movement technique to be used.
- Platoon and individual MGS areas of operation.
- The operational status of platoon equipment.

7-29. An important part of offensive fire planning is the assignment of overlapping sectors of fire for each element in the platoon. The platoon SOP discusses sectors of fire, also called "sectors of responsibility." The formation and movement techniques the platoon uses will determine the specific sectors of fire for the operation. The PL adjusts the assigned sector of fires during the operation as needed. Factors that may necessitate a change in sectors of fire include—

- The scheme of maneuver of adjacent units, to include dismounted Infantry.
- Changes in terrain or visibility.

- Contact with previously unknown enemy positions.
- Use of fires or smoke to conceal or cover the platoon's movement.

OFFENSIVE ENGAGEMENTS

7-30. The offense maximizes the MGS's capabilities. Once movement begins, but before contact is made, the PL maneuvers the unit to take full advantage of his MGSs. Crews should constantly be aware of visible TRPs and control points as they come into view. The PL uses these to adjust sectors of responsibility. He may also use the clock or cardinal direction method to designate sectors of responsibility. As noted, he modifies assigned sectors of fire as necessary when the platoon is moving.

7-31. Each VC identifies the MGS's sector of fire for his gunner. The VC then monitors the gunner's target search to make sure it covers the entire sector and does not stray beyond it. In addition, some offensive situations may require the platoon to operate in an area where the line of sight between MGSs in the sections is interrupted by terrain or vegetation. The PL and VCs must ensure that each crew conducts a 360-degree search for air and ground targets, and maintains effective communications with the other MGSs.

Note. Every effort must be made to maintain visual contact between MGSs because of the difficulty in maintaining a 360-degree search on the move due to the position of the gun, external components, and the lack of a human loader. The CPV may be used to scan dead space not identified from inside the vehicle, though the movement of the vehicle makes it very difficult.

ENGAGING TARGETS

7-32. Most moving engagements begin with one MGS in the platoon acquiring surprise targets. These targets should be engaged immediately. The VC who makes first contact gives a contact report after he has engaged a target. The other MGSs orient their gun tubes in the same direction the MGS that is in contact is firing. The MGSs do not change direction unless the PL orders an action drill; they scan and return fire on additional targets.

7-33. When targets are identified, the PL or PSG sends a digital contact or SPOTREP to the company commander.

Note. This depends upon the enemy situation and time available.

7-34. The commander or PL will already have assigned engagement priorities according to the mission and other factors. For example, offensive engagement priorities might be—

- **Priority 1.** Most dangerous targets (tanks, antitank guided missile [ATGM], heavy machine gun platforms).
- **Priority 2.** Dangerous targets.
- **Priority 3.** Mission Command assets (vehicles with the most antennas).
- **Priority 4.** Air defense assets.
- **Priority 5.** Engineer assets.
- **Priority 6.** Least dangerous targets (supply vehicles).

Note. The integration of aviation assets into the mission affects the priorities of certain targets. For instance, enemy air defense assets would probably move to the Priority 2 position because of its effectiveness against air targets.

7-35. After initial contact, the PL controls platoon fires by issuing fire commands and additional instructions as appropriate. He must keep the company commander informed, and then develop the situation.

DEVELOPING THE SITUATION

7-36. Usually, one platoon attacks while one or more platoons provide overwatch. The PL should adjust his MGSs' sectors based on the current, or the last known, enemy positions. Even while attacking, the platoon must maintain a 360-degree watch. This is because attacking aircraft and targets may appear between the platoon's position and that of the overwatching element. If overwatch elements are not available, the platoon may be directed to conduct bounding overwatch.

DEFENSE

7-37. The MGS platoon is the basic firing unit in defensive operations; therefore, effective control of platoon's fires is critical. Given the potentially large number of enemy targets, each MGS's limited on-board ammunition, and the logistical burdens of resupply, the platoon must make every round count. It must be proficient in gunnery skills; have operational fire control systems that are ready for instant employment; and know how to effectively maintain control of its fires during the fight. For details on defensive operations, refer to Chapter 4.

DEFENSIVE FIRE PLANNING

7-38. When the PL receives a defensive mission, he immediately analyzes it to determine the best ways his platoon can accomplish its assigned objectives. He begins a backward planning process based on the "defend NLT" time specified in the company OPORD and the one-third, two-thirds rule. Establishing priorities of tasks and managing the available time are critical steps in the process; failure in either of these areas is likely to result in an uncoordinated effort that is doomed to fail.

RECONNAISSANCE OF THE ENGAGEMENT AREA

7-39. Based on his knowledge of the enemy's situation template, the terrain, and weather, the PL visualizes the enemy attacking through the EA. He then considers how the enemy is likely to be equipped, and what capabilities his platoon can use to defeat the enemy.

7-40. If possible, the PL and VCs physically inspect the ground where the company commander has directed the platoon to engage the enemy. Looking back toward the BP, the PL selects primary and supplementary firing positions to orient platoon fires into the EA or TRP. Each VC selects his own alternate position (50 to 100 meters from the primary BP).

7-41. As the PL walks the EA, he identifies dead space based on how he expects the enemy to move through the area. He either adjusts the firing positions or plans indirect fires to cover the dead space. He verifies grids using the GPS.

FIRING POSITIONS AND TARGET REFERENCE POINTS

7-42. The PL then moves to the selected firing positions. He checks the positions for correct orientation toward the EA, and determines whether suitable TRPs are available. Target reference points must be visible through both daylight and thermal channels, and should be visible to friendly elements only. If existing terrain or man-made objects are inadequate, a field-expedient TRP must be constructed.

Note. Materiel that can be used in constructing TRPs include target panels heated with Class VIII heating pads, and .50-caliber or 7.62-mm ammunition cans filled with charcoal or mixtures of sand and diesel fuel.

7-43. Additionally, the MGS PL can designate trigger lines to control the fires of his platoon. Trigger lines are designated graphic control measures, such as a phase line at a certain distance from the firing position. Trigger

lines enable the PL to issue the correct fire command so that the correct weapons system engages the target at the specified time, place, and desired range.

7-44. The two types of defensive firing positions are defilade and keyhole. In defilade positions, MGSs are vulnerable from the flanks and to enemy overwatch fire. Keyhole positions (also called window positions) provide greater protection by taking advantage of terrain features that create a "keyhole" around the position. Ideally, the platoon should employ a combination of defilade and keyhole positions whenever possible to take advantage of their respective strengths and negate their weaknesses.

Defilade Positions

7-45. The three types of defilade positions are—

- **Turret-down.** A turret-down position uses terrain to mask most of the MGS, with only the highest parts of the vehicle exposed to the enemy. In this position, the MGS cannot use the main gun to engage targets.
- **Hull-down.** A hull-down position exposes only as much of the MGS as needed to engage targets with the main gun.
- **Hide.** The PL may assign a hide position to the rear of the BP for each MGS to occupy after the initial preparation of its firing positions. The hide position serves two purposes. A well-constructed, effectively camouflaged hide position may delay enemy acquisition of the platoon. Also, a hide position located away from the prepared position may protect the platoon from the full effects of enemy artillery fires.

Note. Locations of hide positions are dependent upon the terrain; but whatever the terrain, locations of hide positions should provide cover and concealment. For examples of the three defilade positions, refer to Chapter 4.

Keyhole Positions

7-46. Keyhole positions provide the firing MGS with a measure of protection from enemy overwatching fires. Keyhole positions restrict observation, and thus limit vulnerability to only one segment of the platoon's EA. Therefore, only those targets that can be seen (and engaged) by the MGS can return fire on it. The PL must select each keyhole position carefully so that the ability to interlock fires with other MGSs in the platoon is not impaired. The width of the field of fire can be varied by moving into

or away from the opening to the position. Keyhole positions' weaknesses are limited sectors of fire and excessive dead space. In urban operations, a dismounted Infantry company or ICV platoon should be used to provide protection from infiltration.

SECTION III – PLAN

7-47. The following section discusses planning for weapons, ranges, terrain, and fire control measures.

WEAPONS

7-48. The following paragraphs contain information the MGS PL considers while planning the platoons weapons ranges.

WEAPONS PLANNING RANGES

7-49. The MGS weapon planning range is the distance at which the PL intends to begin engaging enemy targets. In determining this range, the PL must know the lethality of the ammunition that his crews will fire, versus the specific vulnerabilities of the enemy target.

Note. The main gun is equipped with an automatic loading system that decreases the rate of fire.

7-50. Two factors known as probability of hit (PH) and probability of kill (PK) determine a weapon's lethality, and consequently the weapon planning range. While actual values of PH and PK are classified, it is obvious that PH decreases as range increases, and PK decreases as kinetic energy reduces. This is because velocity decreases with range, and penetration is largely dependent on velocity.

7-51. At times, dismounted Infantry calls upon the MGS platoon to provide supporting, suppressive fires. The MGS platoon can employ its main gun to suppress an armored threat. If the threat is dismounted, however, the platoon employs its machine guns to suppress the threat because machine guns have a higher sustained rate of fire and the ability to cover a larger target area.

Evaluating and Determining the Planning Range

7-52. 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 the elements of METT-TC. The commander must consider the capabilities and limitations

of friendly forces as well as those of enemy troops. In addition, the planning range for an MGS relates to the number of rounds the PL is prepared to use. While it is possible to hit an enemy at 3000 meters, the probability of doing so on the first round is low. Furthermore, even when a hit is made, PK will be very low against the target.

7-53. Taking into account these factors, the PL usually directs his VCs to engage targets from closer ranges, especially in frontal engagements. Considering only PK, frontal tank engagements should begin at less than 2000 meters. Several factors combine to make frontal engagements of enemy tanks beyond 2000 meters only marginally effective. Enemy armor is difficult to penetrate frontally. The sides, top, and rear have relatively thin armor; therefore, flank and rear engagements give greater PK at extended ranges.

Note. The PK assumes the round hits the target.

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.

7-54. Obviously, there is a balance that the PL must strike. Engaging at too close a range frontally increases PH and PK, but reduces the number of targets that can be destroyed before that attacker reaches the friendly position. It may also prevent dismounted Infantry from closing with and destroying the enemy. Further, the attacker may close with more systems and combat power. If mission considerations take priority (as in a delay mission), the engagement ranges may be extended at the cost of the number of kills possible before resupply is required.

Long-Range Engagement Considerations

7-55. 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 lose 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. While long-range engagements have lower PH and PK, they can disrupt an enemy's command and control (by causing tanks to button up) and achieve mobility kills.

7-56. Long-range engagements require the use of sensing MGSs 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 MGSs to execute the long-range gunnery mission.

PLANNING RANGE SUMMARY

7-57. 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-vehicle load of ammunition. The planning range can also be reduced based on terrain, weather, obscuration, and the effects of interlocking fires with adjacent ICV platoons and dismounted Infantry. As noted, engagement of enemy fighting vehicles with lighter armor can begin at longer ranges based on the increased PK. Due to their smaller size, however, these vehicles' PH usually is lower than that for tanks.

TERRAIN

7-58. As he conducts his TLPs, the PL mentally rehearses the battle. After reconnaissance of the EA or sector, he gathers all the VCs (and gunners, if possible) where they can view the area. He makes sure everyone can identify the assigned TRPs, obstacles, avenues of approach, prominent terrain features, and dead space.

7-59. Using TRPs, terrain features, or man-made objects, the PL ensures that each MGS has a well-defined and well-understood sector of fire. An individual MGS sector should be wide enough to allow some overlap with adjacent vehicles, but narrow enough to prevent target overkill. 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 (this should be a company control measure), and takes other actions that are time- or space-dependent.

7-60. When the PL decides how to use his MGSs to best execute the company commander's intent, he checks each of the firing positions he selected, identifying and confirming sectors of fire to ensure he has mutual support between MGSs. The PL must know the location of adjacent units. He must then plan machine gun fires for each MGS to protect itself, as well as other MGSs in the platoon and adjacent friendly elements. He does this by assigning FPF, with the platoon using its machine guns to fire on dismounted enemy infantry, and by planning for additional indirect fire support.

FIRE CONTROL MEASURES

7-61. The MGS platoon uses both terrain and threat-based fire control measures while conduction operations. The following paragraphs discuss both terrain- and threat-based measures. (Refer to FM 3-21.10 for more information)

TERRAIN-BASED FIRE CONTROL MEASURES

7-62. The MGS PL uses terrain-based fire control measures to focus and control fires by designating natural terrain as TRPs and triggers that can be identified by all members of the MGS section or platoon. The following paragraphs discuss those different fire control measures.

Sector of Fire

7-63. A sector of fire is a defined area that must be covered by direct fire. The MGS PL assigns sectors of fire to his MGS crews to ensure coverage of an area of responsibility; they may also limit the sector of fire of an MGS or weapon to prevent accidental engagement of an adjacent unit. The PL considers the number and types of weapons available when assigning sectors of fire. Means of designating sectors of fire include—

- Target reference points.
- Clock direction.
- Terrain-based quadrants.
- Friendly-based quadrants.

Direction of Fire

7-64. 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 of an enemy. Direction of fire is most commonly used when assigning sectors of fire would be difficult or impossible due to limited time or insufficient reference points. Means of designating a direction of fire include—

- Closest TRP.
- Clock direction.
- Cardinal direction.
- Tracer on target.
- Infrared (IR) laser pointer.

Quadrants

7-65. A quadrant is the EA that has been split into four different sectors. Quadrants can be based on the terrain, friendly forces, or an enemy's formation.

7-66. The method of quadrant numbering will be determined by the unit SOPs; however, care must be taken to avoid confusion when quadrants based on terrain, friendly forces, and an enemy's formations are used simultaneously. The different quadrant methods are—

- **Terrain-based.** A terrain-based quadrant entails the 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, (for example, using a ground burst illumination round, a smoke marking round, or a fire ignited by incendiary or tracer rounds).
- **Friendly-based.** The friendly-based quadrant technique entails superimposing quadrants over the unit's formation. The center point is based on the center of the formation, and the axes running parallel and perpendicular to the general direction of travel. For rapid orientation, the friendly-quadrant technique may be better than the clock direction method; this is due to the different elements of a large formation are rarely oriented in the same exact direction and the relative dispersion of friendly forces causes parallax to the target.

Maximum Engagement Line

7-67. A maximum engagement line (MEL) is the depiction of the farthest limit of effective fire for a weapon or unit. This line is determined by the weapon's or unit's maximum effective range, and by the effects of terrain. The MGS PL may use an MEL for several purposes to include; preventing crews from engaging beyond the maximum effective range, to define criteria for the establishment of triggers, and to delineate the maximum extent of the engagement area on the sector sketch.

Restrictive Fire Line

7-68. An RFL is a fire control measure beyond which engagement is prohibited without coordination. In the offense, the MGS PL may designate a 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 the MGS is supporting a maneuvering Infantry element. In the

defense, the MGS PL may establish a RFL to prevent an MGS from engaging a friendly rifle squad positioned in restricted terrain on the flank of an avenue of approach.

Final Protective Line

7-69. The final protective line (FPL) is a line of fire positioned where an enemy assault is checked by the interlocking fires of all available weapons. The unit reinforces this line with protective obstacles and with 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. No ammunition is spared in repelling the enemy's assault.

THREAT-BASED FIRE CONTROL MEASURES

7-70. The MGS PL uses threat-based fire control measures to focus and control fires by directing the unit to engage a specific enemy element rather than to fire on a point or area.

Target Array

7-71. Target array permits the PL to distribute fires when the enemy force is concentrated and terrain-based controls are inadequate.

Weapons Ready Posture

7-72. The weapons ready posture is a means by which leaders use the tactical information available to specify the ammunition and range for the most probable engagement.

Weapons Control Status

7-73. The three levels of weapons control status outline the conditions, based on target identification criteria, under which friendly elements may engage. The PL sets and adjusts the weapon control status based on friendly and enemy disposition. Weapons control status can be assigned as weapons free, weapons hold, or weapons tight.

Weapons Safety Posture

7-74. Weapons safety posture is an ammunition handling instruction that allows the PL to control the safety of the MGS platoon's weapons precisely. Weapons safety posture includes weapons loaded, weapons locked, ammunition prepared, and weapons cleared.

PLANNING CONSIDERATIONS IN URBAN ENVIRONMENTS

7-75. Built-up areas consist mainly of man-made features such as buildings, streets, and subterranean systems. These features create a variety of tactical problems and possibilities. To ensure the MGS platoon operates effectively in the urban environment, the platoon's observation and direct fire plans must address the ground-level fight (in streets and on ground floors of buildings), the above ground fight (in multistoried buildings), and the subterranean fight (in subways, sewers, cellars, and utility systems). The following considerations apply:

- Built-up areas complicate, confuse, and degrade mission command.
- 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 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 the urban operations.

7-76. Numerous factors related to vehicles and equipment affects the MGS platoon's planning in the urban environment. These factors include the following aspects:

- The preferred main gun rounds in urban operations are high-explosive antitank tracer (HEAT-T) and high-explosive plastic tracer (HEP-T). These rounds outperform sabot rounds against bunkers and buildings.
- HEAT-T ammunition arms approximately 60 feet from the gun muzzle. It loses most of its effectiveness against urban targets at ranges of less than 25 to 30 meters.
- HEP-T is used primarily against troops (where blast concussion and fragmentation are desired), field fortifications, bunkers, buildings, and crew-served weapon emplacements.
- The 1040 canister round, used in an antipersonnel role, enables the MGS to defeat a squad of enemy infantry in the open. The

canister round can also be used in an antimaterial role to defeat technical trucks and surfaced laid obstacles such as concertina wire.

- The M240 coaxial machine gun can effectively deliver suppressive fires against enemy personnel and against enemy positions that are behind light cover. If the unit is equipped with the M240 dismount kit, troops can dismount the machine gun and use it in a ground role.
- When buttoned up, the MGS crew has limited visibility to the sides and rear, and no visibility to the top. Figure 7-5 and Figure 7-6 illustrate the dead space associated with MGS operations in an urban environment. When buttoned up, dismounted Infantry provide local security to the side, top, and rear of the MGS.
- An elevation of +15 degrees is also required to provide effective fires to support Infantry assaults on high ground at ranges up to 1000 meters for machine guns, and 2000 meters for the main gun. This capability is crucial when MGS platforms are unable to maneuver on designated Infantry axis of attack, and must support Infantry at a distance.
- Depression to -5 degrees is needed when MGS is used to mass fires in low ground EAs during defensive operations.

7-77. Sabot petals endanger accompanying Infantry elements. They create a hazard area extending 70 meters on each side of the gun target line, out to a range of 1 kilometer. (See Figure 7-4.)

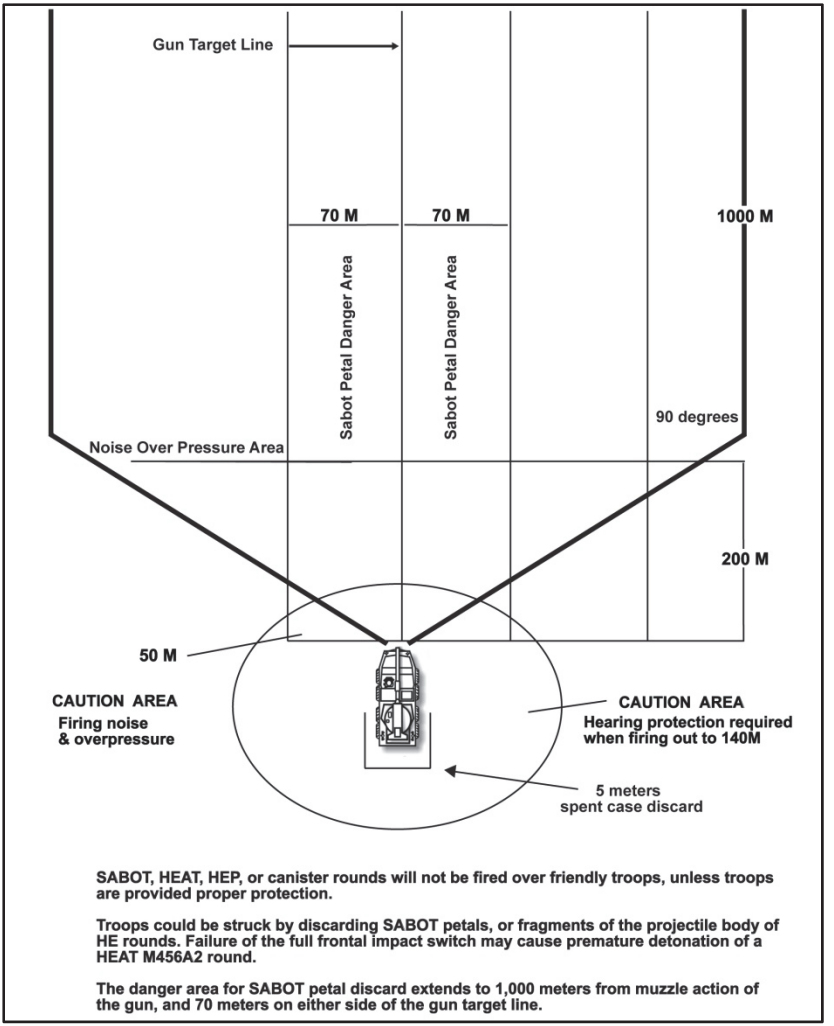


Figure 7-4. Diagram of surface danger zone

Note. In the urban environment, the .50-caliber machine gun and the 7.62-mm M240 machine gun provides high-volume, long-range, automatic fires for the suppression or destruction of targets. They provide FPF 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.

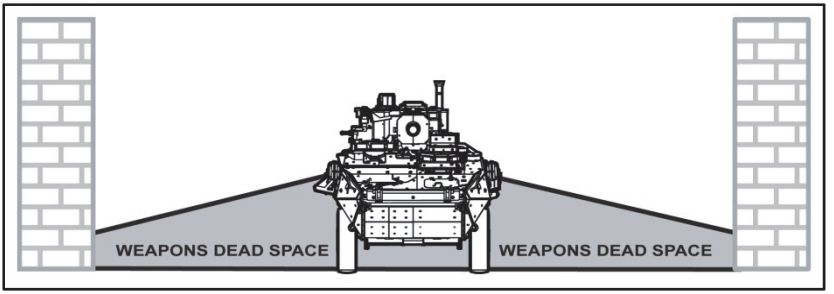


Figure 7-5. MGS weapons dead space at street level

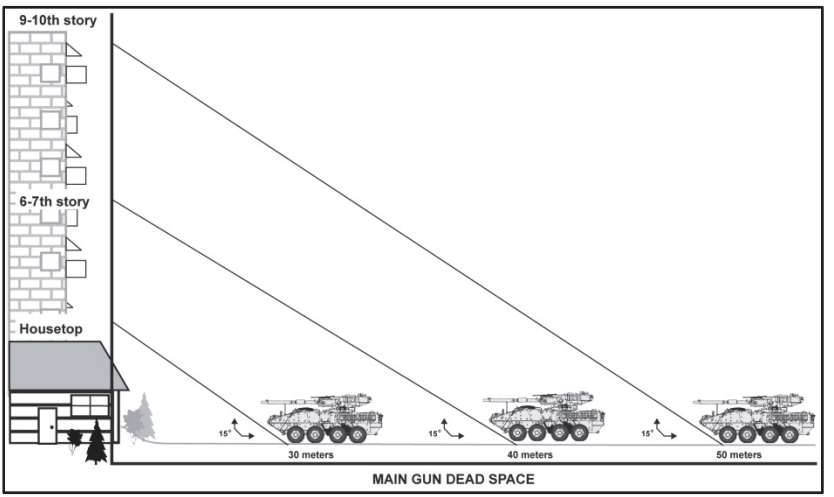


Figure 7-6. MGS main gun and coaxial dead space above street level

SECTION IV – PREPARE

7-78. After the PL completes his defensive fire planning, he conducts preparation activities. As detailed earlier, the PL has already oriented his VCs on the EA, TRPs, and supplementary positions. He also designated specific sectors of fire for each MGS and for each position.

INITIAL PREPARATION ACTIVITIES

7-79. The PL directs and oversees a variety of activities designed to ensure the effective positioning and preparation of his MGSs on the ground. He must remember that if he fails to check an item, or have another leader check it when necessary, the platoon may not be ready for combat.

SELECTION AND DIGGING OF FIRING POSITIONS

7-80. The PL first designates where, and in what order, he wants the supporting equipment to dig the firing positions.

Note. Individual VCs must ensure the TRPs that were covered prior to digging are visible after the position is constructed.

7-81. He gives each VC specific instructions for handing over engineer assets between MGSs. Examples of engineer assets include bulldozers and armored combat engineer vehicles. Ideally, he assigns one individual in the platoon to supervise and escort the engineers from position to position. Whenever possible, the PL selects existing terrain (such as wadis, depressions, or road embankments) that can be modified by engineer assets to create positions. As work is completed, each crew camouflages its position.

AMMUNITION PRESTOCK

7-82. If Class V prestock is available, the PL or PSG determines a location that is accessible to all platoon MGSs. The location should provide cover and concealment for the MGSs while they are uploading the ammunition. The prestock site should be protected from indirect fires. This can be done either by completely digging in the position and preparing overhead cover, or by improving existing terrain.

PREPARE-TO-FIRE CHECKS

7-83. When preparing for combat, the PL ensures that crews have completed their prepare-to-fire checks. Boresighting is one of the most critical tasks in preparing the MGS to kill the enemy. When the tactical situation permits, the PL ensures that MGSs are boresighted daily. MGSs should be boresighted after major temperature changes (typically, in the morning, at midday, and at dusk), and after excessive movement. If a building or some other man-made object is not available in the EA, or the platoon is not carrying its own boresight panel, the PL must prepare a field expedient target for boresighting.

Note. If preparation time is limited, the PL may direct the PSG to check prepare-to-fire activities.

LIMITED VISIBILITY

7-84. The PL should develop a limited visibility plan. The plan should cover actions the platoon will take if the battlefield is obscured to the extent

that the laser range finder and thermal imaging system are ineffective. Examples of these actions include plotting and registering indirect illumination and adjustment of battle sight ranges. The plan should also cover the use of listening posts to detect enemy movement during limited visibility.

RANGE CARDS

7-85. The MGS platoon uses sketch cards and sector sketches to develop the platoon's fire plan.

SKETCH CARD

7-86. Each MGS crew will be required to develop a sector sketch card, as it prepares its BPs for deliberate or hasty defensive operations. (See Figure 7-7 and Figure 7-8.) This is a rough topographical sketch of the MGS's assigned sector, which may be prepared traditionally (handwritten) or using the MGS's digital equipment (FBCB2). The sketch card aids the crews in target acquisition and provides information for the PL to develop his platoon fire plan. (See Figure 7-9.)

7-87. The fire plan should provide information necessary to distribute and control the fires of all available direct and indirect fire weapons, both organic and attached. It is prepared using the same two methods (handwritten or digital).

Sketch Card Verification

7-88. As he receives the platoon's sketch cards, the PL must verify them. Either he or the PSG mounts each MGS and views its sector through the compact modular sight. The sketch card check should ensure that the VCs have covered each of the following:

- All MGS sectors are mutually supporting and overlapping.
- Each MGS crew understands and has recorded the designated TRPs and FPF.
- All TRPs assigned to the platoon are covered by fire.
- Each crew has marked ranges to all TRPs or identifiable targets within the MGS's sector. These ranges are especially critical in limited visibility or degraded operations.
- Each crew has drawn range bans at all weapon systems maximum effective ranges. For example, 1800 meter range ban drawn to identify the .50-caliber machine guns' maximum effective range.

- The risk of fratricide between platoon MGSs and adjacent elements has been evaluated and appropriate adjustments or restrictions implemented.

Note. Each crew member needs to know the location of adjacent vehicles and OPs and what they look like through the MGS's sights. Using pickets to indicate left and right limits for individual MGS main gun fire can help VCs to observe their limits of fire. Rehearsals and proper fire control measures are the best means of reducing the chances of fratricide.

- The sketches show friendly obstacles, with each obstacle covered by machine gun or main gun fire from at least one MGS.
- Dead space is covered by indirect fire or alternate positions.
- Each MGS and the platoon as a whole have identified alternate positions that cover the same area as the primary positions and supplementary positions. Supplementary positions cover additional areas of responsibility assigned to the MGS or platoon.

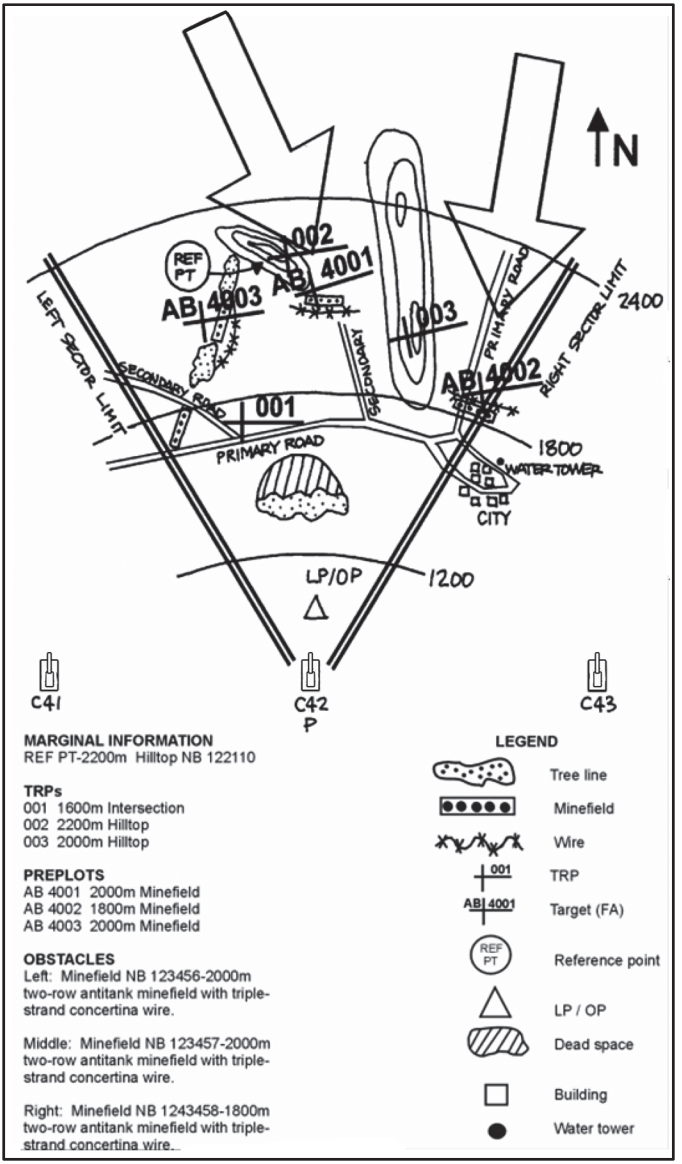
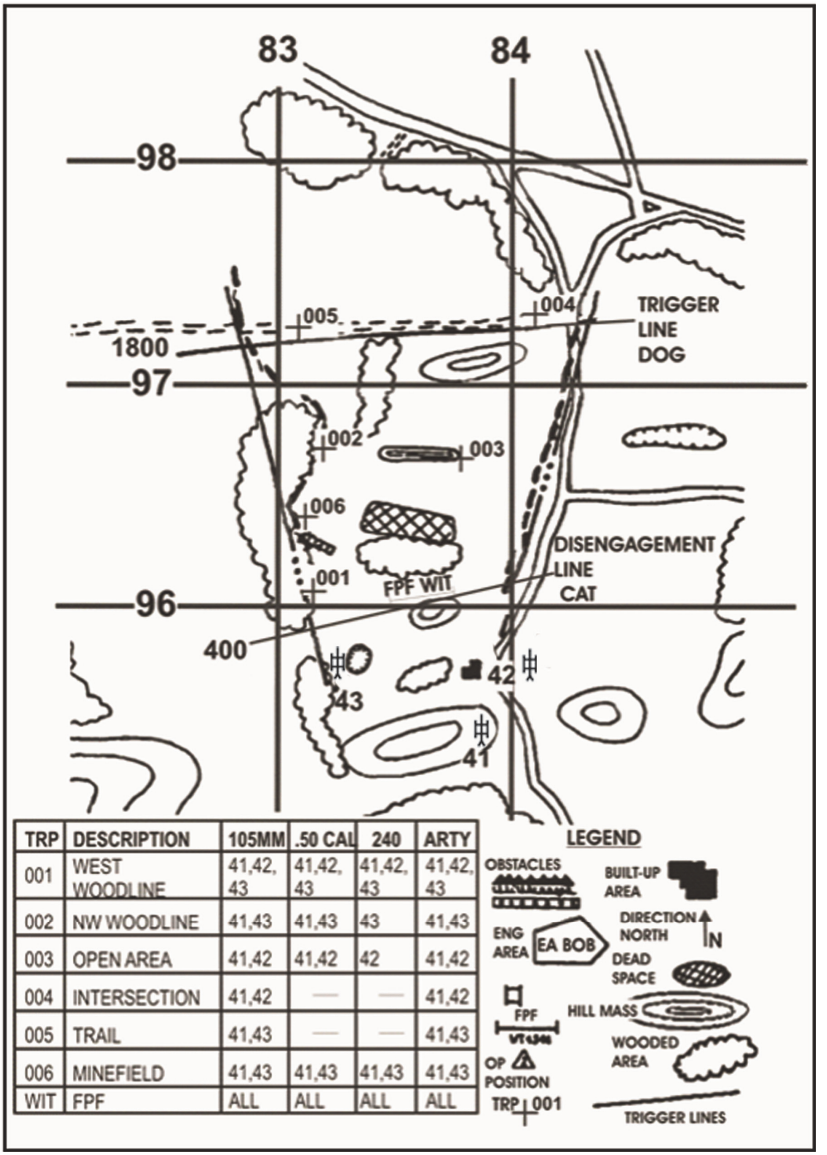


Figure 7-7. Sketch card



TRP	DESCRIPTION	105MM	.50 CAL	240	ARTY
001	WEST WOODLINE	41,42, 43	41,42, 43	41,42, 43	41,42, 43
002	NW WOODLINE	41,43	41,43	43	41,43
003	OPEN AREA	41,42	41,42	42	41,42
004	INTERSECTION	41,42	—	—	41,42
005	TRAIL	41,43	—	—	41,43
006	MINEFIELD	41,43	41,43	41,43	41,43
WIT	FPF	ALL	ALL	ALL	ALL

Figure 7-8. Traditional sector sketch

BACK BRIEFS

7-89. The sketch card verification process provides an optimum opportunity for the PL to conduct back briefs to confirm each VC's understanding of his mission. If time permits, the back brief includes a field expedient sand table or chalkboard exercise (using "micro" armor or a rough terrain model scratched in the dirt). The PL can use the exercise to reinforce operational considerations for the mission, including—

- Individual MGS responsibilities, such as which MGS will engage at what location within the platoon sector.
- Tactical contingencies, such as which MGS will pick up a sector if another MGS is knocked out, or what happens if a particular MGS's sector is overloaded with targets.
- Adjustments to positions, such as when an MGS is unable to cover its entire assigned sector.

Note. This should be verified immediately after the position has been prepared and while engineer assets are still on site.

PLATOON FIRE PLAN

7-90. The PL compiles the individual MGS sketch cards, consolidates them, and develops the platoon fire plan. He then coordinates the fire plan with adjacent platoons and adjusts the individual MGS positions as necessary. An effective platoon fire plan provides information needed to distribute and control the fires of all available direct fire and indirect fire weapons, both organic and attached. As with all levels of fire planning, development of the platoon fire plan within the platoon is conducted from the top down.

GRAPHICS, MAPS, AND OVERLAYS

7-91. These are critical elements of fire plan development. As discussed earlier they are the PL's primary tool for organizing information and synchronizing his assets on the battlefield. They assist him in depicting the fire plan accurately.

7-92. The PL must have both maneuver and fire support graphics posted on his map and make sure that all the VCs have done the same. He then prepares the overlay and sends it to the commander digitally. He can also send any recommendations he believes should be added to the company graphics, such as additional indirect fire targets.

7-93. The PL prepares two copies of the overlay. He sends one copy digitally to the company commander during the OPORD confirmation brief. The commander can then apply the platoon overlays to ensure his assigned EA is covered. After evaluating the platoon overlays, he may wish to adjust platoon positions or assign supplementary positions if the entire EA is not covered by either observation or direct fire. If a portion of the EA appears as dead space on all platoon overlays, the commander may wish to plan indirect fires to cover the area.

DEPICTION OF THE FIRE PLAN

7-94. The PL prepares the platoon fire plan with the information from the individual MGS sector sketches and available tools. Figure 7-9 shows an example of a platoon fire plan.

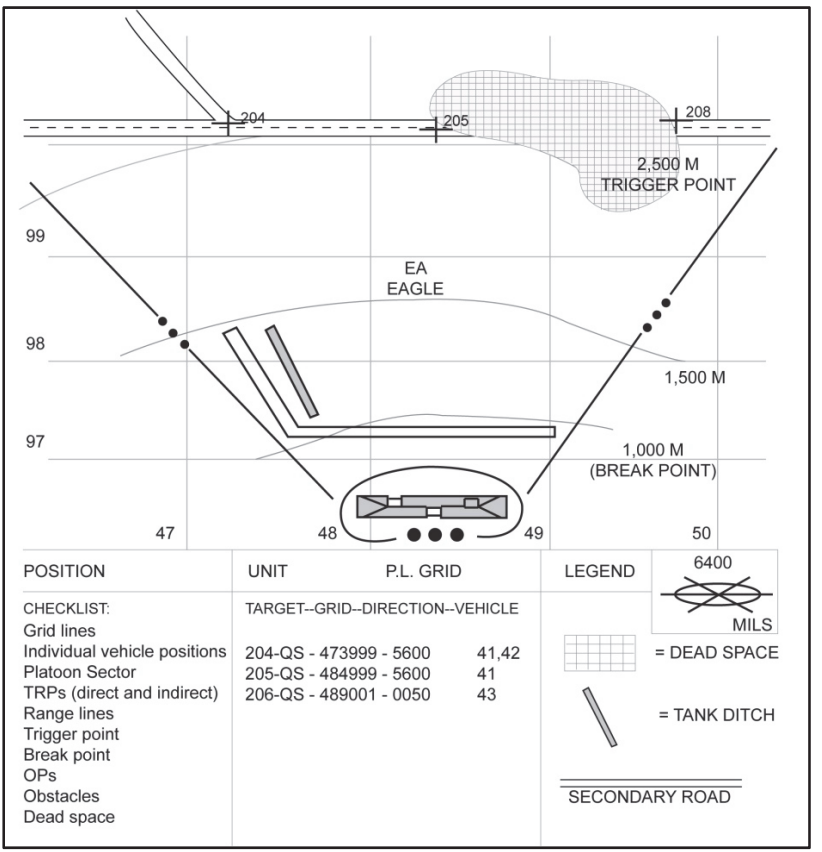


Figure 7-9. Example platoon fire plan

7-95. To enhance the platoon's understanding of the fire plan and the operation itself, the PL must know how to make effective use of marginal data. These notations cover numerous types of tactical information. They may vary according to mission or a higher unit guidance. As an example, marginal data required for an MGS platoon fire plan might include—

- Unit designation.
- Date.
- Type of position (primary, alternate, or supplementary).
- Information on TRPs (description, range, list of MGSs that can engage each TRP).
- Target, trigger, location, observer location, delivery systems, attack position, primary and alternate communications.
- Other notes as necessary, covering such areas as specific coordination with adjacent units and engagement criteria/priority.

REHEARSALS

7-96. Once the preliminary preparations are complete, the PL requests permission from the company commander to rehearse and conduct any activities needed to conclude the preparation phase. The rehearsal should cover as many aspects of the operation as possible, including any movement. If time permits, it is conducted in both day and night conditions. The PL should rehearse the platoon fire commands and actions, to include calling for indirect fires and requesting their time of flight.

Note. He must know the time of flight for the indirect fire mission to synchronize the available direct and indirect fires.

7-97. At a minimum, the rehearsal must include the VC and gunner of each MGS. It is absolutely critical that these key crewmen understand the complete plan. Each VC must know what actions he is required to execute at each point in the mission. Each gunner must understand what his exact sector is and under what conditions engagement priorities will change.

Note. The PL's and PSG's MGS gunners should be the most experienced at their positions within the platoon, capable of executing the plan without further guidance from their VCs. This frees the PL and PSG to fight the battle rather than spend too much time controlling their individual MGSs.

7-98. If it is not possible to assemble men and equipment for a large scale rehearsal, the PL conducts the rehearsal on the ground from a position that enables the platoon to see the battlefield. One way to do this is to construct a field expedient sand table of the EA or platoon sector. The PL can then drill the platoon on the fire plan, using rocks, sticks, or other available materiel to depict enemy formations on the sand table. He can issue fire commands and then require the VCs to explain their actions for different situations and enemy arrays.

PREPARATION SUMMARY

7-99. The PL must be resourceful and thorough when ensuring that all crews understand and can execute the plan under all conceivable conditions. This includes planning, preparing, and conducting rehearsals for supplementary and successive BPs that the PL has been directed to prepare. If time does not permit all of these steps, the PL must prioritize his preparation activities.

7-100. The end product of the PL's fire planning and preparation is not merely a thorough, accurate fire plan, although this is an indispensable component of the defense. To be successful in battle, the PL must complete these phases of the defensive operation with MGS crews that understand what they are supposed to do and a platoon that is completely prepared to fight.

SECTION V – EXECUTE AND ASSESS

7-101. Once the platoon has completed fire planning and preparation activities, the MGS PL directs execution of the plan. The following discussion covers a number of key considerations in the distribution and control of fires during the execution phase.

ENGAGEMENT CONSIDERATIONS

7-102. Effective fire distribution and control requires a unit to rapidly acquire a threat and mass the effects of fires to achieve decisive results in the close fight. When planning and executing direct fires, the commander and subordinate leaders must designate the actions to be conducted by subordinates. Designated and conducted properly, they help the company to accomplish its primary mission in any direct fire engagement: to both acquire first and shoot first; they give subordinates the freedom to act quickly upon acquisition of a threat. This discussion focuses on the following principles:

- Mass the effects of fire.

- Destroy the greatest threat first.
- Avoid target overkill.
- Employ the best weapon for the target.
- Minimize friendly exposure.
- Employ the combat identification (CID) process.
- Prevent fratricide.

MASS THE EFFECTS OF FIRE

7-103. The MGS 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

7-104. The order in which the MGS platoon engages enemy forces is in direct relation to the danger it presents. The threat posed by an enemy depends on his weapons, range, and position. Presented with multiple targets, a unit will, in almost all situations, initially concentrate fires to destroy the greatest threat first, and then proceed to distribute fires over the remainder of the enemy force.

AVOID TARGET OVERKILL

7-105. The MGS platoon avoids target overkill by employing only the necessary amount of fire to achieve the desired effect. 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 must be tempered by the requirement to destroy the greatest threats first.

EMPLOY THE BEST WEAPON FOR THE TARGET

7-106. Employing the appropriate weapon for the target increases the probability of rapid destruction or suppression of an enemy while saving ammunition. The MGS platoon possesses many weapons with which to engage a threat. Target type, range, and exposure are key factors in determining the weapon and ammunition that should be employed, as are weapon and ammunition availability and desired target effects. Additionally, leaders should consider individual crew capabilities when deciding on the employment of weapons. The MGS PL arrays his forces based on the terrain, enemy, and desired effects of fires.

MINIMIZE FRIENDLY EXPOSURE

7-107. MGS platoons increase their survivability by exposing themselves to an enemy only to the extent necessary to engage him effectively. Natural or man-made defilade provides the best cover from direct fire munitions. MGS crews minimize their exposure by constantly seeking effective available cover, attempting to engage an enemy from the flank, remaining dispersed, firing from multiple positions, and limiting engagement times.

EMPLOY COMBAT IDENTIFICATION PROCESS

7-108. Combat identification is the process of attaining an accurate characterization of detected objects in the OE sufficient to support an engagement decision. The CID process has the following three key purposes:

- Identify and classify targets in the OE.
- Allow for the timely processing of engagement decisions on targets classified as threats.
- Mitigate fratricide and collateral damage to noncombatants.

7-109. The CID process is a series of progressive and interdependent steps (or actions) that lead to the decision process to engage or not engage—

- Target search.
- Detection.
- Location.
- Identification.

7-110. Effective CID for an MGS crew requires a constant combined effort from each crew member.

PREVENT FRATRICIDE

7-111. The MGS PL must be proactive in reducing the risk of fratricide and noncombatant casualties. He possesses 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; digital communications, and SA.

7-112. Situational awareness and employment of applicable ROE are the primary means of preventing noncombatant casualties. Because it is difficult to distinguish between friendly Soldiers and enemy dismounted soldiers, the MGS platoon must constantly monitor the position of friendly dismounted squads.

DIRECT FIRES

7-113. The following paragraphs discuss the control of direct fires.

FIRE COMMANDS

7-114. The PL initiates MGS direct fires using a fire command as discussed earlier in this chapter. The fire command enables the platoon to engage single targets using a single section or an individual MGS 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 main gun 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

7-115. The MGS platoon utilizes trigger lines as a backup to the fire command. In the absence of communications from the PL, a preestablished direct fire trigger line allows each VC to engage enemy vehicles in his sector of fire. The criteria for the direct fire trigger line should specify the number of enemy vehicles that must pass a designated location before the VC can engage without any instructions from the PL. Selection of the trigger line is dependent upon METT-TC.

MOVEMENT CONSIDERATIONS

7-116. MGS VCs move from hull-down to turret-down firing positions within their primary and alternate positions based on two considerations: the necessity to maintain direct fires on the enemy and the effectiveness of the enemy fires. Influencing each VC's decision to move between firing positions are such factors as movement rates of the enemy force, the number of advancing enemy vehicles, the accuracy with which the enemy is acquiring and engaging friendly fighting positions, and the lethality of the enemy's weapon systems.

REPORTING

7-117. During the direct fire fight, VCs describe the situation for the PL, who in turn describes what is happening to the commander. Contact reports, SPOTREPS, and SITREPs are used as appropriate. In the defense, contact reports are used to alert the MGS platoon to previously unidentified enemy positions.

7-118. SPOTREPs and SITREPs are sent to list the number, types, and locations of enemy elements observed, engaged, or destroyed and to provide the strength and status of friendly forces. Everyone involved in the

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

DISENGAGEMENT CONSIDERATIONS

7-119. The company commander establishes disengagement criteria and develops the disengagement plan to support the company scheme of maneuver. Disengagement criteria are primarily based on a specified number and type of enemy vehicles reaching a specified location (normally called the break point) to trigger displacement. Other considerations, such as ammunition supplies and friendly power, also influence the decision to displace.

Chapter 8

Augmenting Combat Power

The MGS platoon must take full advantage of available augmented combat power to accomplish its mission and reduce its vulnerability on the battlefield. Augmented combat power may include mortars, FA, combat engineers, ADA, aviation units, AT systems, and Infantry. These assets are not organic to the MGS platoon, but may be available to the platoon through the battalion or company. The PL must understand the capabilities and limitations of each augmented combat power to effectively employ them in combat. Chapter 8 discusses the many assets available and their capabilities when utilized as part of the company or platoon.

SECTION I – TEXT REFERENCES

8-1. Table 8-1 contains the references used in this chapter.

Table 8-1. Guide for subjects referenced in text

Subject	*References*
Mortars	ATTP 3-21.90
Field Artillery Support	FM 6-50
Fire Support Team	FM 3-09
Attack Reconnaissance Helicopters	FM 3-04.126
Close Air Support	FM 3-90.5
CBRN Protection	FM 3-11.4
Engineer Support Operations	ATTP 3-90.4
Military Police Functions	FM 3-39

SECTION II – FIRES

8-2. Mortars and FA are the primary means of indirect fire support available to MGS platoons. In addition to understanding the capabilities and limitations of these assets, PLs and their VCs must know what channels they must use to request fires. Also, they must understand how to work with the FIST at company level to plan and coordinate indirect fires.

MORTARS

8-3. Mortars provide the most responsive fire support to the MGS platoon. This is because the mortar section consists of 10 Soldiers organized into two mortar crews. Each crew is equipped with a 120-mm mortar

mounted on a specially equipped mortar carrier vehicle. Each crew also is equipped with a 60-mm mortar, which enables the section to provide a more lightweight dismounted mortar system. Additionally, a platoon consisting of four 120-mm tubes is organic to the battalion; the platoon also carries four 81-mm tubes to provide a dismount mortar capability at the battalion level.

CAPABILITIES

8-4. Mortars can provide a heavy volume of fires to support the MGS platoon (a maximum effective range of 7200 meters for the 120-mm mortar; 5700 meters for the 81mm mortar, and 3490 meters for the 60-mm mortar). Mortars are ideal weapons for attacking a variety of targets, including—

- Infantry in the open.
- Targets on reverse slopes.
- Targets in narrow ravines or trenches.
- Targets in forests and urban areas.
- Targets in dead space.

8-5. Mortars possess the following capabilities and advantages:

- Rapid response time.
- Effective against low-density targets.
- Highly destructive target effects.

LIMITATIONS

8-6. Limitations of mortars include the following considerations:

- Maximum range is limited when compared to the indirect fire support capability of FA elements.
- Cannot be used against targets inside their minimum effective range (180 meters from the mortar tube position for the 120-mm mortar; 83 meters from the 81mm mortar tube position, and 70 meters from the 60-mm mortar).
- Elements carry limited amounts of ammunition.
- Fire direction center (FDC) and tubes are not linked to the Advanced Field Artillery Tactical Data System.
- High angle of fire makes them extremely vulnerable to enemy counter fire radars.

EMPLOYMENT CONSIDERATIONS

8-7. The following paragraphs describe the four types of mortar targeting effects that the platoon should consider during the planning process.

Destruction

8-8. High-explosive rounds, mounted with variable-timed fuses, can destroy or disperse dismounted infantry and vehicles that are in the open. High-explosive mortar rounds have the capability to destroy or disable some armored vehicles.

Suppression

8-9. High-explosive rounds can force the enemy to button up or move to less advantageous positions.

Obscuration and Screening

8-10. Mortar support is the most rapid and responsive means of indirect smoke delivery. Mortar smoke builds more rapidly than artillery smoke. The MGS PL coordinates the planning and execution of mortar smoke missions with the commander and the company FIST. Mortars use white phosphorus (WP) rounds that can degrade the effectiveness of thermal sights and can produce casualties to friendly troops. White phosphorus rounds are used for obscuration and screening.

Illumination

8-11. Illumination rounds light an area or enemy position during periods of limited visibility. Illumination can increase the effectiveness of the MGS platoon's image intensification devices (passive sights). This helps the platoon gather information, adjust artillery fire, and engage enemy targets. Ground-burst illumination can also mark enemy positions and provide a thermal TRP for control of fires.

8-12. Units must be careful not to illuminate friendly positions. Illuminating the battlefield may be unnecessary or even counterproductive because U.S. night vision devices are superior to those of most potential enemies. (Refer to ATTP 3-21.90 for more information.)

FIELD ARTILLERY SUPPORT

8-13. MGS PLs must fully understand how to use FA support to their best advantage. FA is often the platoon's primary means of impeding and disrupting enemy formations, and suppressing enemy positions. FA can provide immediate, responsive, accurate fires with a wide variety of munitions.

CAPABILITIES

8-14. In support of the MGS platoon, FA elements—

- Provide immediate suppression on unplanned targets.

- Through careful positioning and timely displacement, provide continuous fire support on planned targets in all weather conditions and all types of terrain.
- Enable commanders and PLs to shift and mass fires rapidly.
- Offer a variety of conventional shell and fuse combinations.
- Provide obscuration smoke to conceal movement.
- Fire battlefield illumination rounds as necessary.

LIMITATIONS

8-15. Field artillery 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.
- Highly vulnerable to detection by an enemy's target acquisition systems.

EMPLOYMENT CONSIDERATIONS FOR FIELD ARTILLERY MUNITIONS

8-16. Elements of FA employ several types of munitions that can be tailored to engage different types of targets and for use in other missions such as smoke and illumination. (Refer to FM 6-50 for more information.) The following discussion outlines uses of FA munitions:

- **High explosive.** Field artillery elements use high-explosive munitions against personnel, field fortifications, and vehicles.
- **White Phosphorus.** Field artillery elements use WP for obscuration, screening, and burning.
- **Illumination.** Employment of FA illumination rounds is similar to that for mortar rounds. See the discussion of mortar employment earlier in this section.
- **Precision-guided/rocket-assisted extended range (Excaliber).** Field artillery elements employ these rounds against high-priority point targets.
- **Dual-purpose improved conventional munitions.** Field artillery elements use these munitions against both personnel and light armored vehicles in the open.
- **Scatterable mines.** These include area denial munitions for use against personnel, and remote antiarmor mines for use against armored vehicles. A mission involving scatterable mines requires FA support up to battery size. Therefore, the platoon must plan the mission and request these FA munitions with

significantly more lead time than is needed for other FA-delivered munitions.

FIRE SUPPORT TEAM

8-17. The FIST is organic to the company. It can push forward with a security force to support operations that require on-target designation for special munitions engagements. The FIST is a very valuable resource because of its mission command link with the artillery; it should not be exposed to direct fire except when absolutely necessary.

SUPPORT CONSIDERATIONS

8-18. Fire support teams organize, equip, and train to provide the company with the following personnel and support:

- A fire support advisor and coordinator.
- A communications link to all available indirect fire support assets.
- On-the-spot support for the company mortar section.

COMMUNICATIONS

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

- Attached unit command net (battalion or company).
- Battalion mortar fire direction net.
- The DS battalion fire direction net (digital).
- Battalion fire support net (voice).

8-20. The FIST serves as the net control station (NCS) on the company fire support net, while the battalion fire support element serves as the NCS on the battalion fire support net. The FIST relays calls for fire to supporting artillery on a digital net called the Tactical Fire Direction System, or sends the fire mission to the mortar platoon or element. The command net enables the FIST to monitor operations, and links the FIST to the commander and PLs for planning and coordination.

FIRE SUPPORT TEAM VEHICLE

8-21. The FIST operates out of the fire support team vehicle (FSV). This FSV is a Stryker equipped with digital and voice communications links to all available indirect fires and effects assets. The large targeting head atop the FSV houses the ground/vehicle laser locator designator that accurately determines the range, azimuth, and vertical angle to targets and can designate targets for laser-guided munitions.

FIRE REQUEST PROCESS

8-22. The following paragraphs contain discussions on fire requests channels, calls for fire, and methods of engagement the MGS platoon uses.

FIRE REQUEST CHANNELS

8-23. An SBCT Infantry company usually sends requests for indirect fire support 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. Usually, an adjustment of the fire mission is sent to the FIST who then relays the message to the artillery unit on a digital fire direction net; to the battalion mortars on the fire support net; or to the company mortars.

Note. During certain operations (especially stability operations) it may take a brigade combat team (BCT) commander or division commander to approve fires.

8-24. Besides sending specific requests to the FIST, the MGS platoon can obtain fire support from SPOTREPs sent on the company command net. The company FIST monitors the net and requests fires on targets of opportunity and on targets approved by the commander.

CALL FOR FIRE

8-25. The standard call for fire for artillery and mortars consists of three basic transmissions covering six elements:

- First transmission–observer identification and WARNO.
- Second transmission–target location.
- Third transmission–target description, method of engagement, and method of fire and control.

8-26. Exceptions to using the three transmissions are when calling for—

- Suppression missions.
- Immediate suppression missions.

OBSERVER IDENTIFICATION AND WARNING ORDER

8-27. The observer identification tells the FDC who is calling. It also clears the net for the remainder of the call. The WARNO informs the FDC of the type of fire support mission and the method of locating the target. The types of fire support missions and their corresponding calls are—

- **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 try 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 will have the desired effect on the target so that little or no adjustment will be required. The observer announces, FIRE FOR EFFECT.

Note. On digitally equipped vehicles, properly updated positioning/navigation data and an accurate range to the target provide extremely accurate target location. This enables the observer to, FIRE FOR EFFECT on the first transmission.

- **Suppression.** The word, SUPPRESS, is used to quickly bring fire on a preplanned target only. An example of a simplified call for fire that is sent in one transmission is, G24 THIS IS G59—SUPPRESS AF2401—OVER.
- **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. An example of an appropriate call for fire for a planned target is, G24 THIS IS G59—SUPPRESS AF2401—OVER. The target description is not announced. An example of a target of opportunity call for fire is, G24 THIS IS G59—IMMEDIATE SUPPRESSION GRID 123456—OVER.

TARGET LOCATION

8-28. After the observer communicates the type of mission, he then announces the method of target location that is used. 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. Only the polar and shift methods are initially announced to the FDC in this manner, H24—THIS IS H67—FIRE FOR EFFECT—POLAR—OVER. 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 at this time.

Note. The word "grid" is announced at the beginning of a subsequent transmission calling for an adjustment of fires, such as H24 THIS IS H67—ADJUST FIRE—OVER. H24 THIS IS H67—GRID 123456—OVER.

- **Grid method.** The target location is usually sent in six digits when using the grid method, such as "180739." 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.
- **Polar plot method.** This method requires the observer and the FDC to 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 the observer's position to the target.
- **Shift from a known point method.** The observer uses this method when he and the FDC have a common known point. 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 should remember to apply the right add, left subtract rule to determine direction to the target.

8-29. 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. ATTP 3-09.30 explains in detail how to determine lateral and range shifts.

DESCRIPTION OF TARGET, METHOD OF ENGAGEMENT, AND METHOD OF FIRE AND CONTROL

8-30. The observer includes these elements and uses these guidelines in his call for fire:

- **Description of target.** 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.** The observer tells how he wants to attack the target (type of ammunition, fuse, and distance from friendly troops). The FDC may change the ammunition type and fuse based on availability or other constraints. If the target is within 600 meters of friendly troops, the observer announces "DANGER CLOSE" to supporting mortars and

artillery. When "DANGER CLOSE" is announced, the initial rounds in adjustment should use a delay fuse.

- **Method of fire and control.** The observer designates the person who will give the command for fire to begin. If the observer wants to control the time of firing, he says, AT MY COMMAND. The FDC tells the observer when the unit is ready to fire. At the appropriate time, the observer says, FIRE. If the observer does not say, AT MY COMMAND, the FDC fires as soon as the platoon or battery is ready.

ADJUSTING INDIRECT FIRE

8-31. The goal of every observer is to put rounds on target as quickly as possible. If the five requirements for accurate predicted fire have been met, this task is relatively easy, and the observer requests fire for effect in his initial call for fire. However, because many variables affect the accurate delivery of initial rounds, observers must be prepared to adjust subsequent rounds onto the target as quickly as possible. Usually, one artillery piece or mortar is used in adjustment.

8-32. 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 needed, back to the FDC until fire hits the target. The observer spots by relating the burst or group of bursts to the adjusting point.

MGS PLATOON FIRE SUPPORT PLANNING

8-33. After receiving the company offensive fire plan, the PL checks it to verify planned targets. He ensures that targets are planned on all known or suspected enemy positions in front of, on, behind, and to the flanks of the objective. The company defensive fire plan should list planned targets in front of, on, behind, and to the flanks of BPs. Likely areas for these targets include observed choke points, key terrain, avenues of approach, obstacles, and likely SBF positions. If more targets are necessary for either the offensive or defensive plan, the PL coordinates the revised target plan with the commander and the FIST.

SECTION III – AIR-GROUND INTEGRATION

8-34. Army aviation forces may be employed organic to a division or higher level of command to conduct maneuver or provide support. Aviation forces may also be attached or OPCON to another command. Army aviation

units normally will not be OPCON to echelons below battalion level. However, attack reconnaissance helicopters may conduct direct air-to-ground coordination with companies and platoons during combat operations.

8-35. Attack reconnaissance squadrons and battalions (found in aviation brigades) are organized, equipped, and trained to conduct attack, reconnaissance, and security missions.

ATTACK HELICOPTERS

8-36. Attack reconnaissance helicopter companies and troops are maneuver units and are normally integrated into the ground scheme of maneuver. When working with ground maneuver forces, the attack reconnaissance helicopter unit may be placed OPCON to the ground force. Normally, it is OPCON to a maneuver brigade; on rare occasions, it can be OPCON to a battalion.

8-37. The primary aircraft in the air cavalry units is the OH-58D KIOWA. The aircraft features a stabilized mast-mounted sight with a low-light TV camera, thermal imaging system, and laser range finder/designator. It can acquire armored vehicles at night at ranges up to 10 kilometers. Positive identification and engagement requires less distance to the target. It can be armed with two weapons systems at a time, consisting of a .50-caliber machine gun, 2.75-inch rockets, or Hellfire missiles.

8-38. Attack reconnaissance helicopters establish communications with ground forces, and coordinate the situation and mission with the ground commander. Through close communications with the ground commander, attack reconnaissance aircraft can attack designated targets and, by understanding the commander's intent, select and engage other targets they discover as a result of maneuver from their higher vantage point.

8-39. The AH-64 APACHE attack 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, attrite, disrupt, or delay enemy forces. (Refer to FM 3-04.126 for more information.)

CLOSE AIR SUPPORT

8-40. The U.S. Air Force (USAF), Navy, and Marine Corps provide the U.S. Army with fixed-wing air support. They provide the following five types of air support:

- Close air support (CAS).

- Combat air reconnaissance.
- Tactical airlift.
- Electronic combat.
- Air interdiction.

8-41. Close air support is defined as air attacks on hostile surface forces that are in close proximity to friendly troops. Effective CAS can hinder an enemy attack, support the momentum of the ground attack, or provide cover for friendly movements. To obtain the best results while avoiding mutual interference or fratricide, aircraft must comply with "detailed integration." This is part of the USAF combat air system. Until the USAF achieves air superiority, competing demands between CAS and counter air operations may limit sorties apportioned for the CAS role. Nomination of CAS targets is the responsibility of the commander, air liaison officer, and staff operations officer at each level. The platoon obtains CAS in either of two ways–the brigade/battalion requests CAS strikes ahead of time or the battalion joint terminal attack controller makes a request on an immediate need basis. The controller on the ground or in the air acts as a link between the ground element and the CAS aircraft.

MARKING FRIENDLY POSITIONS

8-42. It is important to mark friendly positions whenever possible during close air strikes. Marking is especially important when friendly troops are within 300 meters of the target. (Refer to FM 3-90.5 for more information.) Means of marking positions include—

- **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.
- **Flares.** Rocket or 40-mm flares are useful for attracting attention at night, and are sometimes effective during the day.
- **Signal mirrors and panels.** Signal mirrors are probably the best ground-to-air devices for attracting attention. If the sun is shining and the operator is skillful, pilots can see a mirror flash from miles away. VS-17 signal panels are also good visual references for pilots.
- **Lights.** Pocket-size, battery-powered strobe lights produce brilliant white or blue flashes at about 1 1/2-second intervals. The flash is visible at night for distances of one to three miles. Vehicle lights, such as an unshielded red taillight, are visible to a pilot for several miles at night. Crews also use

chemical glow lights to mark friendly positions. One technique for using chemical glow lights to mark positions at night is to tie an IR or green chemlight on a 10-foot string. When aircraft are in the area, a crewman then swings the light in a circular motion to mark the location.

UNMANNED AIRCRAFT SYSTEMS

8-43. Unmanned aircraft systems significantly increase SA and the ability to decisively influence current and future operations when employed as a tactical reconnaissance, surveillance, and target acquisition (RSTA) platform. The UASs provide near real-time battlefield information, precision engagement, and increased mission command capability to process the fight and shape the battlefield for future operations. The capabilities of UASs are maximized when employed as part of an integrated and synchronized effort.

ECHELONS OF OPERATION

8-44. Unmanned aircraft systems are organized and developed to provide three echelons of operation–battalion and below, brigade level with BCT and the battlefield surveillance brigade, and division and above. This stratification of UASs maximizes operations and provides a combat enabler to maneuver forces.

BATTALION AND BELOW

8-45. Unmanned aircraft systems operations 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 at line of sight, ranging up to 10 kilometers.

UNMANNED AIRCRAFT SYSTEM FUNCTIONS

8-46. Unmanned aircraft systems play an integral role in accomplishing the following warfighter functions: (Refer to FM 3-04.155 for more information.)

- **Mission command.** Current systems extend the range of mission command systems. When UASs are employed with

communications relay packages, it extends terrestrial mission command nodes.

- **Movement and maneuver.** This provides the commander with current battlefield information and the ability to influence actions at the time and place of his choosing.
- **Intelligence.** Unmanned aircraft systems are integrated components of any surveillance and reconnaissnace plan. They are flexible and responsive RSTA platforms equipped with a variety of mission payloads to support the commander's intelligence gathering requirements.
- **Fires.** Unmanned aircraft systems support all aspects of the 'decide, detect, deliver, and assess' cycle. They can significantly shorten the sensor-to-shooter response time.
- **Protection.** Unmanned aircraft systems 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.
- **Sustainment.** Unmanned aircraft systems provide reconnaissance along supply routes and proposed logistics support areas. Future systems may support unmanned resupply and CASEVAC capability.

SECTION IV – PROTECTION

8-47. Protection is an essential task during any operation. The protection warfighting function is the related tasks and systems that preserve the force so the commander can apply maximum combat power. Units must consider the 12 protection tasks and systems and apply them as appropriate. The 12 protection tasks and systems are—

- Air and missile defense.
- Personnel recovery.
- Information management.
- Fratricide avoidance.
- Operational area security.
- Antiterrorism.
- Survivability.
- Force health protection.
- Chemical, biological, radiological, and nuclear operations.
- Safety.
- Operations security.

- Explosive ordnance disposal.

AIR AND MISSILE DEFENSE

8-48. An air and missile defense system protects the force from air and missile attacks and aerial surveillance. Additionally, maneuver and fires elements in the OE must be prepared to augment air defense systems using direct fire weapons.

8-49. Air and missile defense tasks consist of active and passive measures that protect personnel and physical assets from an air or missile attack. Passive measures include camouflage, cover, concealment, hardening, and OPSEC. Take active measures to destroy, neutralize, or reduce the effectiveness of hostile air and missile threats. (Refer to ADP 3-37 for more information.)

PERSONNEL RECOVERY

8-50. Personnel recovery is the sum of military, diplomatic, and civil efforts to affect the recovery and return of U.S. military, and DOD civilians and contracted personnel who are isolated or missing while participating in a U.S. government-sanctioned military activity or mission in an uncertain hostile environment. (Refer to ADP 3-37 for more information.)

INFORMATION MANAGEMENT

8-51. Information management is active or passive measures that protect and defend friendly information and information systems to ensure timely, accurate, and relevant friendly information. It denies enemies the opportunity to exploit friendly information and information systems for their own purposes.

FRATRICIDE AVOIDANCE

8-52. Fratricide is the unintentional killing of friendly personnel by friendly firepower. The destructive power and range of modern weapons, coupled with the high intensity and rapid tempo of combat, increase the potential for fratricide. Tactical maneuver, terrain, and weather conditions may also increase the danger of fratricide. For measures to avoid fratricide incidents, refer to Chapter 1.

OPERATIONAL AREA SECURITY

8-53. Operational area security focuses on protecting areas, routes, or installations. During preparation, operational area security focuses on

protecting AAs and securing routes required for task organization, sustainment, or positioning units for upcoming operations.

ANTITERRORISM

8-54. Antiterrorism is defensive measures used to reduce the vulnerability of individuals and property to terrorist acts, to include limited response and containment by local military and civilian forces. (Refer to JP 3-07.2 for more information.)

SURVIVABILITY

8-55. Survivability includes all aspects of protecting personnel, weapons, and supplies while simultaneously deceiving the enemy. Survivability tactics include building a good defense; employing frequent movement; using concealment, deception, and camouflage; and constructing fighting and protective positions for both individuals and equipment. (Refer to FM 3-21.11 for more information.) Survivability consists of four areas that are designed to focus efforts toward mitigating friendly losses to hostile actions or environments:

- Mobility.
- Situational understanding.
- Hardening.
- Camouflage, concealment, and deception.

FORCE HEALTH PROTECTION

8-56. Force health protection includes measures taken by leaders and individual Soldiers to promote, improve, or conserve the behavioral and physical well-being of Soldiers. These measures enable a healthy and fit force, prevent injury and illness, and protect the force from health hazards. (Refer to ADP 3-37 for more information.)

CHEMICAL, BIOLOGICAL, RADIOLOGICAL, AND NUCLEAR OPERATIONS

8-57. Soldiers on the integrated battlefield face a combination of CBRN and conventional attacks. If the MGS 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 depends upon the unit's mission, and upon the hazard. The line between contamination avoidance and protection is not distinct. Many actions contribute to both areas of CBRN defense.

8-58. Because many potential enemies have the capability to employ CBRN weapons, the MGS platoon must prepare to fight in a CBRN-contaminated environment. Collecting, processing, and disseminating needed CBRN hazard information are also vital functions. To survive and remain effective on the integrated battlefield, the MGS platoon must be proficient in the three fundamentals of CBRN defense: contamination avoidance, CBRN protection, and decontamination.

8-59. The platoon SOP should list CBRN responsibilities. The PL should designate selected crews as chemical agent detection teams, radiological survey and monitoring teams, and decontamination teams. He must also ensure that these crews are properly trained in CBRN procedures.

8-60. The key to effective protection in a CBRN environment is the MGS platoon's proficiency in automatically and correctly implementing CBRN defense SOPs. Individual and unit protection against chemical attack or contamination hinges on effective use of the MOPP and on individual proficiency in basic CBRN skills. (Refer to FM 3-11.4 for more information.) The following levels of MOPP should be listed in the SOP:

- **MOPP ready.** The protective mask is carried. Protective gear is nearby. (Protective gear must be available within two hours. A second set must be available in six hours.)
- **MOPP 0.** The protective mask is carried. Protective gear is within arm's reach.
- **MOPP 1.** Overgarments are worn.
- **MOPP 2.** Protective boots are worn.
- **MOPP 3.** Protective mask is worn.
- **MOPP 4.** Protective gloves are worn.

SAFETY

8-61. Operational conditions often impose significant hazards to Soldiers through the increased probability of an accidental event. These hazards raise the risk level as equipment and personnel are taxed. MGS leaders must know their Soldiers and train crews in the capabilities and limitations of their equipment.

8-62. Integrating safety into the operations process through the protection warfighting function and the CRM process provides an opportunity to identify and assess hazards to the platoon and develop risk reduction measures. The responsibility for safety starts with the commander and continues through the chain of command to individuals. Safety works best when all leaders and Soldiers receive training to recognize hazards and

implement controls to reduce or mitigate risks in their daily missions. (Refer to FM 5-19 for more information.)

OPERATIONS SECURITY

8-63. Operations security identifies essential elements of friendly information and evaluates the risk of compromise if an enemy obtains that information.

EXPLOSIVE ORDNANCE DISPOSAL

8-64. Explosive ordnance disposal elements supporting the unit provide the capability to neutralize hazards from conventional unexploded ordnance. High-yield explosives and associated materials, and IEDs. (Refer to FM 4-30.51 for more information.)

SECTION V – INTELLIGENCE

8-65. Intelligence is updated constantly by higher headquarters as the battlefield situation develops, such as when an enemy fights through a screening or covering force. The MGS PL keeps the platoon informed with periodic intelligence updates. The updated information may force him to reevaluate and adjust his time line to ensure the platoon is as prepared as possible.

8-66. Surveillance and reconnaissance operations often begin during the planning phase of an operation to fill any information requirements that leaders identified during mission analysis. Those information requirements that the commander identified as being critical to facilitating timely decisionmaking are the commander's critical information requirements (CCIRs). (Refer to ADP 3-0 for more information.)

8-67. During TLPs, the commander decides whether to designate an information requirement as a CCIR based on his likely decisions and his visualization of the operation. The staff develops an initial surveillance and reconnaissance plan that focuses on the intelligence gaps identified during mission analysis. This initial surveillance and reconnaissance plan should answer the information requirements needed to develop effective plans. The initial plan can be issued as part of a WARNO, FRAGO, or OPORD.

SECTION VI – COMBINED ARMS INTEGRATION

8-68. Combined arms is the synchronized and simultaneous application of the elements of combat power to achieve an effect greater than if each element of combat power was used separately or sequentially. (Refer to

ADP 3-0 for more information.) Weapons and units are more effective when they operate in concert. No single action, weapon, branch, or arm of service generates sufficient power to achieve the effects required to dominate an opponent.

INFANTRY SUPPORT

8-69. In open terrain, Infantry supports the forward movement of the MGS platoon vehicles by providing local security, retaining key terrain, clearing dug-in positions, and enhancing direct fires with organic small arms and AT fires.

8-70. Restricted terrain (such as built up areas, forests, and jungles) increases the vulnerability of the MGS platoon vehicles. In close terrain, it is more advantageous for MGSs to take a supporting role in the forward movement of the Infantry. MGSs provide close-in, direct fire support against hard and soft targets that could slow the Infantry's advance.

8-71. When the MGS platoon vehicles are task-organized to support an Infantry platoon, the controlling commander will determine the role of the MGS platoon vehicles or individual vehicle based on METT-TC factors. The MGS platoon vehicles may perform one of several functions, including—

- As the primary maneuver element (main effort).
- In a DS role when Infantry is the primary maneuver element.
- As part of the task force reserve.

ENGINEER SUPPORT

8-72. The brigade and battalion commanders decide how to employ their engineer assets most effectively as a distinct unit: attached to their subordinate elements or in DS of the subordinate elements. In fast-moving offensive operations, one technique is to place engineers' OPCON in the lead company to support breaching operations. In the defense, commanders generally keep engineer units intact to construct major obstacles and execute survivability operations. Engineer units accomplish this according to the commander's priority of work. Engineers train to fight as Infantry as a secondary mission and actually fight as Infantry only if absolutely necessary.

CAPABILITIES

8-73. The combat engineer platoon conducts mobility missions in support of ground operations. To do this, the engineer platoon must be organized,

trained, and equipped. The higher unit commander determines the engineers' specific tasks and responsibilities in these three areas.

ORGANIZATION AND EQUIPMENT

8-74. The following paragraphs discuss the equipment, capabilities, and considerations when working with combat engineers.

Organization

8-75. The combat engineer platoon operates from Stryker engineer squad vehicles, and consists of three sapper squads, two towed MICLICs, and a volcano light, as well as a demolition set, chain saw, and two mine detectors.

Equipment

8-76. The engineer company can supplement the MGS platoon with equipment from the engineer company, including the items covered in the following discussion.

Rapidly Employed Bridge System

8-77. The Rapidly Emplaced Bridge System (REBS) is a 30-ton launch-capable bridge that can span gaps up to 15 meters long. It is carried by a heavy expanded mobility tactical truck-type vehicle.

MICLIC Launcher

8-78. The MICLIC system employs a rope-like demolition charge to create lanes for combat vehicles during minefield breaching operations. The charge contains nearly a ton of composition C4 explosive, and can clear a lane up to 100 meters long and 14 meters wide. The MICLIC launcher is mounted on a towed trailer. It fires a 5-inch rocket motor that tows the MICLIC over the target minefield. The system was designed for deployment in virtually all types of terrain and weather conditions. A crew can reload the MICLIC with a new charge and rocket motor in about 30 minutes.

OPERATIONAL CONSIDERATIONS

8-79. The engineer platoon can provide the following support during mobility operations (Refer to ATTP 3-90.4 more information.):

- **Obstacle reduction.** Engineers can reduce or negate the effects of obstacles, thereby improving their supported unit's maneuver capability.

- **Route construction.** The engineers can construct, improve, and maintain roads, bridges, and fords.
- **Countermobility.** In a countermobility role, engineers can construct obstacles that obstruct the enemy's scheme of maneuver. Also, engineers can reinforce terrain and existing obstacles to disrupt, fix, turn, or block the enemy force.
- **Survivability.** Engineers can improve survivability by constructing dug-in positions and overhead protection to reduce the effectiveness of enemy weapons.

ANTITANK SUPPORT

8-80. The AT company is the primary antiarmor system for the brigade. Antitank systems provide long-range standoff and accurate direct fires. Coupled with the ability to engage the enemy under conditions of limited visibility, the result is unprecedented tank killing power for the commander. This element can employ independently; as a platoon in support of a company; or as a company in support of a battalion or the entire BCT or independently.

CAPABILITIES

8-81. The AT company supports the unit plan by being organized, trained, and equipped to conduct antiarmor operations in both the offense and defense. The higher unit commander determines the antiarmor element's specific tasks and responsibilities in these roles.

ORGANIZATION AND EQUIPMENT

8-82. The following paragraphs discuss organization and equipment.

Organization

8-83. The AT company consists of three platoons. Each platoon has three vehicles that mount the tube-launched, optically tracked, wire-guided (TOW) II-B AT missile. The company headquarters consists of the commander's vehicle, the XO's vehicle, a company FSV, and a number of support vehicles.

Equipment

8-84. Each platoon has three ATGM variant Stryker vehicles. Each ATGM is equipped with an M240B machine gun, in addition to its missile system. The TOW II-B missile is a top attack munitions capable of defeating armor vehicles at a range of 3750 meters. Antitank guarded missiles must come to a complete halt to engage enemy vehicles; it can take up to two minutes to reload.

OPERATIONAL CONSIDERATIONS

8-85. Mass is the key to employing a unit's antiarmor assets. When the unit masses it's AT fires, the commander no longer needs to employ his MGSs as the principle antiarmor platform. Employing antiarmor assets in this way releases the MGSs to cover areas where they can use their speed and shock effect optimally. Also, using antiarmor systems as a base of fire allows more MGSs to maneuver. The AT company provides support in the following ways:

- **Antiarmor fires (offense).** The AT company is capable of defeating all enemy armor. Its employment enhances a maneuver unit's ability to overwatch its own elements. Thus, the commander can maneuver more freely because AT crews engage and destroy enemy tanks before MGSs are committed to battle.
- **Antiarmor fires (defense).** In the defense, the AT company provides accurate long-range target acquisition. This enhances the supported unit's base of fire, and minimizes the possibility of detection by enemy forces. As the enemy closes with friendly maneuver units, displacement and repositioning of antiarmor units allow continuous AT fires throughout the depth of the battlefield.
- **Antiarmor fires (urban operations).** During urban operations, the AT company is extremely effective when used to create portals for use by dismounted Infantry. Usually, the AT company creates these portals in perimeter buildings or walls. Furthermore, by covering high-speed avenues of approach into or out of urban areas, it can prevent retreat or reinforcement by enemy forces.

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Chapter 9

Sustainment

In any military unit, sustainment operations maintain the force during continuous combat operations. The MGS PL is responsible for supervising sustainment within the platoon. The PSG is the sustainment operator for the platoon. The PSG advises the PL of logistical requirements during preparation for combat operations. He also keeps the PL informed of the platoon's status. The PSG works closely with the company XO and 1SG to ensure the platoon receives the required support for its assigned mission. The company normally forecasts supplies and "pushes" rather than "pulls" them to the platoon. Chapter 9 covers sustainment planning, supply operations, and the functions of sustainment.

SECTION I – TEXT REFERENCES

9-1. Much of the sustainment planning and execution are common among all Stryker units. (See the referenced publications for details.)

Table 9-1. Guide for subjects referenced in text

Subject	*References*
Sustainment Planning	FM 3-21.11
Enemy Prisoner of War Tag	DD Form 2745

SECTION II – PLANNING AND RESPONSIBILITIES

9-2. Planning sustainment operations is primarily a company and battalion-level operation. While the company commander and XO plan the operation, the MGS PL is responsible for his platoon's execution of the plan at platoon level. (Refer to FM 3-21.11 for more information.)

9-3. The MGS platoon has no organic sustainment assets. The PSG coordinates directly with the XO or the 1SG for all sustainment. The PSG usually receives all maintenance, supply, and personnel reports within the platoon. While VCs assist him, the PSG is ultimately responsible for keeping the PL informed of the platoon's current status.

PLANNING CONSIDERATIONS

9-4. The MGS platoon accomplishes sustainment functions according to SOPs. Procedures and services include—

- Accountability, maintenance, and safeguarding equipment that is assigned to the unit.
- Reporting the status of personnel, equipment, and classes of supply.
- Requests for resupply.
- Turning equipment in for repair.
- Evacuation of personnel WIA, KIA, and EPW.
- Evacuation of equipment and vehicles for replacement or repair.

LEADER RESPONSIBILITIES

9-5. The following paragraphs discuss the responsibilities of each leader in the MGS platoon throughout sustainment operations.

PLATOON LEADER

9-6. The PL has ultimate responsibility for the condition and performance of the platoon's equipment and material. In that role, the PL—

- Ensures, within the platoon's maintenance capabilities, that all platoon vehicles, weapon systems, and equipment, are combat ready at all times. He also ensures that equipment that cannot be repaired at platoon level is reported to organizational maintenance as soon as possible using DA Form 2404, *Equipment Inspection and Maintenance Worksheet* or DA Form 5988E, *Equipment Inspection Maintenance Worksheet.*
- Knows 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 the commander informed of the platoon's maintenance status at all times.
- Coordinates with the XO in planning, directing, and supervising unit maintenance for the platoon.
- Develops and supervises an ongoing maintenance training program.

- Ensures that MGS crews have the appropriate technical manuals on hand and are trained and supervised to complete operator maintenance properly.
- Ensures that unit-level preventative maintenance checks and services (PMCS) are performed on all assigned equipment in accordance with appropriate operator's manuals.
- Ensures that drivers are properly trained and licensed to operate platoon vehicles and equipment.
- Plans and rehearses a maintenance evacuation plan for every mission.

PLATOON SERGEANT

9-7. The PSG has primary responsibility for most of the platoon's maintenance activities and logistical requirements. The PSG—

- Directs and supervises unit maintenance of platoon equipment, vehicles, and weapon systems. Because time constraints will 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, he must check weapons and vehicles daily.
- Helps the PL to comply with his responsibilities and assumes these responsibilities in his absence.
- Coordinates with the XO to arrange organizational or DS maintenance.
- Supervises and accounts for platoon personnel during maintenance periods.
- Ensures that repair parts are used or stored as they are received.
- Develops and refines TTPs for vehicle recovery and oversees platoon rehearsals for vehicle recovery operations.
- Collects reports for the platoon's maintenance status in the field and sends appropriate consolidated reports to maintenance personnel.
- Ensures that vehicles are always topped off with fuel in garrison and that they receive adequate fuel in the field.
- Keeps the PL informed of the platoon's maintenance and logistics status.

VEHICLE COMMANDER AND PL'S GUNNER

9-8. The VCs and the gunner from the PL's MGS 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. The VCs and gunner—

- Ensure that the equipment inspection and maintenance worksheet is filled out accurately and updated in accordance with DA Pam 750-8.
- Ensure that dispatch records are completed accurately and turned in on schedule.
- Ensure 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 use the appropriate training manual to ensure correct checks are being completed.
- Ensure that, as a minimum, the assigned driver for each vehicle is properly trained and licensed. In preparing for continuous operations, the VC must ensure that all crewmembers are trained and licensed as drivers.
- Ensure that repair parts are installed upon receipt or are stored in authorized locations.
- Ensure that all tools and basic issue items are properly marked, stored, maintained, and accounted for.
- Ensure 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 update the PSG on the maintenance and logistics status of the vehicle.

SECTION III – CLASSES OF SUPPLY

9-9. The MGS platoon has a large amount of equipment and requires frequent resupply to accomplish its missions. Mobile gun system PLs must make periodic checks to ensure that the platoon's equipment, especially high use items, are accounted for and ready to use. They must anticipate supply expenditures and request resupply before an operation begins.

9-10. The platoon sergeant obtains supplies and delivers them to the platoon. The PL establishes priorities for delivery; however, combat demands that Classes I, III, V, and IX supplies and equipment take priority

because they are the most critical to successful operations. The classes of supply are—

- **Class I**. Rations, water, and ice.
- **Class II.** Clothing, individual equipment, MOPP suits, tentage, 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, such as MGS vehicles.
- **Class VIII.** Medical material, including medical peculiar repair parts, 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 into one of the existing classes of supply.

SECTION IV – UNIT BASIC AND COMBAT LOADS

9-11. This section contains discussions about the basic load, combat load, resupply methods, and techniques of resupply the MGS platoon uses throughout operations.

BASIC LOAD

9-12. For supply classes other than ammunition, the basic load covers supplies kept by units for use when combat is initiated. 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.

9-13. 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. The standard basic load for the MGS vehicles main-gun ammunition is 10 HEP, 4 HEAT, 2 SABOT, and 2 CAN rounds.

COMBAT LOAD

9-14. The combat load is the quantity of supplies, in all classes, that the platoon must have on hand to sustain operations in combat for a prescribed number of days. The platoon's parent unit must be capable of moving the combat load, using organic transportation assets, into combat in a single delivery. Like the basic load, the platoon's combat load is specified by higher headquarters.

METHODS OF RESUPPLY

9-15. The MGS platoon uses three methods when conducting supply operations: prepositioning, routine resupply, and emergency resupply. The platoon conducts a METT-TC analysis before recommending which supply method to use.

PREPOSITIONING

9-16. Prepositioning of supplies, also known as prestock resupply, may be required in some defensive operations. Usually, the platoon prestocks only Class V items, but occasionally Class I and Class III supplies are prestocked. Prestock operations are fairly rare in the offense and generally are limited to refueling.

Operational Considerations

9-17. The platoon must carefully plan the location and amount of the prestock, and then verify this information through reconnaissance and rehearsals. Each VC must be informed of prestock locations. The following considerations influence selection of prestock sites and resupply operations:

- Availability of overhead cover for the prestock location.
- Cover and concealment for the location and routes that vehicles will take to reach it.
- Security procedures required to safeguard the resupply operation.
- Procedures for protecting friendly personnel and vehicles in the event prestock ammunition is ignited.

Prestock in the Defense

9-18. There are several techniques for accomplishing prestock resupply in the defense. Usually, Class V (ammunition) is positioned next to or within a vehicle's fighting position. This enables the crew to resupply without displacing during an engagement. Another technique is to locate Class V supplies en route to or within a subsequent BP. This method requires consideration of security procedures to safeguard the prestock; digging in

the prestock to protect it from direct fire; providing adequate overhead cover to prevent destruction of supplies by artillery; and providing camouflage to prevent enemy detection. A unit conducts Class III resupply operations (specifically fuel) behind a unit's current BP or en route to a subsequent BP. When the platoon conducts this type of resupply in the defense, the PL directs the PSG to rotate vehicles or elements through prestock positions based on the enemy situation and shortages within the platoon.

Prestock in the Offense

9-19. As noted, prepositioning of supplies in the offense is usually limited to refueling. Battalion or higher levels plan and organize the ROM technique 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. Security for ROM sites is usually maintained with battalion assets. If enough fuel hauling vehicles are available, individual vehicles, elements, platoons, or companies proceed directly to their specified fuel vehicle and either top off or receive an amount of fuel specified in the OPORD. If the number of fuelers is limited, vehicles either assume a herringbone formation or occupy hasty defensive positions until they can top off.

Destruction or Removal of Supplies

9-20. In all prestock operations, the unit must have a plan for the destruction or removal of supplies to prevent the enemy from capturing the supplies. The plan should include information about the location of and routes to the prestock sites.

ROUTINE RESUPPLY

9-21. 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 usually takes place at every opportunity.

9-22. The logistics package (LOGPAC) contains company and battalion assets that transport supplies to the company. The company supply sergeant assembles his LOGPAC in the brigade support area under the supervision of the headquarters and headquarters company commander or the battalion supply officer. Replacements and hospital returnees travel to company locations on LOGPAC vehicles as required.

9-23. The platoon must requisition its supplies on a routine basis. To ensure this, PLs and PSGs must report the supply status via digital communications with the commander's tailored items list.

9-24. Once the LOGPAC is prepared for movement, the supply sergeant moves the vehicles forward from the field trains as part of the brigade support battalion's resupply convoy, to the logistics release point. 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; refer to the discussion of these resupply techniques later in this section.

EMERGENCY RESUPPLY

9-25. Emergency resupply, usually 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" ammunition within the platoon.

Note. "Cross-leveling" ammunition refers to distributing equal amounts and kinds of ammunition throughout the platoon.

9-26. Once the XO or 1SG receives an emergency supply request, they will bring the supplies forward. Based on the enemy situation, the MGS platoon may have to conduct resupply while in contact with the enemy. The platoon uses two techniques to resupply units in contact, LOGPAC and moving to a resupply point.

9-27. The LOGPAC brings the supplies forward to the closest concealed position, where personnel use the tailgate technique to resupply.

9-28. Individual vehicles or elements 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.

TECHNIQUES OF RESUPPLY

9-29. 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 execution of the mission; instead, resupply should be done during mission transition.

TAILGATE RESUPPLY

9-30. In the tailgate resupply technique, the PSG, or an assistant, brings fuel and ammunition to individual vehicles. (See Figure 9-1.) This method is appropriate when routes leading to vehicle positions are available and the

unit is not under direct enemy observation and fire. This technique is time-consuming, but it is useful in maintaining security during defensive missions because vehicles do not have to move. If necessary, personnel can hand carry the supplies to vehicle positions to further minimize signatures.

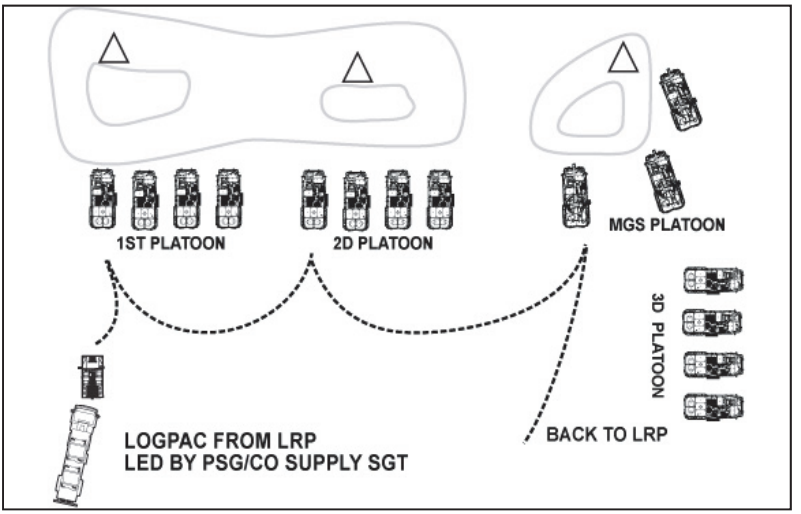

Figure 9-1. Tailgate resupply technique

SERVICE STATION RESUPPLY

9-31. In the service station technique, vehicles move either by element or as an entire platoon, to a centrally located point for rearming and refueling. (See Figure 9-2.) Service station resupply is faster than the tailgate method because vehicles must move and concentrate. However, this method can create security problems. During defensive missions, the platoon must be careful not to compromise the location of fighting positions.

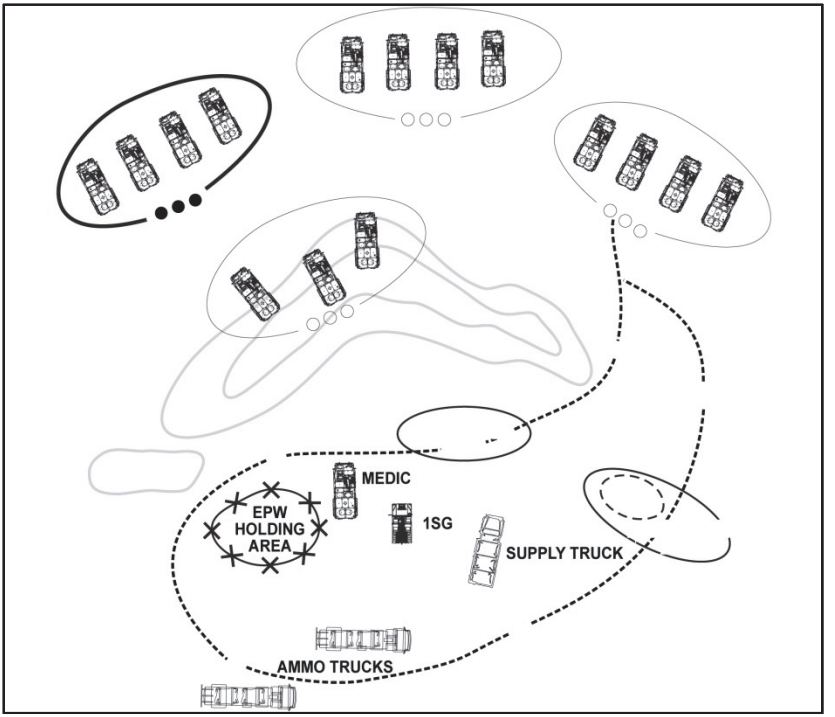

Figure 9-2. Company service station resupply technique

VARIATIONS AND COMBINATIONS

9-32. 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 use the service station method for the remainder of the platoon, which is located in hide positions. (See Figure 9-3.)

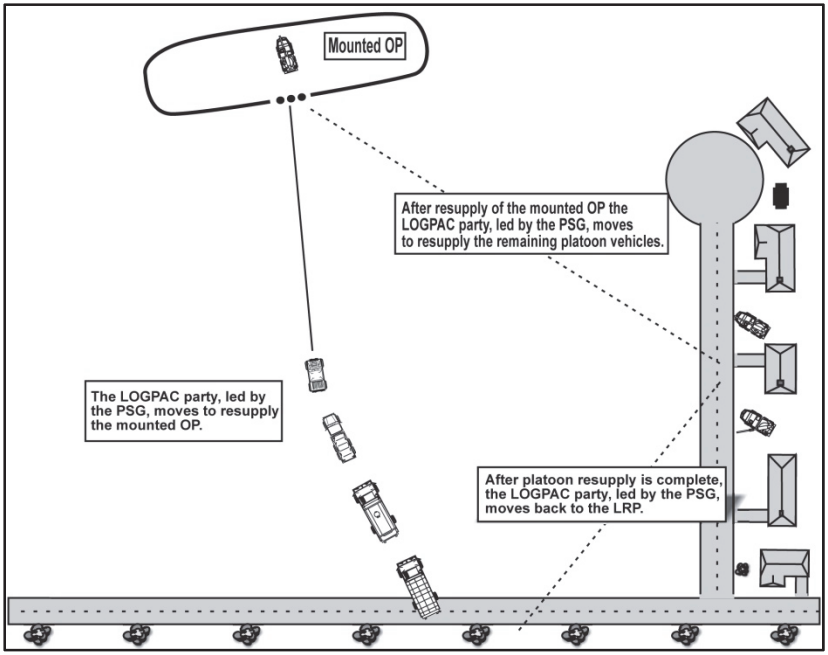

Figure 9-3. Combination of resupply techniques

SECTION V – FUNCTIONS OF SUSTAINMENT

9-33. The functional elements of sustainment the MGS platoon uses are supply, field services, transportation, maintenance, general engineering, human resources, FM, legal, religious support, and Army health service support. These elements and their many sub-functions comprise the sustainment warfighting function. When optimized, sustainment operations ensure strategic and operational reach and endurance for the MGS platoon in any OE.

LEVELS OF MAINTENANCE

9-34. 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.

9-35. In the SBCT, the two maintenance echelons are—

- Field maintenance that consists of crew tasks, organizational tasks, and DS tasks.
- Sustainment maintenance that consists of GS tasks and some DS tasks.

9-36. The SBCT maintenance structure is designed to support the "replace forward, repair rear" method. This method focuses on the combat repair team replacing non-serviceable line replaceable units, and evacuating systems to higher levels for repair. Field maintenance primarily involves system tasks that are performed on, or nearby a system to return it to mission capable status. These tasks do not require disassembly of components after removal from the system.

9-37. Sustainment maintenance involves off-system tasks that support the supply system. These tasks generally require disassembly of components away from the combat system and, when repaired, are returned to the supply system rather than the user.

9-38. Repair and recovery takes 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.

9-39. Both the PL and PSG are concerned primarily with supervising operator maintenance. They also must ensure that personnel perform scheduled services as part of organizational maintenance. In addition, they must ensure that personnel provide support for DS maintenance elements when equipment must be evacuated. The discussion below lists maintenance responsibilities within the platoon.

FIELD MAINTENANCE OPERATOR

9-40. Operator maintenance not only involves proper care and use of assigned vehicles, but also crew equipment such as weapons, CBRN equipment, and night vision devices. The PMCS prescribed for the automotive system, weapons systems, and turret are divided into the following groups:

- Before operation.
- During operation.
- After operation.
- Weekly.
- Monthly.

9-41. The driver and other crewmembers perform daily checks and services on their vehicles and equipment. These checks and services include

inspecting, servicing, tightening, performing minor lubrication, cleaning, preserving, and adjusting. It is a requirement that drivers and gunners record the results of these checks and services, and equipment faults and deficiencies that cannot be corrected immediately, on the equipment inspection and maintenance worksheet. This worksheet (DA Form 2404 or DA Form 5988-E) is the primary means of reporting equipment problems. The information travels through the VC to the PSG and PL, and ultimately to organizational maintenance personnel. In addition, the PSG is responsible for recording data on DA Form 2408-4, *Weapon Record Data*.

Note. Every operator's manual contains outlines for conducting vehicle and equipment checks and services. Personnel should always conduct these procedures as stated in the manual. Although operators may operate equipment without referring to the manual, personnel must not perform maintenance procedures without using the appropriate technical manual. Never perform vehicle maintenance from memory.

FIELD MAINTENANCE ORGANIZATIONAL

9-42. Organizational maintenance is the responsibility of the unit the equipment is assigned to and the unit's operators and forward maintenance company (FMC) mechanics actually perform the maintenance. Because the MGS design enables rapid modular replacement of parts, many faults can be corrected quickly, and the vehicle returned to the platoon with minimum delay.

9-43. When the operator identifies a problem that is beyond his maintenance capabilities, he notifies his chain of command so the problem can be isolated and corrected by qualified personnel. The FMC maintenance team has trained mechanics who are authorized to perform unit maintenance tasks as prescribed in the technical manuals for the vehicle. When company or battalion maintenance teams are not authorized to make a particular repair, they will arrange to have it done by DS maintenance assets.

RELATED OPERATIONAL CONSIDERATIONS

9-44. The following paragraphs describe the considerations for evacuation or destroyed vehicles.

Evacuation

9-45. Evacuation is necessary when unit personnel from the FMC maintenance support team cannot repair a damaged vehicle on site, or when evacuation is the only means (besides friendly destruction) available to

prevent capture or destruction of the vehicle 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 net to personnel designated in the unit SOP. The crew should remain with the vehicle to assist the evacuation and repair, to provide security, and to return the repaired vehicle to the platoon as soon as possible.

9-46. If time is critical, other platoon vehicles can evacuate the damaged vehicle for short distances according to towing procedures outlined in the operator's manual. The decision to do this rests with the PL. Self-evacuation by the platoon is a last resort that should be considered only to prevent losing the damaged vehicle to the enemy.

9-47. If the damaged vehicle would be lost for an extended period of time, the platoon can replace other vehicles' damaged equipment, such as weapons and radios, with properly functioning items from the damaged vehicle. Damaged equipment can then be repaired or replaced while the vehicle is being repaired.

Destruction

9-48. When damaged or inoperable equipment cannot be evacuated and it becomes apparent that capture by the enemy is imminent, the equipment must be destroyed. PLs must ensure crews are trained to destroy their vehicles rather than allow them to fall into the hands of the enemy. Instructions for destroying equipment are included in the operator's manual for each item.

9-49. The PL must obtain the commander's permission before destroying any equipment. When communications fail, however, the PL must use his judgment to decide whether or not evacuation is possible. Every reasonable effort must be made to evacuate secure equipment, classified material, and all weapons.

PERSONNEL SERVICES

9-50. Higher level support elements provide many of the platoon's personnel services. It is the PL, however, who is ultimately responsible for coordinating personnel services and providing them to his platoon. These services include—

- Personal needs and comfort items, such as clothing exchange and showers.
- Awards and decorations.
- Leaves and passes.
- Command information.

- Mail.
- Religious services.
- Financial services.
- Legal assistance.
- Rest and relaxation.
- Any other service designed to maintain the health, welfare, and morale of the Soldier.

PERSONNEL MANAGEMENT

9-51. Personnel management includes classification, assignment, promotions, and reenlistments. Although the PL requests these actions through the company, the battalion staff or a division level organization usually performs them. The PL must submit accurate strength reports to ensure that qualified personnel fill positions in which critical shortages exist, such as VCs and gunners.

MEDICAL TREATMENT AND EVACUATION

9-52. Effective and timely medical care is an essential factor in sustaining the MGS platoon's combat power during continuous operations. The PL must ensure that his leaders and medical personnel are aware of potential health threats. Leaders and medical personnel also must implement field sanitation and preventive medicine measures to keep Soldiers healthy.

9-53. Leaders must be prepared to care for wounded personnel and non-battle injuries through self-aid, buddy aid, enhanced first aid, or emergency medical treatment, and also prepare casualties for evacuation. Army health system support provides for both the conservation of Soldier's health through force health protection and for treating wounded, sick or injured Soldiers through health service support.

HEALTH AND HYGIENE

9-54. 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 to preventing disease. Each crewman should carry shaving equipment, soap, a towel, and a change of clothing in a waterproof bag inside his pack.

9-55. 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 can cause a wind chill effect even if the air is calm.

9-56. During hot weather, heat injuries are a major concern. Heat injuries can occur anywhere. It is important for Soldiers to remain hydrated. Hot weather increases daily water requirements because the body water is constantly being lost through sweat. Dehydration leads to heat stress, reduces work performance, and degrades mission capabilities.

SOLDIERS WOUNDED IN ACTION

9-57. Soldiers wounded in action will be handled in accordance to unit SOP and the medical evacuation plan established in the OPORD.

Crew Responsibilities

9-58. It is the VC'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 combat lifesavers (CLSs) is absolutely critical. Ideally, every member of the MGS platoon should be CLS certified.

Medical Evacuation Procedures

9-59. If wounded crewmen require MEDEVAC, the PL or PSG coordinates with the 1SG for company medical evacuation.

9-60. Regardless of the method of evacuation, all VCs must possess the graphics needed to accomplish the evacuation, including casualty collection points for the company and battalion. Evacuation procedures must be included in the platoon plan and should be rehearsed as part of mission preparation. The rehearsal should include filling out DA Form 1156, *Casualty Feeder Report* and DA Form 2823, *Sworn Statement.*

9-61. Aerial evacuation, when it is available, is the preferred method of evacuation because of its speed. Once the MEDEVAC request is transmitted, the PL or PSG then switches to the designated radio frequency to coordinate directly with aerial assets, providing them with the exact location of the landing zone or pickup point. The PL or PSG picks a relatively flat, open, covered, and concealed position for the aircraft's landing zone. He then ensures the location is marked with colored smoke as the aircraft approaches the area.

Actions Following Evacuation

9-62. After personnel complete the evacuation, the PSG compiles and submits casualty feeder reports in accordance with unit SOPs. The PL redistributes crewmen as necessary. He also directs VCs to take actions needed to prepare for operations at reduced manpower levels.

Note. It is extremely difficult, but not impossible, for the MGS platoon to sustain continuous operations with two man crews.

9-63. A wounded crewman's individual weapon becomes the VC's responsibility. Personal effects, weapons, and equipment are turned in to the company supply sergeant at the earliest opportunity. All sensitive items remain with the vehicle; these include maps, overlays, and SOPs.

SOLDIERS KILLED IN ACTION

9-64. The company commander designates a location for collection of personnel who are 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 PSG or 1SG removes and retains the lower dog tag. The KIA Soldier's personal effects remain with the body. The VC is responsible for the Soldier's weapon, equipment, and issue items until they can be turned over to the supply sergeant or 1SG.

9-65. As a rule, the bodies of KIA Soldiers should not be placed on the same vehicle with wounded Soldiers. If the PSG or 1SG cannot expedite evacuation, however, it might be necessary to carry dead and wounded personnel in the same vehicle to the next stop. In the attack, the "next stop" might be the objective. In the defense, it might be the next BP.

SECTION VI – DETAINED PERSONS

9-66. The MGS crew's responsibility in the apprehension of surrendering enemy combatants is to assist the Infantry in providing security. Detainees are excellent sources of combat intelligence. This information is of tactical value only if the prisoners are quickly processed and evacuated to the rear.

9-67. The unit SOPs or company OPORD should designate specific detainee handling procedures, such as collection points, responsibilities for safeguarding detainees, and procedures for moving detainees. The following discussion focuses on considerations that may apply when the platoon must deal with detainees, captured equipment and materiel, and civilians.

HANDLING DETAINEES

9-68. The following paragraphs discuss principles, procedures, and the enemy's rights when handling detainees.

BASIC PRINCIPLES AND PROCEDURES

9-69. The basic principles for handling detainees are covered by the following "Five-S" procedures:

- **Search.** Remove and tag all weapons and documents. Return to the detainee all personal items with no military value. Detainees are allowed to keep their helmet, protective mask, and other gear that will protect them from immediate dangers.
- **Segregate.** Break the chain of command; separate detainees by rank, sex, and other suitable categories. Keep the staunch fighter away from those who willingly surrender.
- **Silence.** Prevent detainees from giving orders, planning escapes, or developing false "cover stories."
- **Speed.** Speed detainees to the rear to remove them from the battle area and to quickly obtain and use their information.
- **Safeguard.** Prevent detainees from escaping. Protect them from violence, insults, curiosity, and reprisals of any kind.

9-70. The first rule that platoon members must remember is never approach an enemy combatant or someone you wish to apprehend, even when it appears certain that he wants to surrender. The combatant may have a weapon hidden nearby, or he may be booby trapped. The following procedures apply for taking a detainee into custody:

- Gesture for him to come forward, and then wait until it is clear that he is honestly surrendering and not trying to lure friendly troops into an ambush.
- Use a thermal sight to locate possible ambushes and to scan the detainee for irregularities, such as unusual hot spots, which may indicate an explosive device.
- When searching the detainee, always have another Soldier cover him with a weapon.
- Do not move between a detainee and the Soldier covering him.

9-71. As directed by the PL, crewmen take the detainees to an area designated by the commander. The detainees are then evacuated to the rear for interrogation. If a detainee is wounded and cannot be evacuated through medical channels, the PL notifies the XO or 1SG. The detainee is then escorted to the company trains, or the 1SG comes forward with guards to evacuate the detainee.

DETAINEE RIGHTS AND RESPONSIBILITIES

9-72. The rights of detainees have been established by international law; the United States has agreed to obey these laws. Once a detainee shows he wants to surrender, he must be treated humanely. It is a court-martial offense to physically or mentally harm or mistreat a detainee or to needlessly expose him to fire. Mistreated detainees, or those who receive special favors, are not good interrogation subjects.

9-73. The senior officer or NCO on the scene safeguards all detainees. If the unit cannot evacuate a detainee within a reasonable time, the unit must provide the detainee with food, water, and medical treatment.

TAGGING OF DETAINEES

9-74. Before evacuating a detainee, a DD Form 2745, *Enemy Prisoner of War Capture Tag*, must be attached to him listing all pertinent information and procedures. Personnel can obtain tags through supply channels or make them from materiel available on the battlefield.

CAPTURED DOCUMENTS AND EQUIPMENT

9-75. Captured documents, such as maps, orders, records, and photographs, and equipment are excellent sources of intelligence information. Captured items must be handled properly, or the information they may provide could be lost or delayed until it is useless. Personnel must evacuate these items to the next level of command as rapidly as possible.

9-76. The platoon should tag each captured item. If the item is found in the detainee's possession, the prisoner's name should be included on the tag. The item should be given to the guard, who then delivers it and the detainee to the next higher headquarters.

CIVILIANS

9-77. Civilians who are captured as the result of curfew violations or suspicious activities are treated the same as detainees. The platoon assists in the quick evacuation of civilians to higher headquarters using the "Five-S" principles discussed earlier in this section.

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Glossary

AA	assembly area
ABF	attack by fire
ADA	air defense artillery
A/L	administrative/logistical
AO	area of operation
AT	antitank
ATGM	antitank guided missile
ATP	Army tactics and procedures
BCT	brigade combat team
BHL	battle handover line
BP	battle position
CAS	close air support
CASEVAC	casualty evacuation
CBRN	chemical, biological, radiological, and nuclear
CBRNE	chemical, biological, radiological, nuclear, and high-yield explosive
CCIR	commander's critical information requirement
CID	combat identification
CLS	combat lifesaver
COA	course of action
CPV	commander's panoramic viewer
CRM	composite risk management
DOD	Department of Defense
DOTD	Directorate of Training and Doctrine
DS	direct support
DSCA	defense support of civil authorities
EA	engagement area
EPW	enemy prisoner of war
FA	field artillery
FBCB2	Force XXI Battle Command Brigade and Below
FDC	fire direction center

1SG	first sergeant
FIST	fire support team
FM	frequency modulation
FMC	forward maintenance company
FPF	final protective fires
FPL	final protective line
FRAGO	fragmentary order
FSO	fire support officer
GPS	global positioning system
GS	general support
HEAT-T	high-explosive antitank tracer
HEP	high-explosive plastic
HEP-T	high-explosive plastic tracer
HMMWV	high-mobility, multipurpose wheeled vehicle
IR	infrared
KIA	killed in action
LD	line of departure
LOGPAC	logistics package
MEDEVAC	medical evacuation
MEL	maximum engagement line
METT-TC	mission, enemy, terrain and weather, troops and support available, time available, and civil considerations
MGS	mobile gun system
MICLIC	mine-clearing line charge
MOPP	mission-oriented protective posture
MTC	movement to contact
NCO	noncommissioned officer
NCS	net control station
NLT	not later than
OAKOC	obstacles, avenues of approach, key terrain, observation, cover and concealment
OE	operational environment

OP	observation post
OPCON	operational control
OPORD	operation order
OPSEC	operations security
OT	observer-target
PCC	precombat check
PCI	precombat inspection
PH	probability of hit
PK	probability of kill
PL	platoon leader
PMCS	preventative maintenance checks and services
POL	petroleum, oils, and lubricants
PSG	platoon sergeant
REBS	Rapidly Emplaced Bridge System
REDCON	readiness condition
RFL	restrictive fire line
ROE	rules of engagement
ROI	rules of interaction
ROM	refuel on the move
RP	release point
RSTA	reconnaissance, surveillance, and target acquisition
RTP	radiotelephone procedure
S2	intelligence and security officer
SA	situational awareness
SALT	size, activity, location, and time
SBCT	Stryker brigade combat team
SBF	support by fire
SINCGARS	Single-Channel Ground/Airborne Radio System
SITREP	situation report
SOP	standard operating procedure
SOSRA	suppression, obscuration, security, reduction, and assault

SP	start point
SPOTREP	spot report
SU	situational understanding
TCP	traffic control point
TLP	troop-leading procedure
TOW	tube-launched, optically tracked, wire-guided missile
TRP	target reference point
TTP	tactics, techniques, and procedures
UAS	unmanned aircraft system
USAF	United States Air Force
VC	vehicle commander
WARNO	warning order
WIA	wounded in action
WP	white phosphorus
XO	executive officer

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Index

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15 February 2013

By Order of the Secretary of the Army:

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