ATP 3-21.10

INFANTRY RIFLE COMPANY

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INFANTRY RIFLE COMPANY

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Preface

ATP 3-21.10 provides doctrine for the Infantry rifle company. This publication describes how the Infantry rifle company, as part of a combined arms team within an environment characterized by large-scale ground combat, conducts combat operations against a peer threat. ATP 3-21.10 describes relationships, organizational roles and functions, capabilities and limitations, and responsibilities within the Infantry rifle company. Techniques, non-prescriptive ways or methods used to perform missions, functions, or tasks, are discussed in this publication and are intended to be used as a guide. This publication supersedes ATP 3-21.10, 14 May 2018.

The principal audience for ATP 3-21.10 is the commanders, staff, officers, and noncommissioned officers within the Infantry battalion. The audience includes the United States Army Transformation and Training Command institutions and components. This publication serves as an authoritative reference for personnel developing doctrine, materiel and force structure, institutional and unit training, and standard operating procedures for the Infantry rifle company.

To comprehend the doctrine contained in this publication, readers must first understand the characteristics of the Army Profession (trust, honorable service, military expertise, stewardship, and esprit de corps) as described in ADP 1 and the principles of Army leadership as described in ADP 6-22 and FM 6-22. Readers also must understand the principles of war, tenets and imperatives of operations and the links between the operational and tactical levels of warfare described in ADP 3-0 and FM 3-0. In addition, readers should understand the fundamentals of the operations process found in ADP 5-0 and FM 5-0, associated with offensive and defensive operations and tactical enabling operations contained in FM 3-90 and FM 3-96. The reader must comprehend how stability operations tasks described in ADP 3-07 and FM 3-07 carry over and affect offensive and defensive operations and vice versa. Readers must understand how the operations process fundamentally relates to the Army's design methodology, military decision-making process, and troop leading procedures and the exercise of command and control as described in ADP 6-0, FM 6-0, and ATP 6-0.5. To fully comprehend how the Infantry rifle company is organized and doctrinally employed, the reader must understand ATP 3-21.20 and ATP 3-21.8.

Commanders, staffs, and subordinates ensure that their decisions and actions comply with applicable United States, international, and in some cases host-nation laws and regulations. Commanders at all levels ensure that their Soldiers operate in accordance with the law of war and the rules of engagement. (See FM 6-27 for legal compliance.)

ATP 3-21.10 uses joint terms where applicable. Selected joint and Army terms and definitions appear in both the glossary and the text. Terms for which ATP 3-21.10 is the proponent publication (the authority) are marked with an asterisk (*) in the glossary. When first defined in the text, terms for which ATP 3-21.10 is the proponent publication are boldfaced and italicized, and definitions are boldfaced. When first defining other proponent definitions in the text, the term is italicized with the proponent publication designator and number at the end of the definition. Following uses of the term are not italicized.

The use of a trade or brand name does not constitute endorsement of any specific commercial product, commodity, service, or enterprise by the United States Army.

ATP 3-21.10 applies to the Active Army, the Army National Guard/the Army National Guard of the United States, and the United States Army Reserve unless otherwise stated.

The proponent for ATP 3-21.10 is the United States Army Maneuver Center of Excellence. The preparing agency is the Directorate of Training and Doctrine, United States Army Maneuver Center of Excellence. Send comments and recommendations on DA Form 2028, (*Recommended Changes to Publications and Blank Forms*) to Commander, Maneuver Center of Excellence and Fort Benning, ATZK-TDD 1 Karker Street, Fort Benning, GA 31905-5410; by email to usarmy.benning.mcoe.mbx.doctrine@army.mil; or submit an electronic DA Form 2028.

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Introduction

The Army provides readily available forces that are organized, trained, and equipped to conduct prompt and sustained land combat to defeat enemy ground forces and seize, occupy, and defend land areas. Army forces maintain proficiency in the fundamentals of offense, defense, and stability operations (see ADP 3-07), and possess capabilities to meet specific geographic combatant command requests. Regionally aligned forces provide combatant commanders with an Army headquarters tailored to missions from tactical level to joint task force capable (see FM 3-94). The Infantry rifle company of the Infantry battalion shapes the operational environment and wins across the range of military operations.

The Infantry brigade combat team and the mobile brigade combat team (MBCT) are distinct formations and should not be used interchangeably. The active component is composed entirely of MBCTs, whereas the National Guard utilizes both. For the purposes of this publication, the MBCT will be referenced as the higher headquarters for the Infantry rifle company.

ATP 3-21.10 addresses the tactical application of techniques associated with the offense and defense. ATP 3-21.10 does not discuss defense support of civil authorities. (See ADP 3-28 and ATP 3-28.1 for information about defense support of civil authorities.) ATP 3-21.10 does not discuss stability operations and tasks. (See ADP 3-07 and ATP 3-07.5 for information on stability operations and tasks.) Employing the techniques addressed in ATP 3-21.10 requires using and integrating the techniques found in ATP 3-21.20 and the tactics and procedures found in FM 3-96 and FM 3-90. Tactics are the employment, ordered arrangement, and directed actions of forces in relation to each other. Procedures are standard, detailed steps that prescribe how to perform specific tasks.

The techniques addressed in ATP 3-21.10 include the movement and maneuver of units in relation to each other, the terrain, and the enemy. Techniques vary with terrain and other circumstances; they change frequently as the enemy reacts and friendly forces explore new approaches. Applying techniques usually entails acting under time constraints with incomplete information. Techniques always require judgment in application; they are always descriptive, not prescriptive.

ATP 3-21.10 incorporates the significant changes in Army doctrinal terminology, concepts, constructs, and proven tactics, techniques, and procedures developed during recent operations. It also incorporates changes based on newly published Army capstone doctrine and operational concept. The following is a brief introduction and summary of changes by chapter.

Chapter 1 – Organization

Chapter 1 provides a brief overview of the operational environment, the Army's operational concept of multidomain operations through offense, defense, and the elements of warfighting functions. Chapter 1 also—

- Discusses tenets and imperatives, combined arms, specific environment considerations, and tactical framework.
- Describes the mission, capabilities, limitations, and organization of the Infantry rifle company.
- Discusses the exercise of command and control duties, and responsibilities within the company.

Chapter 2 – Offense

Chapter 2 discusses offensive actions to defeat, destroy, or neutralize the enemy. It addresses the characteristics of the offense and describes the four offensive operations (discussion mainly focuses on movement to contact and attack). Chapter 2 also discusses—

- Basics of the offense.
- Offensive planning considerations and control measures.
- Forms of maneuver and tactical movement.
- Variations of a movement to contact and the attack.

Chapter 3 – Defense

Chapter 3 addresses the defensive operations—area defense, mobile defense, and retrograde; and variations of the area defense—defense of a linear obstacle, perimeter defense, and a reverse-slope. This chapter also describes in detail the—

- Basics of the defense.
- Defense planning considerations and control measures.
- Position selections (in-depth and forward).
- Variations of the retrograde (delay, withdraw, and retirement).

Chapter 4 – Sustainment

Chapter 4 discusses sustainment operations in support of the Infantry rifle company, specifically the roles and responsibilities, functions, tasks, and activities, and unit relationships throughout high-operating decentralized operations. Chapter 4 also addresses—

- Sustainment concepts of support.
- Supply and field services.
- Casualty response.
- Human resources support.
- Maintenance.

Chapter 5 – Enabling Operations and Activities

Chapter 5 discusses the tasks and specialized missions conducted by the Infantry rifle company to seize or retain a tactical advantage—reconnaissance, security, troop movement. These operations are executed as part of the offense, and defense. Chapter 5 also addresses—

- Relief in place.
- Passage of lines.
- Linkup operations.
- Assembly area procedures.

Appendices

Seven appendices complement the body of this publication. They include:

- Appendix A: Command Post Operations and Organization.
- Appendix B: Planning and Preparing for Operations.
- Appendix C: Direct Fire.
- Appendix D: Fires.
- Appendix E: Mounted Operations.
- Appendix F: Combined Arms Breaching.
- Appendix G: Chemical, Biological, Radiological, and Nuclear Defense.

Chapter 1
Organization

The Infantry rifle company as part of the Infantry battalion within the mobile brigade combat team is organized, trained, and equipped to conduct prompt and sustained land combat to defeat enemy ground forces and seize, occupy, and defend land areas. The primary mission of the rifle company is to close with the enemy employing fire and movement to destroy, capture, or to repel the enemy's assault through fires, close combat, and counterattack. The rifle company must be aggressive, physically fit, disciplined, and well trained. The rifle company can deploy rapidly and execute missions to support entry operations throughout the range of military operations. This chapter focuses primarily on the role, organization, capabilities, duties and responsibilities within the Infantry rifle company.

Note. The Infantry brigade combat team and the mobile brigade combat team (MBCT) are distinct formations and should not be used interchangeably. The active component is composed entirely of MBCTs, whereas the National Guard utilizes both. For the purposes of this publication, the MBCT will be referenced as the higher headquarters for the Infantry rifle company.

SECTION I – OPERATIONAL OVERVIEW

1-1. An *operation* is a sequence of tactical actions with a common purpose or unifying theme (JP 1, Volume 1). Infantry rifle company leaders must understand how the operational environment (OE), including friendly actions, impacts the company. The company commander must also understand how to lead across multiple domains within the OE. (See ADP 3-0 and FM 3-0 for a detailed discussion on how the Army fights in multiple domains.)

OPERATIONAL ENVIRONMENT

1-2. An *operational environment* is the aggregate of the conditions, circumstances, and influences that affect the employment of capabilities and bear on the decisions of the commander (JP 3-0). Company commanders will have an assigned area within an OE. The OE for each mission is different and likely evolves as it progresses. The company commander must understand the OE to successfully plan, prepare, execute, and assess assigned missions.

1-3. A description of an OE includes all the factors that the company needs to capture and understand to inform the conduct of operations. To assist in understanding the OE, leaders in the company use two tools: operational and mission variables. Leaders continually assess and reassess the OE to understand how changes to the operational and mission variables affect the company.

THREATS AND HAZARDS

1-4. It is critical that the company commander understands the threats in their OE, such as enemy unmanned aircraft systems (UASs) and loitering munitions. When the commander understands the threat, the commander can visualize, describe, direct, lead, and assess operations to seize, exploit, and retain the initiative. A *threat* is any combination of actors, entities, or forces that have the capability and intent to harm United States forces, United States national interests, or the homeland (ADP 3-0). Peer threats employ networks of sensors and long-range massed fires that exploit electromagnetic signatures and other detection methods to create high risk for ground forces, particularly when they are static. The Infantry company must account for constant enemy observation, including the threat from unmanned systems that saturate the OE. The commanders must understand how current and potential threats organize, equip, train, employ, and control their forces while denying the threat's ability to do the same. Company commanders must continually identify, monitor, and assess threats as they adapt and change over time.

1-5. Company commanders must also identify hazards. A hazard is a condition with the potential to cause injury, illness, or death of personnel; damage to or loss of equipment or property; or mission degradation within an OE. Hazards include disease, extreme weather, solar flares, and areas contaminated by toxic materials. Hazards can damage or destroy life, vital resources, and institutions, or prevent mission accomplishment. Understanding hazards and their effects on operations allows the commander to understand better the terrain, weather, and various other factors that best support the mission. Understanding hazards also helps the commander visualize potential impacts on operations.

SPECIFIC ENVIRONMENT CONSIDERATIONS

1-6. Specific environments include urban, mountain (including cold weather regions), arctic (and extreme cold weather), jungle, and desert. Subsurface areas are found in all environments. Offensive and defensive operations in these environments follow the same planning process as operations in any other environment, but they do impose specific techniques and methods for success. Specific environmental conditions may be found in:

- Urban terrain (see ATP 3-06.11 and ATP 3-06 for more information).
- Mountainous terrain and cold weather environments (see ATP 3-90.97, ATP 3-21.50, and ATP 3-21.18 for more information).
- Arctic and extreme cold weather environments (see ATP 3-90.96 for more information).
- Jungle terrain (see ATP 3-90.98 for more information).
- Desert terrain (see ATP 3-90.99 for more information).
- Subsurface areas:
  - See ATP 3-21.51 for information on threat and hazardous subterranean structures existing or operating in concealment or hidden or when utilized in secret by an enemy or adversary.
  - See ATP 3-06.1, ATP 3-21.50, ATP 3-06, and ATP 3-34.81 for more information on subsurface areas.

MULTIDOMAIN OPERATIONS

1-7. *Multidomain operations* is the combined arms employment of joint and Army capabilities to create and exploit relative advantages to achieve objectives, defeat enemy forces, and consolidate gains on behalf of joint force commanders (ADP 3-0). Leaders create and exploit relative advantages through the combined-arms approach that traditionally focuses on capabilities from the land, air, and maritime domains. *Domain* is a physically defined portion of an operational environment requiring a unique set of warfighting capabilities and skills (FM 3-0). The five domains in multidomain operations are:

- Land.
- Maritime.
- Air.
- Space.
- Cyberspace.

1-8. All operations are multidomain operations because every operation requires integrating capabilities from all domains to succeed. For example, Infantry rifle companies and platoons employ capabilities from other domains such as aviation (including UASs), joint fires, satellite communications, and Global Positioning Systems (GPSs). The Infantry rifle company provides complementary and reinforcing effects to their higher echelon and ultimately as part of a larger joint force. The company may not always notice the opportunities created by higher echelons or other forces that operate in other domains; however, leaders understand how the absence of those opportunities affects their concepts of operations, decision making, and risk assessments.

TENETS AND IMPERATIVES

1-9. Tenets and imperatives are used for operations to improve their prospects of success without dictating how exactly to solve a tactical or operational problem. The commander will conduct an analysis of the OE, identify impacts, and assess how best to employ the company (see FM 3-0 for more information on tenets and imperatives).

TENETS

1-10. Commanders use the tenets of operations to inform and assess courses of action (COAs) throughout the operations process. The tenets of operations are—

- Agility, which is the ability to move forces and adjust their dispositions and activities more rapidly than the enemy.
- Convergence, which is an outcome created by the concerted employment of capabilities from multiple domains and echelons against combinations of decisive points in any domain to create effects against:
  - A system, formation.
  - A decision maker.
  - A specific geographic area.
- Endurance, which is the ability to persevere over time throughout the depth of an OE.
- *Depth*, which is the extension of operations in time, space, or purpose to achieve definitive results (ADP 3-0).

IMPERATIVES

1-11. Imperatives are actions taken to defeat the enemy and achieve objectives at acceptable cost. They are informed by the OE and the characteristics of the most capable threats. Imperatives include the following:

- See one, see the enemy, and understand the OE.
- Account for being under constant observation and all forms of enemy contact.
- Create and exploit relative physical, information, and human advantages.
- Make initial contact with sensors, unmanned systems, or the smallest element possible.
- Impose multiple dilemmas on the enemy.
- Anticipate, plan, and execute transitions.
- Designate, weight, and sustain the main effort.
- Consolidate gains continuously.
- Understand and manage the effects of operations on units and Soldiers.
- Protect against constant observation and all forms of enemy contact.

LARGE-SCALE COMBAT OPERATIONS

1-12. *Large-scale combat operations* are extensive joint combat operations in terms of scope and size of forces committed, conducted as a campaign aimed at achieving operational and strategic objectives (ADP 3-0). During large-scale combat, operations typically involve multiple corps and divisions and include substantial forces from the joint and multinational team. Conflicts encompassing large-scale combat operations are more intense and destructive than limited contingencies, often rapidly amassing heavy casualties.

1-13. In large-scale combat operations, the multidomain operations framework necessitates that even units at the battalion and company level, which are primarily focused on the land domain, must consider and adapt to effects from all operational domains. The increased lethality and transparency of the modern battlefield mean that these ground-focused units feel the direct impact of air and cyber-domain activities, such as UAS surveillance and electronic warfare, which can shape their immediate tactical environment. This reality requires leaders at the company level to develop a broader awareness and integrate capabilities that extend beyond traditional land maneuver to ensure success.

WARFIGHTING FUNCTIONS

1-14. *Warfighting function*—a group of tasks and systems united by a common purpose that commanders use to accomplish missions and training objectives (ADP 3-0)—contribute to generating and applying combat power. The purpose of warfighting functions is to provide an intellectual organization for common critical capabilities available to the commander. Warfighting functions are not confined to a single domain, and they typically include capabilities from multiple domains. The six warfighting functions are command and control (C2), movement and maneuver, intelligence, fires, protection, and sustainment:

- The *command and control warfighting function* is the related tasks and a system that enable commanders to exercise authority and direction to accomplish missions (ADP 3-0).

- The *movement and maneuver warfighting function* is the related tasks and systems that move and employ forces to achieve a position of relative advantage with respect to the enemy (ADP 3-0).
- The *intelligence warfighting function* is the related tasks and systems that facilitate understanding the enemy, terrain, weather, civil considerations, and other significant aspects of the operational environment (ADP 3-0).
- The *fires warfighting function* is the related tasks and systems that create and converge effects in all domains against the threat to enable operations across the range of military operations (ADP 3-0).
- The *protection warfighting function* is the related tasks, systems, and methods that prevent or mitigate detection, threat effects, and hazards to preserve the force, deny the enemy freedom of action, and enable commanders to apply combat power (FM 3-0).
- The *sustainment warfighting function* is the related tasks and systems that provide support and services to enable freedom of action, extend operational reach, and prolong endurance (ADP 3-0).

COMBINED ARMS

1-15. Usually as part of a larger force, the Infantry rifle company conducts combined arms performing several integrated and overlapping activities. *Combined arms* is the synchronized and simultaneous application of arms to achieve an effect greater than if each element was used separately or sequentially (ADP 3-0). Combined arms integrate combat power, warfighting functions and their supporting systems. Complementary capabilities protect the weaknesses of one system or organization with the capabilities of a different warfighting function. For example, commanders use artillery (fires) to suppress an enemy bunker complex pinning down an Infantry unit during tactical movement (movement).

1-16. Reinforcing capabilities combine similar systems or capabilities within the same warfighting function to increase the function's overall capabilities. In urban operations, for example, Infantry, aviation (manned and unmanned platforms), and Armor (movement and maneuver) often operate close to each other. This combination reinforces the protection, maneuver, and direct fire capabilities of each. The Infantry protects tanks from enemy infantry and antitank (AT) systems; tanks provide protection and firepower for the Infantry. Army aviation attack and reconnaissance units (manned and unmanned) and/or organic or tasked echelon-specific UASs, to include firing platforms maneuver above buildings to observe and fire from positions of advantage, while other aircraft may help sustain the ground elements.

TACTICAL FRAMEWORK

1-17. All offensive and defensive operations are typically executed in a four-step tactical framework. The tactical framework provides commanders with a framework to help visualize operations and to organize their force. This publication uses it to expand the discussion for each type of offensive and defensive operation. Normally the first two steps are supporting efforts, and the main effort is the final step. Follow through is usually a sequel or branch to the plan based upon the situation. These steps may not occur sequentially; they may occur simultaneously. These steps are—

- Find the enemy—intel drives fires and maneuver.
- Fix the enemy—prevent repositioning or reinforcement making them easier to destroy.
- Finish the enemy—mass available combat power to accomplish the mission.
- Follow through—defeat in detail, consolidate, reorganize, and transition.

SECTION II – ROLE OF THE INFANTRY RIFLE COMPANY

1-18. The Infantry rifle company within the Infantry battalion can deploy rapidly, conduct operations against peer threats, and be sustained by an austere support structure. The rifle company conducts operations against conventional and irregular forces in all types of terrain and climate conditions. In addition to its primary warfighting missions, the rifle company may be tasked to perform other types of operations semi-independently or as an integral part of a larger force. This section addresses the Infantry rifle company's mission, capabilities, limitations, and organization within the company. (See ATP 3-21.8, ATP 3-21.20, and FM 3-96 for additional information.)

Note. Company-sized combat units can fight en masse, as subordinate platoons, or as task-organized teams reinforced with close-combat platoons of the same or different types. A *company* is a unit consisting of two or more platoons, usually of the same type, with a headquarters and a limited capacity for self-support (ADP 3-90). A *company team* is a combined arms organization formed by attaching one or more nonorganic Armor, mechanized infantry, Stryker Infantry, or Infantry platoons to a tank, mechanized infantry, Stryker, or Infantry company, either in exchange for, or in addition to, its organic platoons (ADP 3-90).

MISSION, CAPABILITIES, AND LIMITATIONS

1-19. The Infantry rifle company commander exercises C2 and directs the operation of the company and attached units while conducting one element of offense, defense, and stability or a tactical enabling operation throughout the depth of the company's area of operations (AO). Company missions, although not inclusive, may include reducing fortified areas, infiltrating and seizing objectives in the enemy's rear, eliminating enemy force remnants in restricted terrain, securing key facilities and activities, and conducting operations in support of stability tasks in the wake of maneuvering forces. Reconnaissance and security operations remain a core competency of the Infantry rifle company, platoon, and squad.

1-20. The Infantry rifle company is an expeditionary formation optimized for dismounted operations in *complex terrain*—a geographical area consisting of one or more of the following: an urban center larger than a village, or two or more types of restrictive terrain or environmental conditions occupying the same geographical location (ATP 3-34.80). The rifle company conducts entry operations by ground, airland, air assault, or amphibious assault (via surface and vertical) into austere AOs with little or no advance notice. Airborne Infantry rifle companies can conduct vertical envelopment by parachute assault. (See FM 3-99 for additional information on conducting airborne and air assault operations.) The rifle company is particularly effective in urban terrain, where subordinate Infantry units can infiltrate and move rapidly to the rear of enemy positions. The commander can enhance tactical mobility using rotatory and fixed-wing airlift. The Infantry rifle company's capabilities include—

- Strategic and operational deployability (may be part of the dominant arm during initial entry phase).
- Entry operations to gain the initiative early, seize and hold ground, and mass fires to stop the enemy.
- Forcible entry operations, through airborne assault (Airborne Infantry rifle companies), air assault, and amphibious operations.
- Offensive and defensive operations and tactical enabling operations in all types of environments.
- Conduct screen mission for a brigade combat team (BCT).
- Conduct an advance guard for a battalion.
- Dismounted operations in restrictive or severely restrictive terrain.
- Transportable by Army aviation cargo helicopter and utility helicopter.
- Enhanced situational awareness (SA), including a common operational picture, within the company headquarters (HQ).
- Reduced logistics requirement compared to an Armor and mechanized Infantry company team and Stryker brigade combat team (also called SBCT) Infantry rifle company.

1-21. While insertion means vary, all Infantry companies within the MBCT are comprised of foot-mobile Soldiers and require organic or supporting unit vehicles for increased mobility of troops. Other limitations include—

- Vulnerability to enemy armor, artillery, and air assets when employed in open terrain.
- Limited decontamination capability.

ORGANIZATION OF THE INFANTRY RIFLE COMPANY

1-22. The Infantry rifle company of the Infantry battalion is task-organized alone or as a combined arms force based upon METT-TC (I) mission, enemy, terrain and weather, troops and support available, time available, civil considerations, and informational considerations. The Infantry rifle company has an HQ section, three rifle platoons, and a mortar section. (See figure 1-1 on page 6.) Habitual attachments to the Infantry rifle company include a fire support team (FIST) and combat medics.

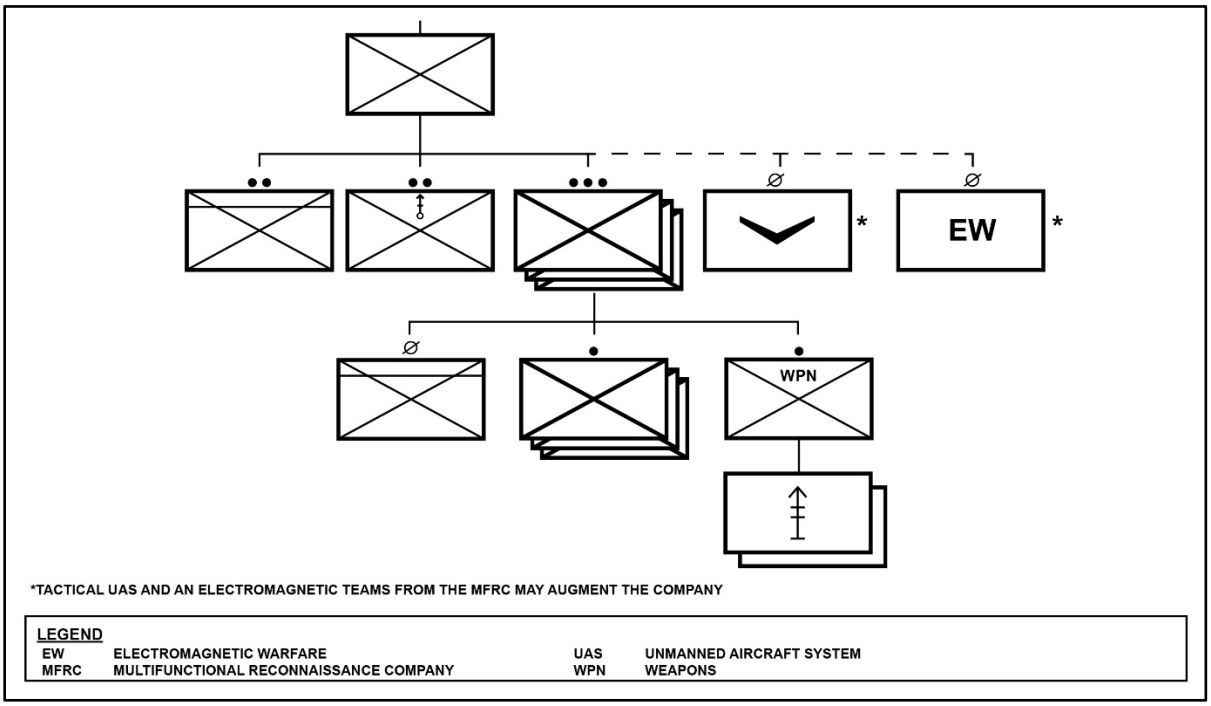


Figure 1-1. Infantry rifle company

HEADQUARTERS SECTION

1-23. The HQ section provides the company with C2, communications, and sustainment. It consists of the company commander, the executive officer (XO), first sergeant (1SG), the supply sergeant, the supply clerk and assistant, two radiotelephone operators (RTOs), and a communications noncommissioned officer (NCO).

INFANTRY RIFLE PLATOON

1-24. The Infantry rifle company's three rifle platoons are the dominant movement and maneuver element within the company and provides its primary combat power. Each rifle platoon consists of three rifle squads and a weapons squad. The rifle squad consists of the squad leader and two fire teams. Each fire team has a fire team leader armed with an M4/M7 rifle, a grenadier armed with the M320, 40-millimeter (mm) grenade launcher, an automatic rifleman armed with an M249/M250 squad automatic weapon, and a rifleman armed with an M4/M7 rifle. A member of the squad, usually one of the riflemen, is the squad designated marksman. The weapons squad consists of the squad leader and two machine gun teams. Each machine gun team has an M240 machine gunner, assistant gunner, and ammunition handler (see ATP 3-21.8, appendix C). The platoon is equipped with the Javelin medium close combat missile system (CCMS) to destroy enemy personnel, field fortifications, and to disable enemy vehicles at ranges from 15 meters to 2,000 meters, or the M3 Multi-role, Antiarmor, Antipersonnel Weapon System (MAAWS) to engage enemy personnel and lightly armored targets at ranges up to 700 meters, and soft skinned vehicles and similar targets at ranges up to 1,300 meters. (See ATP 3-21.8, appendix D for additional information.) The commander can move the platoon with organic Infantry squad vehicles (ISVs) within the Infantry rifle platoon.

MORTAR SECTION

1-25. The Infantry rifle company mortar section provides the commander with responsive, mobile, and lethal indirect fire. The section is part of the company HQ and is directly under the control of the Infantry company commander. The mortar section consists of two, three-Soldier light mortar squads. Each squad mans a single 60-mm mortar. The senior squad leader, also the section leader, acts as the fire direction center (FDC) point of contact with the second squad leader also acting as the FDC point of contact during split missions. The gunner and ammunition bearer completes the crew. Each squad is equipped with M224 or M224A1 mortar and fire control equipment. (See appendix D for information on the employment of mortars.)

INFANTRY RIFLE FORMATIONS

1-26. Infantry rifle formations (specifically the rifle platoon and squad, and rifle company) of the Infantry battalion, see ATP 3-21.20, are task-organized alone or as a combined arms force based upon the mission variables of METT-TC (I). Their effectiveness increases through the synergy of combined arms assault vehicles (see ATP 3-21.20, appendix D), ISVs, tanks, Bradley fighting vehicles and Stryker Infantry carrier vehicles, engineers, and other enabling elements. Effective application of the Infantry rifle formations as a combined arms force can capitalize on the strengths of the team's elements while minimizing their respective limitations. (See figure 1-2 for Infantry rifle formations of the Infantry battalion.)

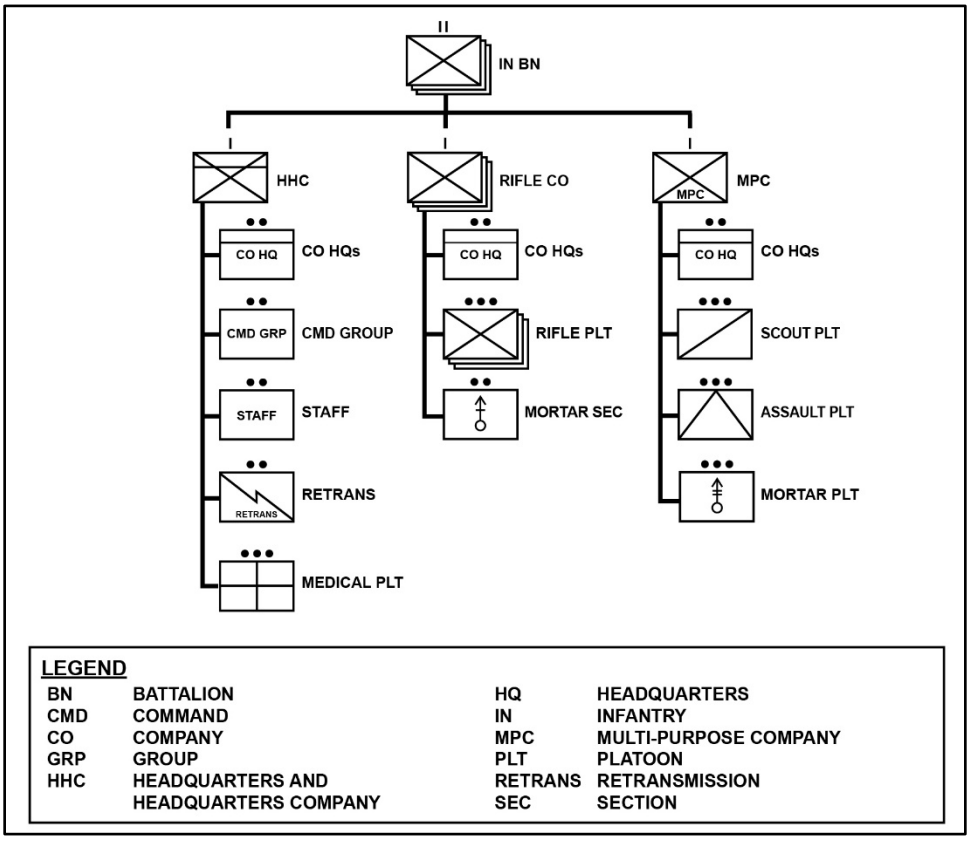


Figure 1-2. Infantry rifle formations of the Infantry battalion

MULTIPURPOSE COMPANY

1-27. The MPC provides the Infantry battalion with ground and aerial reconnaissance, indirect fire support, launched effects, counter-UAS, to find, fix, and attrit enemy forces, setting conditions for Infantry companies to close with and destroy the enemy. The MPC provides functionally aligned C2 of tactical operations for the battalion's manned and unmanned reconnaissance assets as well as lethal strike capabilities – including indirect fire and loitering munitions.

SECTION III – DUTIES AND RESPONSIBILITIES OF KEY PERSONNEL

1-28. The duties and responsibilities inherent within the Infantry rifle company enable the exercise of C2 throughout the conduct of operations. The following paragraphs describe the duties and responsibilities of key members of the company team. The responsibilities can be adjusted by the commander as required.

COMMANDER

1-29. The company commander uses C2, the exercise of authority and direction, to seize, retain, and exploit the initiative through mission orders (see appendix B). The commander leads by personal example and is

responsible for everything the Infantry rifle company does, or fails to do, in executing its assigned mission. The commander's responsibilities include, but are not limited to, leadership, training, tactical employment, administration, risk assessment, personnel management, supply, maintenance, and sustainment of the company. These duties require the commander to understand the strengths of the company's Soldiers and equipment, and to understand how to employ them to the best tactical advantage. At the same time, the commander must be well-versed in threat organizations, doctrine, and equipment.

1-30. The commander, using this understanding, prepares the unit for combat missions while exercising the art and science of C2 ethically, effectively, efficiently, and decisively. The commander, based upon sound judgment, and higher commander's intent, assesses the situation and risk, rapidly adapts, and makes timely decisions when taking corrective actions. The commander visualizes, describes, designs, and directs subordinate leaders in clear, complete mission orders. Although not inclusive, the commander—

- Commands through subordinate leaders.
- Employs the company to accomplish its mission according to the battalion commander's intent and concept of operation.
- Selects the best location to maneuver rifle platoons and other elements.
- Conducts troop leading procedures (TLP) and issues operation orders (OPORDs) for company missions.
- Maintains and expresses situational understanding.
- Resources rifle platoons and other elements and requests battalion support when needed.
- Ensures the company command post (CP) battle tracks the current situation and status of subordinate units.
- Provides timely and accurate combat information to the battalion and subordinate units.
- Implements effective measures for protection, security, and accountability of forces and systems.
- Develops the professional and tactical skills of platoon leaders.
- Informs and influences audiences inside and outside the company.
- Develops and maintains an ethical command climate.
- Enforces standards and maintains discipline.
- Incorporates moral-ethical reasoning in all plans and decisions.
- Ensures adherence to rules of engagement (ROE).

EXECUTIVE OFFICER

1-31. The XO is the Infantry rifle company's second-in-command and the rifle company's primary sustainment planner and coordinator. The XO may serve as the company net control station for both radio and digital traffic. The XO's duties include, but are not limited to the following responsibilities:

- Ensuring accurate and timely tactical reports are sent to the battalion.
- Assuming command of the Infantry rifle company as required.
- Planning and supervising the Infantry rifle company sustainment effort before the mission in conjunction with the 1SG.
- Assisting in preparation of the OPORD.
- Conducting tactical coordination with higher, adjacent, and supporting units as required.
- Assisting the commander with issuing orders to the Infantry rifle company HQ and attachments.
- Conducting additional missions as required.
- Performing as landing zone (LZ) or pickup zone (PZ) control officer.
- Assisting the commander in preparations for follow-on missions, including rehearsal site preparation.
- Positioning, as required, with supporting effort or other designated location during the mission as an alternate CP to assist the commander with C2.
- Assisting the commander with intelligence preparation of the operational environment (IPOE) products.
- Managing the company timeline.
- Managing sustainment assets and their survivability.
- Facilitating the integration of attachments and enablers.
- Serving as officer in charge of the company CP when established.

- Serving as movement control officer.
- Assisting the commander and supply sergeant with managing the property book and all other company hand receipts.
- Supporting and assessing the ethical command climate that the commander has instituted.
- Monitoring the conduct of subordinates to maintain unit discipline.

FIRST SERGEANT

1-32. The 1SG is the Infantry rifle company's senior NCO and is its most experienced Soldier. The 1SG is the commander's primary tactical advisor, and an expert in individual and NCO skills. The 1SG is also the company's primary sustainment operator; the 1SG helps the commander and XO plan, coordinate, and supervise all logistic activities that support the tactical mission. The 1SG operates where the commander directs or where 1SG duties are required. The 1SG's duties include, but are not limited to the following responsibilities:

- Executing and supervising routine missions.
- Supervising, inspecting, and observing all matters designated by the commander.
- Planning, rehearsing, and supervising key sustainment actions in support of the tactical mission.
- Assisting and coordinating with the XO in all critical functions.
- Assisting the XO in sustainment planning for the company.
- Serving as quartering party NCO in charge, as necessary.
- Conducting training and ensuring proficiency in individual and NCO skills and small unit collective skills.
- Establishing and maintaining the foundation for company discipline.
- Assisting the commander with maintaining accountability.
- Supporting and enforcing the company command climate and upholding the Army Ethic in all training and operations.
- Assessing and reporting personnel accountability, state of health and welfare of Soldiers, and esprit de corps of the company to the commander.

PLATOON LEADER

1-33. The platoon leader leads Soldiers by personal example. The platoon leader is responsible for all the platoon does or fails to do. This centralized authority enables the platoon leader to maintain unit discipline and unity and to act decisively. The demands of offense, defense, and stability or subordinate task requires the platoon leader to exercise initiative without continuous guidance from higher commands. The platoon leader must know the Soldiers within the platoon as well as how to employ the platoon, its weapons, and its systems. The platoon leader relies on the expertise of the platoon sergeant (PSG) on all platoon matters. The platoon leader ensures that the company commander's ethical command climate and ROE policy are strictly followed. The platoon leader ensures Soldiers understand the ROE and conduct operations while adhering to the moral principles of the Army Ethic, consistent with the commander's intent and concept of operation. (See ATP 3-21.8 for more information.)

PLATOON SERGEANT

1-34. The PSG is the second-in-charge of the platoon. The PSG is accountable to the platoon leader for the leadership, discipline, training, and welfare of the platoon's Soldiers. The PSG sets the example in everything. The PSG's expertise includes tactical maneuver, employment of weapons and systems, sustainment, administration, security, accountability, protection, and Soldier care. As the second-in-charge, the PSG assumes no formal duties except those prescribed by the platoon leader. The PSG supports the platoon leader's efforts and initiatives to ensure that the platoon has an ethical command climate. The PSG is the primary individual skills training manager. The PSG ensures Soldiers understand the ROE and adhere to the moral principles of the Army Ethic. (See ATP 3-21.8 for more information.)

SUPPLY SERGEANT

1-35. The supply sergeant requests, receives, issues, stores, maintains, and turns in supplies and equipment for the Infantry rifle company. The supply sergeant coordinates all supply requirements and actions with the XO, the 1SG, and the battalion logistics staff officer (S-4). The supply sergeant's duty location is usually

with the battalion combat or field trains, company trains, or positioned to conduct movement with a march unit within the main body. (See chapter 4.) The supply sergeant communicates, when possible, on the battalion administrative and logistics network. The supply sergeant—

- Controls the company cargo truck and water trailer and supervises the supply clerk and armorer.
- Monitors company activities and the tactical situation.
- Anticipates and reports logistical requirements.
- Coordinates and monitors the status of company sustainment requests.
- Coordinates and supervises the organization of the company logistics package (LOGPAC) in the field trains.
- Assists the XO with managing the company commander's hand receipts.

SENIOR RADIOTELEPHONE OPERATOR

1-36. The senior RTO supervises communications field operation, maintenance, and installation of organic wire, and frequency modulation (FM) communications. The senior RTO supervises all activities regarding the company's communications security equipment and assists the commander in planning and employment of the communications systems. The senior RTO—

- Supervises or assists company CP operations, to include:
  - Relaying information.
  - Monitoring the tactical situation.
  - Establishing the CP security plan and radio watch schedule.
  - Informing the commander and subordinate units of significant events.
- Renders clear, accurate, and timely situation reports.
- Performs limited troubleshooting (forward) of organic communications equipment.
- Supervises all aspects of communications security equipment, to include requesting, securing, employing, and training for communications security equipment and related materials.
- Advises the company commander in planning and employing communications, specifically:
  - The primary, alternate, contingency, and emergency (PACE) plan.
  - Communications discipline and emission control (EMCON).
- Establishes and maintains platoon communications with higher HQ and subordinate elements; conducts regular radio checks and immediately informs platoon leaders about any change in communications status.
- Conducts radio checks with higher according to unit standard operating procedures (SOPs); if radio contact cannot be made as required, the RTO informs the PSG or platoon leader.
- Acts as an expert in radio procedures and reporting formats such as close air support (CAS), call for mortar and artillery fire, medical evacuation (MEDEVAC) or casualty evacuation (CASEVAC).
- Acts as an expert in different types of field expedient antennas.
- Maintains the frequencies and call signs on self in a location known to all Soldiers in the platoon.
- Assists the platoon leader with information management.
- Assists the company commander, 1SG, and subordinate elements employing digital C2 systems.
- Determines combat load prior to operations and manages battery utilization during operations.
- Assists with preparation for rehearsals (for example, building the company sand table).
- Maintains physical security of communications security devices.
- Prepares, based on the commander's guidance, or helps prepare paragraph 5 of the OPORD.

RADIOTELEPHONE OPERATOR

1-37. The RTO uses and performs maintenance on assigned radios, including preparation for special missions (cold weather, air assault, or waterborne) and construction of field-expedient antennas. The RTO—

- Assists the senior RTO with the duties listed in paragraph 1-107 and is prepared to assume the duties of the senior RTO.
- Understands the company's mission and prepares to call for fire, or to request MEDEVAC, CASEVAC, or resupply.
- Sustains PACE plan, communications discipline, and EMCON.
- Assists in platoon orders preparation.

MORTAR SECTION SERGEANT

1-38. The mortar section sergeant is responsible for employing the mortar section and ensures effective mortar support for the company. (See ATP 3-21.90 and appendix D.) Responsibilities include the following:

- Coordinating with the fire support officer (FSO) regarding the AO and up-to-date tactical intelligence.
- Coordinating with the FSO to receive the fire support plan, the fire support execution matrix (FSEM), the company target list worksheet, and any fire support coordination measures.
- Participating in company rehearsals.
- Performing the duties, when possible, of the HQ PSG.
- Performing the duties, when possible, of the company CP NCO in charge.

AUGMENTATION TEAMS

1-39. The company can receive augmentation teams by specialty, for example, teams may be electromagnetic warfare (EW), air defense, liaison officers from joint or multinational support agencies, engineer support (mobility, countermobility, and survivability), or additional augmentation to the FIST, which may include a naval surface FIST, joint fires observers, and/or joint terminal attack controllers (JTACs). The commander integrates these elements into the planning process as early as possible.

ELECTROMAGNETIC WARFARE TEAM

1-40. The Infantry rifle company may be augmented with an EW team. The EW team detects, identifies, engages, and assesses enemy targets as directed. The team recognizes weapon firing angles and EW system line of sight limitations and repositions to eliminate threat emissions. EW teams (driver, gunner, and telephone operator) provide one or more of the following capabilities to support company operations:

- Mounted and dismounted EW site selection.
- Employment of electromagnetic support and electromagnetic attack capabilities.

1-41. The EW team incorporates assigned equipment, software, emerging technologies, best practices, and realistic threat. Team members are responsible for—

- Vehicle self-recovery and combat lifesaver (CLS) tasks.
- Perform field maintenance on assigned EW systems.
- Establish fighting positions.
- Establish hasty or deliberate listening posts.
- Maintain SA of friendly, neutral, and threat emissions.
- Observe detect, identify, classify, and report threat emissions and signals of interest.

SMALL UNMANNED AIRCRAFT SYSTEM TEAM

1-42. Units may have an observation and strike team attached from the multifunctional reconnaissance company. The observation and strike team will be equipped with a purpose-built attritable system (also called PBAS). In addition, the company has fielded multiple small unmanned aircraft system (SUAS) platforms that may be task-organized to create SUAS teams at the platoon or squad level. UAS teams typically consist of two Soldiers who remotely operate the system, a ground control unit, and equipment to review and distribute electro-optical and infrared (IR) video information. The commander uses SUAS to answer priority intelligence requirements (PIR), conduct leader's reconnaissance, enable targeting, or provide early warning of enemy activity. (See ATP 3-01.8 for a detailed discussion of the system's characteristics and capabilities.)

HABITUAL ATTACHMENTS

1-43. Habitual attachments for the Infantry rifle company normally include a company FIST and combat medics. These habitual attachments are normally attached whenever the company deploys.

FIRE SUPPORT TEAM AND FORWARD OBSERVERS

1-44. Company FIST HQ personnel and platoon forward observers (FOs) plan and coordinate all available supporting fires, including mortars, field artillery, naval surface fire support, Army attack reconnaissance aviation, (manned and unmanned) and/or organic or tasked echelon-specific UAS (to include firing)

platforms, and CAS integration for the Infantry rifle company. Attached FIST provide precision targeting, types 2 and 3 terminal attack control, effects assessment capabilities, and the use of precision target location tools to establish accurate target location. Precision target location tools include a targeting device or a precision targeting device, a forward entry device, and imagery-based measurement tools. FOs may have an optical device using a laser range finder for distance and a Precision Azimuth Vertical Angle Module to acquire direction and vertical angle. Each FIST fire support vehicle, if provided, possesses a target acquisition and communications suite with the capability for laser range finding and designation for laser-guided munitions. See ATP 3-21.20, appendix C for more information.

1-45. FIST HQ personnel attached to the Infantry rifle company normally include a company FSO, a staff sergeant as the fire support sergeant, a fire support specialist, and an RTO. Platoon FOs include three two-Soldier teams, an FO, and RTO. FO teams can be attached to a rifle platoon or can be designated to observe a specific area. While the company commander is ultimately responsible for integrating fires in support of the scheme of maneuver, the company FSO serves as the commander's principal advisor. Based on the company commander's guidance and an understanding of the company's scheme of maneuver, the FSO synchronizes fire support within the maneuver plan and presents the fire support plan (see appendix D) to the commander for approval. Throughout the operations process the FSO continues to develop and refine the fire support plan based on the commander's guidance and changes to the mission. The FSO's duties include, but are not limited to the following responsibilities:

- Advising the commander on all fire support matters.
- Requesting, adjusting, and directing all types of fire support assets.
- Training the FIST on fire support tasks.
- Serving as the commander's primary advisor on the enemy's indirect fire capabilities.
- Assisting the commander with developing the OPORD to ensure full integration of fires.
- Recommending targets and fire support coordination measures.
- Determining methods of engagement and responsibility for executing planned targets.
- Determining the specific tasks and instructions required to plan and execute the fire support plan.
- Developing an observation plan with limited visibility contingencies.
- Allocating FOs and other observers to maintain surveillance of target areas of interest and named areas of interest (NAIs).
- Developing the fire support plan to include the generation of nonlethal effects, such as those generated by information operations, with the company commander and the battalion FSO.
- Preparing the FSEM plan and disseminating to key personnel.
- Assisting the commander with briefing the fire support plan as part of the rifle company OPORD.
- Refining and integrating the rifle company target list worksheet and submitting to the battalion FSO.
- Assisting the commander in incorporating execution of the indirect fire plan into each Infantry rifle platoon rehearsal.
- Alerting the company commander when a request for fires against a target is denied.
- Monitoring the location of friendly units and assisting the commander with clearing fires.
- Requesting counterfire support in response to enemy artillery and mortar attacks.
- Providing emergency control of CAS and call for and adjust naval gunfire in the absence of qualified personnel.

COMPANY MEDICAL SUPPORT

1-46. The basis of allocation for company-level medical support is one emergency care sergeant who serves as the senior combat medic at the company and one combat medic per maneuver platoon.

Note. Basis of allocation is designed to place medical treatment assets as close to the point of injury as possible.

1-47. The company's senior combat medic generally collocates with the company HQ element (or company trains) and platoon medics (see ATP 3-21.8) generally collocate with the platoon HQ element. The senior combat medic cares for the wounded, ill, and injured company personnel. Tactical combat casualty care (TCCC) performed by the senior combat medic may include controlling massive external hemorrhage,

opening and maintaining a patient airway, management of blunt or penetrating torso trauma, obtaining intravenous access, provide fluid resuscitation and blood administration to prevent or treat shock, preventing or mitigating hemorrhage induced hypothermia, providing analgesia for pain control, administration of antibiotics to prevent or mitigate wound infection, wound dressing and bandaging, extremity splinting for suspected fractures, and manage a company casualty collection point (CCP).

1-48. The senior combat medic operates under the direct supervision of company 1SG and is the liaison between the battalion surgeon, physician's assistant, and the company. The senior combat medic facilitates the implementation of the Army Health System (AHS) principles of conformity, proximity, flexibility, mobility, continuity, and control during the training, planning and execution of the applicable AHS medical functions (see chapter 4). The senior combat medic is responsible for—

- Providing medical training and guidance to the company's attached combat medics.
- Performing triage, treatment, monitoring, and packaging of patients at the company CCP and prior to evacuation.
- Providing training and guidance to company personnel in triage to facilitate company CCP operations.
- Overseeing sick call screening for the company.
- Requesting and coordinating the evacuation of wounded, ill, and injured personnel under the company 1SG's direction.
- Providing training and guidance in first aid training of the company personnel and enhanced first aid procedures of CLSs.
- Recommending locations for company CCPs during operational planning and execution.
- Providing training and guidance to the company's Soldiers, CLSs, and aid and litter teams in manual and litter CASEVAC techniques.
- Monitoring the tactical situation and anticipating and coordinating health service support requirements and Class VIII resupply as necessary.
- Providing training and guidance on the company's mass casualty plan.
- Providing training and guidance in establishing a CCP.
- Providing recommendations and advice to leadership on medical support to operations.
- Planning AHS support by phase of operation.
- Planning casualty response and evacuation by phase of operation.
- Conducting precombat inspections (PCIs) of combat medics' medical aid bags and platoon casualty response kits.
- Preforming triage, treatment, monitoring, and packaging of patients at the company CCP and prior to evacuation.
- Delegating treatment priorities to combat medics and CLS personnel while managing CCP operations.
- Advising the company commander on the health of the company.
- Advising the company commander on the effects of the Geneva Conventions on AHS support.
- Keeping the XO and 1SG informed on the status of casualties and medical resupply request.

1-49. Platoon combat medics perform TCCC in the same manner as the senior combat medic while under the company senior medic's guidance and supervision. In certain situations, the platoon combat medic may have to manage a platoon CCP until patients can be evacuated to the company CCP.

SECTION IV – INFANTRY SQUAD VEHICLE

1-50. The ISV, with its associated equipment, provides enhanced tactical mobility for the Infantry rifle company to quickly move around the OE. The ISV provides commander's greater freedom of movement to transport Soldiers short of the probable line of contact enabling the dismounted Infantry to occupy their patrol base and maneuver to their assault position to accomplish their mission.

1-51. The ISV provides essential mobility for the MBCT, though it is not a fighting vehicle. Therefore, commanders must consider probable enemy lines of contact to identify advantageous positions for vehicle drop-off operations.

1-52. In offensive operations, the ISV enables a rapid approach march in all-weather conditions. For both offensive and defensive operations, commanders should use the ISV's tactical mobility to rapidly resupply troops, conduct CASEVACs, and reposition forces in response to the enemy's scheme of maneuver. To preserve the force, units must conduct these movements outside of the enemy's direct-fire range. Exposing the ISV to direct fire risks the loss of personnel, equipment, and the critical mobility it provides across the OE.

PLANNING CONSIDERATIONS

1-53. Planning for ISV operations requires careful consideration of the vehicle's strengths and limitations. The ISV provides rapid mobility over difficult terrain, reducing Soldier fatigue and enabling quicker movement to an objective. However, the ISV's lack of armor and firepower means that security is a primary consideration.

ROUTES

1-54. Route planning for the ISV prioritizes speed and stealth to maintain freedom of movement and mitigate the vehicle's vulnerabilities. Planners select routes that leverage the ISV's off-road capabilities, favoring difficult terrain and narrow trails that are less likely to be observed, blocked, or mined by the enemy. Routes should prioritize cover and concealment from both ground and aerial observation while strictly avoiding known or suspected enemy locations, obstacles, and engagement areas (EAs). To ensure operational flexibility and maintain tempo, planners should designate primary and alternate routes.

DISMOUNT POINTS

1-55. The selection of the dismount point is a planning decision that directly affects the squad's ability to achieve its assigned mission. The dismount point should be beyond the line of departure (LD) and before probable enemy lines of contact. The dismount point should be a position from which the squad can maneuver dismounted to the objective rally point (ORP) without being compromised.

1-56. An effective dismount point provides cover for the dismounting element, a secure and concealed hide site (vehicle drop-off) for the ISVs, and defensible terrain with clear ingress and egress routes for both the vehicle and the squad. This allows the squad to establish security and orient to their surroundings before continuing the operation.

SECURITY AND LINKUP

1-57. Detailed planning for security and linkup is required to ensure the squad can safely link-up with the ISV during consolidation and reorganization. This plan should designate primary and alternate rally points and establish a redundant communications plan that includes pre-arranged signals for recognition and coordination. Procedures for the linkup should be rehearsed and clearly defined in unit SOPs. These actions ensure the ISV can be used effectively for resupply, CASEVAC, or repositioning as part of follow-on operations.

EMPLOYMENT OF THE INFANTRY SQUAD VEHICLE

1-58. The ISV can deploy worldwide by sea, air, and land modes to support strategic deployment and operational maneuver. It enhances mobility, flexibility, and autonomy, especially at the company level, enabling entry forces to envelop, infiltrate, and penetrate in and/or across lands at select points of entry to place the enemy at an operational disadvantage. The ISV can participate in air assault and airborne operations in a permissive environment. (See figure 1-3.) Employment capabilities include the following:

- Air transportable by the UH-60 Blackhawk helicopter on an external sling.
- Air transportable by the CH-47 Chinook helicopter in one-truck (internally) or two-truck (external sling) configurations.
- Supports low-velocity airdrop by C-130 or C-17 aircraft.
- Capable of maneuvering over a wide variety of terrain such as—
  - Off-road soft surfaces such as sand, mud, snow.
  - On-road and hard surfaces such as roads and highways.
  - Dense vegetation.

  - Constricted urban terrain.
  - Narrow roads.
  - Paths, trails, and other cross-country movements.
- A capacity to carry a nine-Soldier Infantry squad with equipment and supplies.
- Able to conduct CASEVAC operations allowing troops to transport Soldiers to and from the battlefield quickly.

Note. Payload is limited to a nine-Soldier Infantry squad with equipment and supplies to sustain 3 days of combat operations. Units operating for longer durations will need to conduct mission planning, cross-level equipment across the unit, or may require additional ISVs to sustain operations.

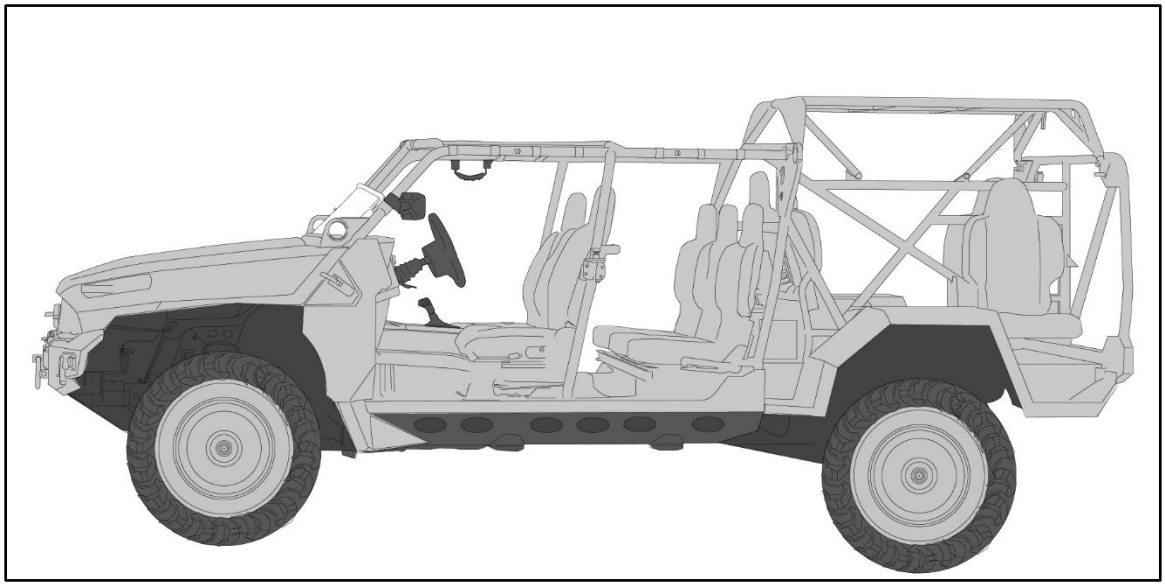


Figure 1-3. Infantry squad vehicle (carries nine Soldiers plus equipment)

CHARACTERISTICS OF THE INFANTRY SQUAD VEHICLE

1-59. The common ISV platform is a four-wheeled, completely unarmored vehicle. The ISV is four-wheel drive with selectable two-wheel drive and low-drive options with the following specifications and capabilities:

- An overall length of 5.26 meters, width of 2.07 meters, and height of 1.87 meters with a payload capacity of 3,200 pounds and curb weight of up to 5,000 pounds.
- A powered 2.8-liter (170 cubic inches) turbo-diesel engine with a six-speed automatic transmission generating an output of approximately 186 horsepower.
- Push-to-start technology (no key required) to start the vehicle, allowing ease of use for the driver.
- A swing arm mount allowing mounting a M240 machine gun with traversing ability if space and weight requirements are met.
- The ability for the gunner to efficiently employ the machine gun on the move is limited due to hindered field of fire by trees, foliage, and other obstructions when extending the swing mount.
- The capability to operate on the standard military-grade fuels (JP-8) used by other vehicles in the formation.
- Extends the operational endurance of the maneuver company out to 72 hours with moderate use of Class I, Class III, and Class V.
- Folding seats allowing transport of Soldiers to and from the battlefield quickly in support of CASEVAC operations.

- A small vehicle signature and little noise generated by ISVs may allow successful infiltration (stealth conditions).
- Self-sustained with expedient resupply and troop movement to and from the battlefield.

Note. The ISVs are currently maintained by civilian field service representatives. The turnaround time in maintenance to remedy issues is 2 to 7 days, depending on availability of parts.

PROTECTION OF THE INFANTRY SQUAD VEHICLE

1-60. The ISV is completely unarmored but allows the transport of Soldiers (see figure 1-4) to and from the battlefield faster than Soldiers walking. The ISV is light enough to be carried by helicopter. Currently, the ISV does not have any protection against the following:

- Enemy small arms fire, antiarmor fire, attack helicopters, mines, AT guided missiles (also called ATGMs), close attack aircraft, and UASs.
- Conventional and improvised explosive hazards and indirect fire.
- A cyber-contested environment through the commercial supply chain impacting the ability of a unit equipped with the ISV to accomplish operational endurance and/or strategic sustainment.
- Road debris and weather due to the half-windshield and no doors.

LIMITATIONS

1-61. While the ISV enhances mobility, flexibility, and autonomy on the battlefield; actions on the objective remain a dismounted Infantry fight. The platoon leader must understand the limitations of the ISV to effectively employ the platoon. These limitations include the following:

- Personal weapons are not easily accessible on the move:
  - This degrades the ability of the squad to quickly react to enemy actions and ambushes.
  - Soldiers may have to hold their weapons on the move.
- Egress from center- and rear-seated positions in the ISV may be hindered by the limited space and interference from stored mission equipment during missions.
- Built-up areas, dense woods, and other restricted terrain reduce the mobility of ISVs.
- The ISVs cannot move simultaneously with dismounted maneuver, and the foot speed of the dismounted Soldiers should establish the pace of operations.
- The range of ISVs being sling loaded in regard to Class III is limited to half of fuel tank for sling load operations.
- The ISV may pose a variety of challenges during water crossing operations including availability of bridges with sufficient weight classifications and adequate fording sites.

Note. A standard Army recovery vehicle, or another ISV, can tow an ISV at its curb weight without modifying the driveline of either vehicle. This towing is possible for up to 50 miles on level gravel roads and 25 miles on trails. Additionally, the ISV can recover itself using its onboard equipment, which includes a winch, cable, chain, kinetic rope, shackle, and snatch block.

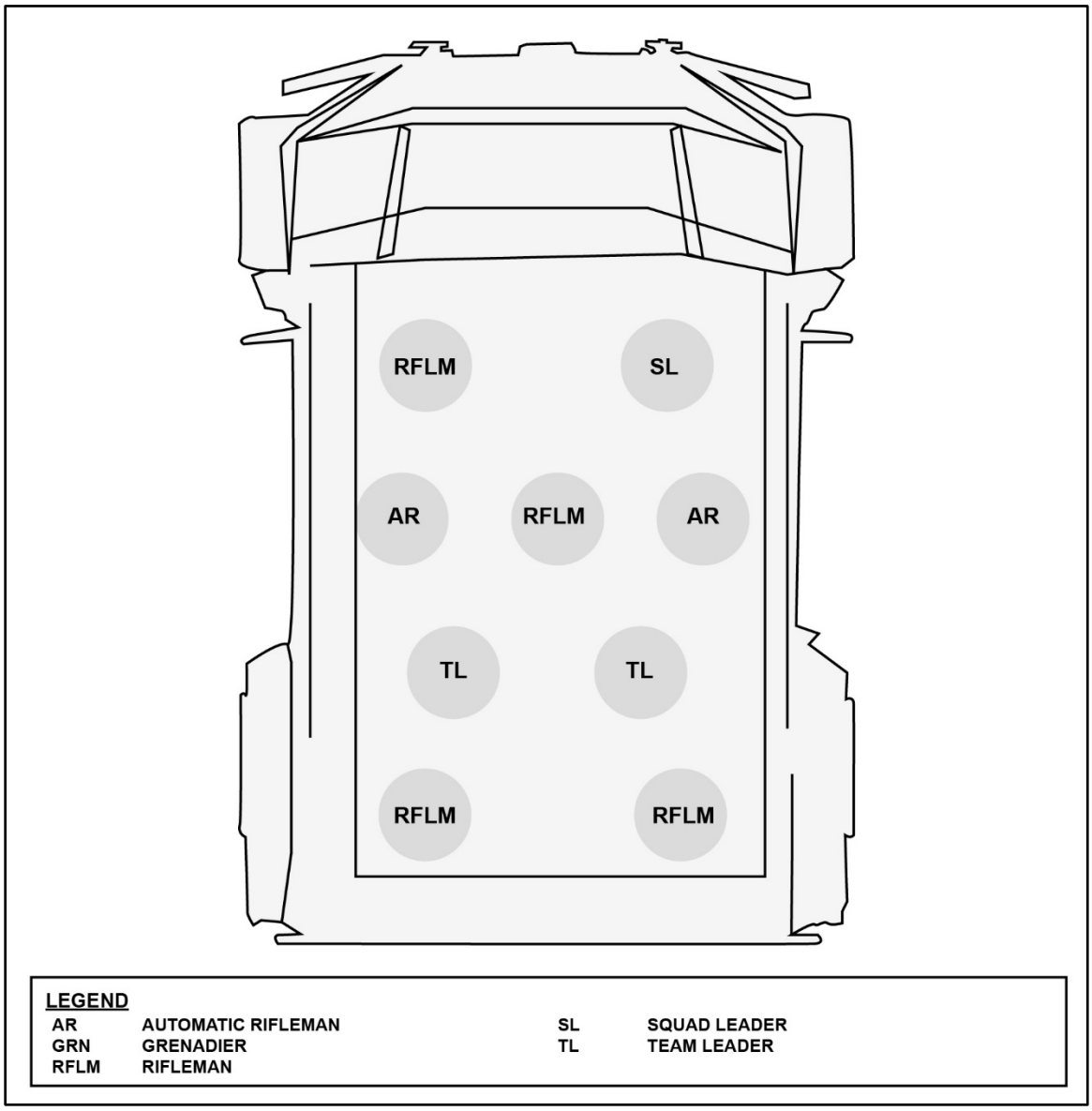


Figure 1-4. Infantry squad vehicle seating, example

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Chapter 2

Offense

Offensive action is the critical part of any engagement. The primary purpose of the offense for the Infantry rifle company is to defeat decisively, destroy, or neutralize the enemy force, or to seize key terrain. The commander may take offensive action to collect information, deceive the enemy, deprive the enemy of resources or decisive terrain, or fix the enemy in position. Even in the defense, offensive action is normally required to destroy an attacker and exploit success. The key to a successful offense is identifying the enemy's most vulnerable point; choosing a form of maneuver that avoids the enemy's strength while exploiting enemy weakness and one that masses overwhelming combat power. This chapter discusses basics of the offense, movement to contact (MTC), attack, exploitation, and pursuit.

SECTION I – BASICS OF THE OFFENSE

2-1. Offensive techniques cannot be discussed in isolation. There must be a seamless continuity and understanding between the fundamental doctrinal principles, tactics, and procedures, covered in Army doctrinal publications and field manuals, and the techniques covered in this Army techniques publication. This section briefly discusses offensive operations and supporting doctrinal terms.

CHARACTERISTICS OF THE OFFENSE

2-2. Audacity, concentration, surprise, and tempo characterize the offense. See FM 3-96 for a detailed discussion of each characteristic:

- Audacity means boldly executing a simple plan of action.
- Concentration is the massing of overwhelming effects of combat power in time and space at the decisive point to achieve a single purpose.
- Surprise—commanders achieve surprise by attacking the enemy at a time or place they do not expect or in a manner for which they are unprepared.
- Tempo—at the tactical level, a faster tempo allows attackers to penetrate defenses and barriers quickly and destroy enemy forces in-depth before they can react.

OFFENSIVE OPERATIONS

2-3. An *offensive operation* is an operation to defeat or destroy enemy forces and gain control of terrain, resources, and population centers (ADP 3-0). Infantry rifle companies can only participate in the conduct of an exploitation or pursuit as part of a larger element of a higher HQ executing these operations. (See FM 3-90 for more information.). The four types of offensive operations are:

- MTC.
- Attack.
- Exploitation.
- Pursuit.

OFFENSIVE PLANNING

2-4. Understanding, visualizing, describing, directing, leading, and assessing are aspects of leadership common to all commanders. The commander begins with an assigned area (types include an AO or zone), identified mission, and available forces. The commander develops a plan based on a visualization in terms of how to accomplish the mission. The commander uses an operational framework to visualize clearly and describe the application of the dynamics of combat power (leadership, information, mobility, firepower, and survivability in time, space, purpose, and resources within a concept of operations. The six warfighting functions (see paragraph 1-14 on page 3) are the framework for discussing planning considerations that apply

to all primary and subordinate offensive operations. (See FM 3-96 for a detailed discussion, by warfighting function, of common offensive planning considerations for the offense and control measures.)

2-5. Key terms used throughout this publication include—

- *Defeat*—to render a force incapable of achieving its objectives (ADP 3-0).
- *Destroy*—a tactical mission task that physically renders an enemy force combat-ineffective until reconstituted (FM 3-90).
- *Direct fire*—fire delivered on a target using the target itself as a point of aim for either the weapon or the director (JP 3-09.3).
- *Fire and movement*—the concept of applying fires from all sources to suppress, neutralize, or destroy the enemy, and the tactical movement of combat forces in relation to the enemy (as components of maneuver, applicable at all echelons). At the squad level, fire and movement entails a team placing suppressive fire on the enemy as another team moves against or around the enemy (FM 3-96).
- *Fires*—the use of weapon systems or other actions to engage a target to create specific lethal or nonlethal effects (JP 3-09).
- *Indirect fire*—the fire delivered at a target not visible to the firing unit, the fire delivered to a target that is not itself used as a point of aim for the weapons or the director (TC 3-09.81).
- *Maneuver*—the movement in conjunction with fires (ADP 3-90).
- *Movement*-the positioning of combat power to establish the conditions for maneuver (ADP 3-90).
- *Neutralize*—a tactical mission task in which a unit renders the enemy incapable of interfering with an operation (FM 3-90).
- *Suppress*—a tactical mission task in which a unit temporarily degrades a force or weapon system from accomplishing its mission (FM 3-90).
- *Suppression*—the temporary or transient degradation by an opposing force of the performance of a weapons system below the level needed to fulfill its mission objectives (JP 3-01).

COMMAND AND CONTROL

2-6. The commander's mission and intent determine the scheme of maneuver and the allocation of available resources. All planning for offensive operations addresses the mission variables of METT-TC (I). The C2 function of offensive operations for the company includes—

- Commander's intent.
- Mission objectives, including task and purpose, for each subordinate element.
- Scheme of maneuver.
- Location of key leaders.
- Suspected enemy locations, strengths, and capabilities.
- COAs.
- Required control measures and graphics.
- Priorities of fire.
- Bypass criteria.
- Reporting requirements.
- PACE communications.

MOVEMENT AND MANEUVER

2-7. Just as commanders do with maneuver, commanders plan tactical movements based on where they expect enemy contact, and how they are to react to contact (see appendix B). Commanders evaluate the situation and decide what type of movement or maneuver best suits the situation and mission. Commanders use movement and maneuver for several purposes: to conduct movement, to relate one platoon to another on the ground; to position firepower to support the direct-fire plan; to establish responsibilities for security among platoons; and/or to aid in the execution of battle tasks and battle drills.

Movement Formations

2-8. A *movement formation* is an ordered arrangement of forces for a specific purpose and describes the general configuration of a unit on the ground (ADP 3-90). Terrain characteristics and visibility determine the

actual arrangement and location of the unit's personnel and vehicles within a given formation. As a technique, Soldiers should walk under the treetop canopy to avoid being observed by an enemy UAS. There are seven different movement formations: column, line, wedge, vee, echelon (left or right), box, and diamond. The Infantry rifle company generally moves in any one of the following five movement formations on the battlefield—column, line, wedge, vee, or echelon. (See FM 3-90 for information on the box and diamond movement formation.) The commander may direct subordinate maneuver platoons to move in a certain formation or allow them to determine the formation to use. Maneuver platoons may move in different formations at any one time.

Column Formation

2-9. The *column formation* is a movement formation with elements arranged one behind another (FM 3-90). The rifle company moves in column formation when early contact is not expected, and the objective is far away. (See figure 2-1 on page 22.) The company's lead element normally uses traveling overwatch while the following units use traveling. The column formation—

- Speeds movement, eases control, and increases usefulness in close terrain.
- Allows quick transition to other formations.
- Requires flank security.
- Places most of the firepower on the flanks.

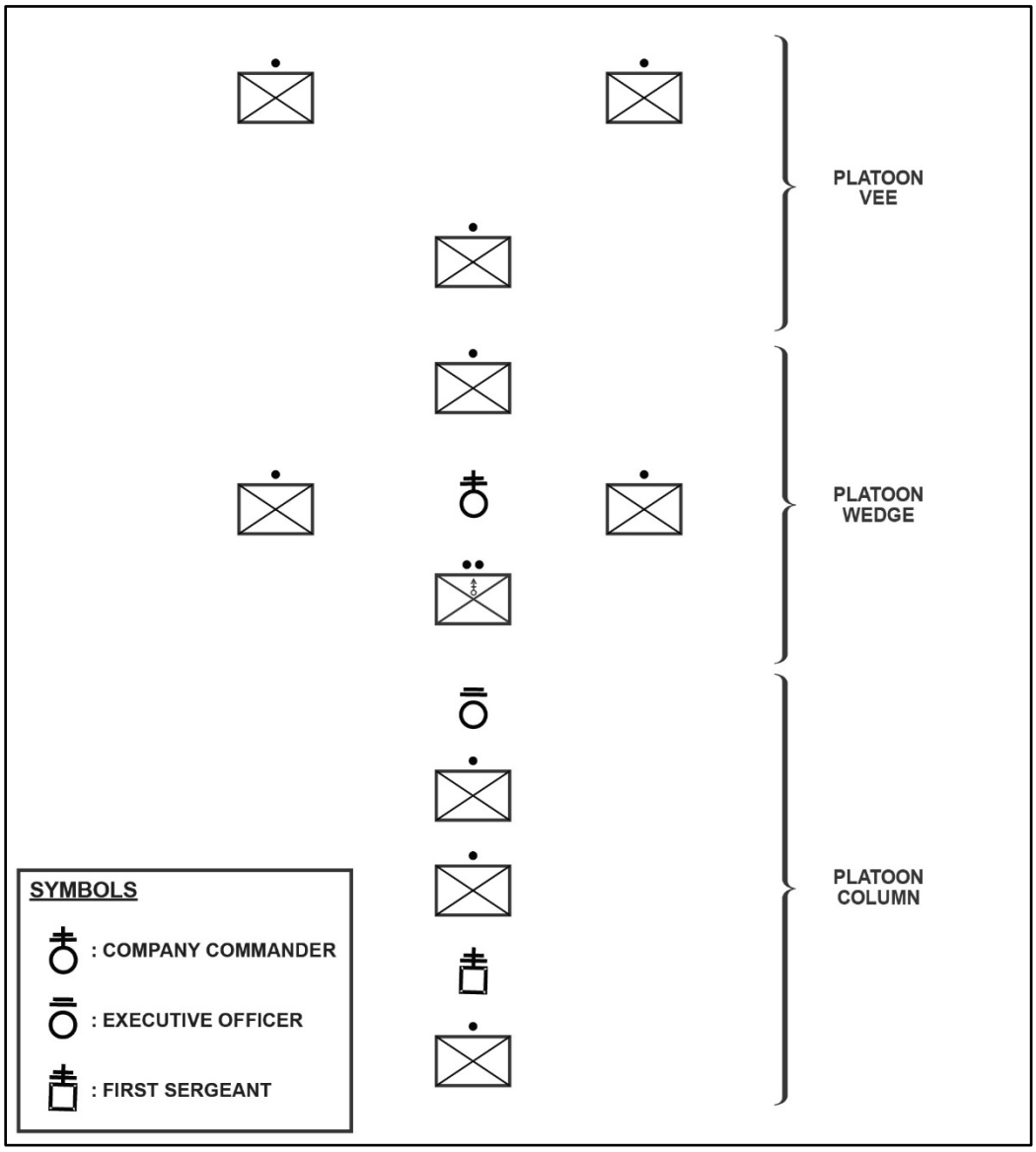


Figure 2-1. Company in platoon column, example

Line Formation

2-10. The *line formation* is a movement formation in which elements move abreast of each other (FM 3-90). Because it does not dispose platoons in-depth, the line formation provides less flexibility of maneuver than other formations. The company uses the line when it requires continuous movement with maximum firepower to the front in an attack. The company commander designates a base platoon, normally the center one for the other two to guide on. Flank and rear security are generally poor but is improved when the flank platoons use echelon formations (see figure 2-2).

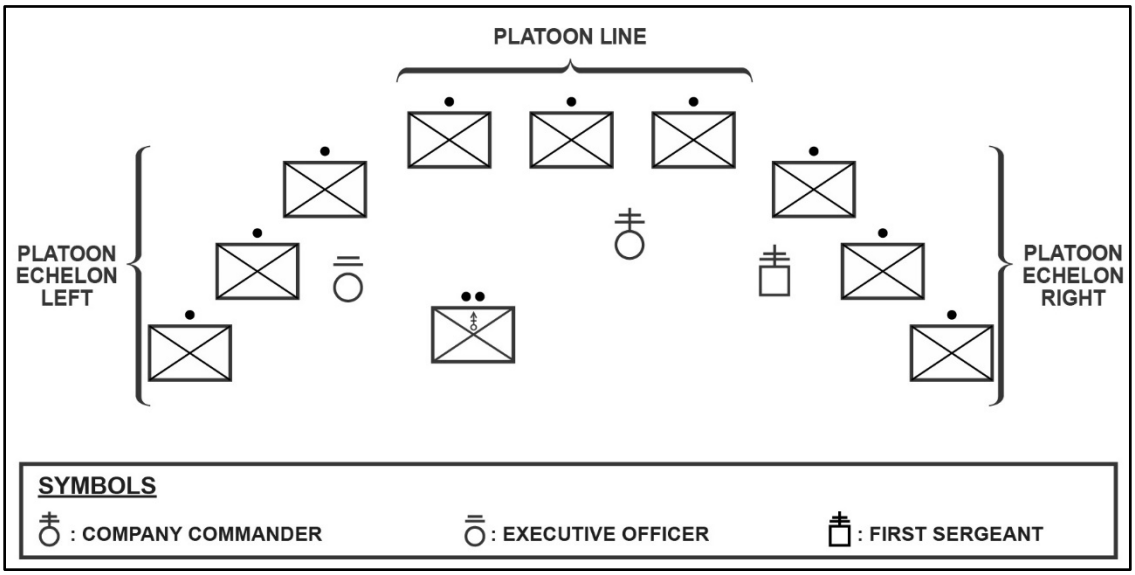


Figure 2-2. Company in platoon line, example

Wedge Formation

2-11. The *wedge formation* is a movement formation with one lead element and the trail elements are paired off abreast of each other on the flanks (FM 3-90). The force uses the wedge when enemy contact is possible or expected but the location and disposition of the enemy is vague. When not expecting enemy contact, it may use the wedge to cross open terrain rapidly. (See figure 2-3.) The wedge formation—

- Facilitates control and transition to the assault.
- Provides for maximum firepower forward and good firepower to the flanks.
- Requires sufficient space to disperse laterally and in-depth.

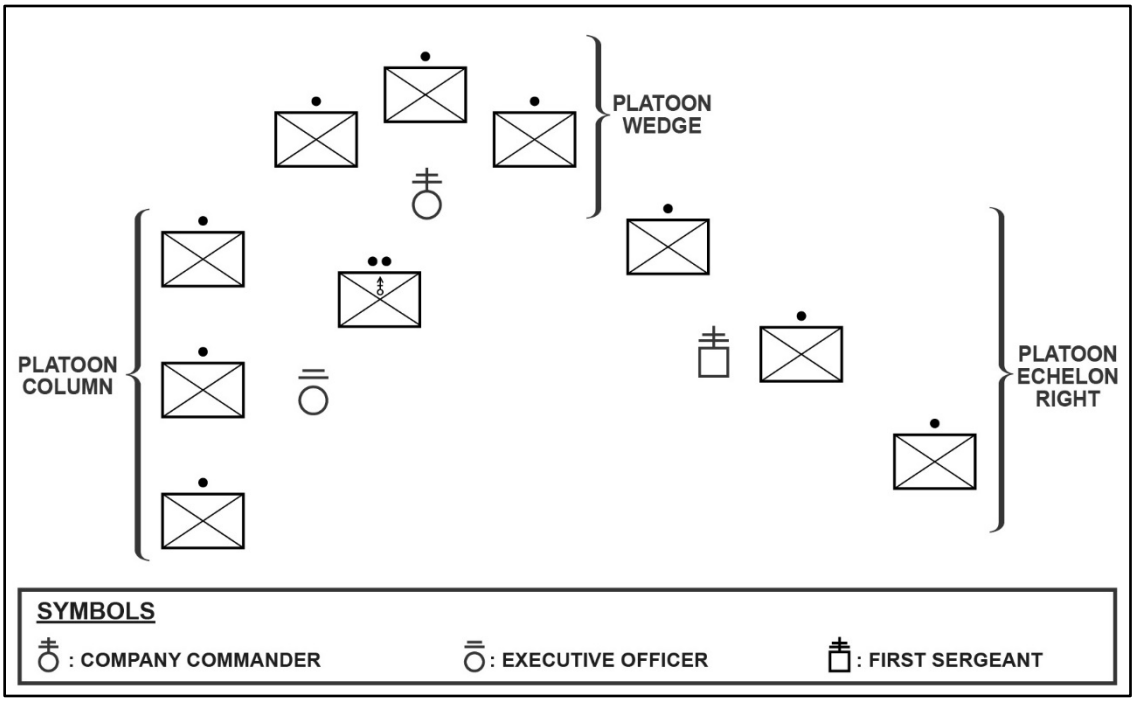


Figure 2-3. Company in wedge formation, example

Vee Formation

2-12. The *vee formation* is a movement formation with two elements abreast and one or more elements trailing (FM 3-90). This arrangement is most suitable to advance against an enemy known to be to the front of the company. The company may use the vee when enemy contact is expected and the location and disposition of the enemy is known. (See figure 2-4.) The following planning considerations apply:

- Formation is hard to orient, and control is more difficult in close or wooded terrain.
- Formation provides for good firepower forward and to the flanks.

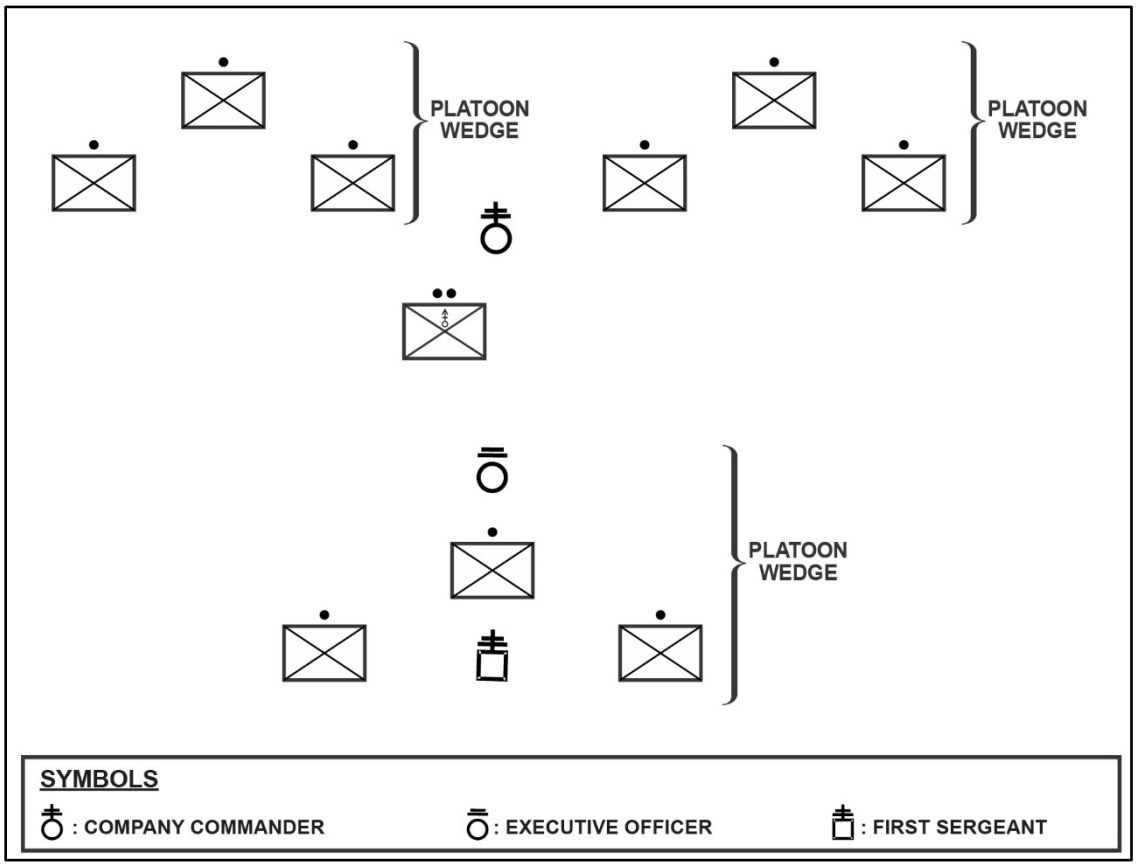


Figure 2-4. Company in vee formation, example

Echelon Formation

2-13. An *echelon formation* is a movement formation with elements arranged on an angle to the left or to the right of the direction of attack (echelon left, echelon right) (FM 3-90). The company commonly uses the echelon when providing security to a larger moving force. (See figure 2-5.) The echelon formation—

- Provides for firepower forward and in the direction of echelon.
- Facilitates control in open areas but makes it more difficult in heavily wooded areas.

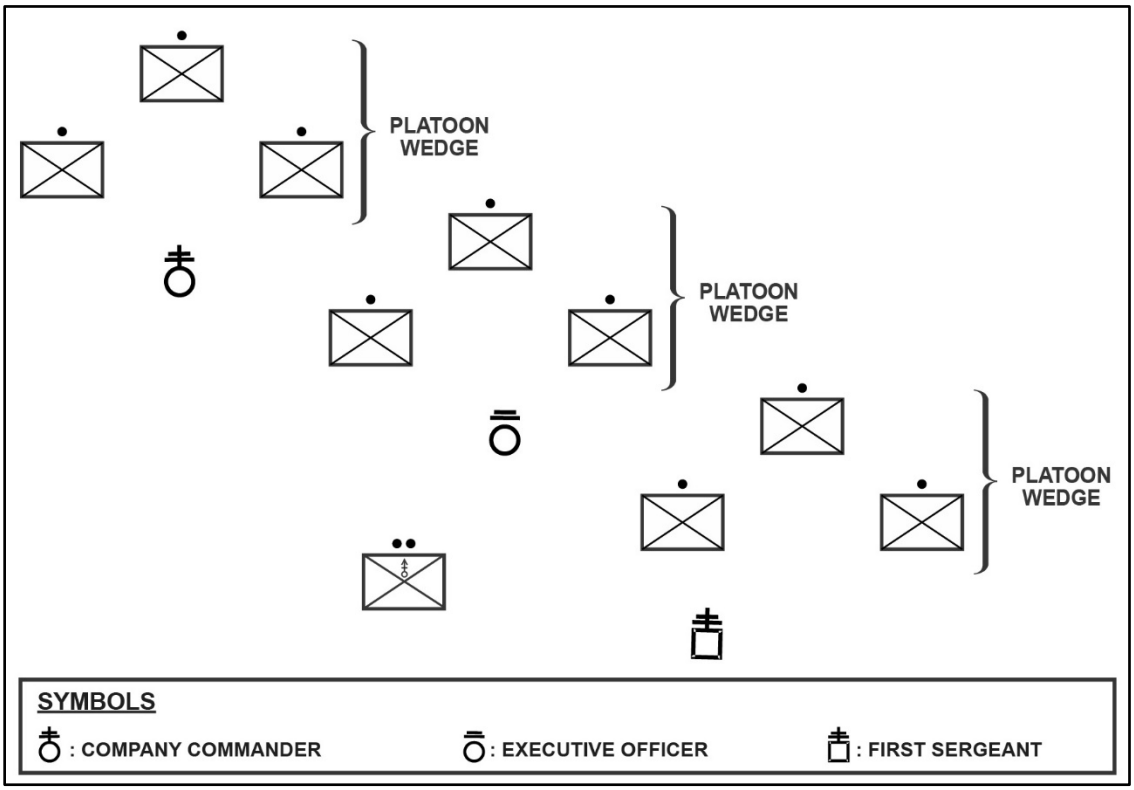


Figure 2-5. Company in echelon right, example

Formation Selection

2-14. The company commander selects the formation that provides the proper security, direct fires, control, and speed for the operation. The commander's use of movement formations allows the unit to rapidly shift from one formation to another, giving additional flexibility when adjusting to changes in the mission variables of METT-TC (I). Table 2-1 on page 26 compares the five movement formations generally used by the Infantry rifle company.

Note. This results from the commander mandating subordinates rehearse so that they can change formations using standard responses to changing situations, such as actions on contact.

2-15. By designating the movement formation planned for use, the commander—

- Establishes the geographic relationship between units.
- Indicates probable reactions once the enemy makes contact with the formation.
- Indicates the level of security desired.
- Establishes the preponderant orientation of subordinate weapon systems.
- Postures friendly forces for the attack.

Table 2-1. Comparison of movement formations

FORMATION	*SECURITY*	*DIRECT FIRES*	*CONTROL*	*SPEED*
Column	Good dispersion Good all-around security	Poor to the front and rear Excellent to the flanks	Easy to control Flexible formation	Fast
Line	Excellent to the front Poor to the flank and rear	Excellent to the front and rear Poor to the flank	Difficult to control Inflexible formation	Slow
Wedge	Good all-around security	Good to the front and flanks	Less difficult to control than the line Flexible formation	Faster than the line
Vee	Better to the front	Very good to the front	Very difficult to control	Slow
Echelon	Good to the echeloned flank and front	Good to the echeloned flank and front	Difficult to control	Slow

Movement Techniques

2-16. The Infantry rifle company uses the movement formations described in table 2-1 in conjunction with three movement techniques: traveling, traveling overwatch, and bounding overwatch. Based on the chance of enemy contact, the commander selects the appropriate movement technique to limit the unit's exposure to enemy fire and to position the unit in a good formation to react to enemy contact. Contact with the enemy is made with the smallest force possible to allow the majority of the company freedom to maneuver against the enemy. While moving, use the terrain for protection when enemy contact is possible or expected. Use natural cover and concealment to avoid enemy fires. The following rules apply when using terrain for protection:

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

2-17. The company commander selects from the three movement techniques based on several factors:

- The likelihood of enemy contact.
- The type of contact expected.
- Availability of an overwatch element.
- The level of security required during movement.
- Timeline of the higher HQ.

Traveling

2-18. *Traveling* is a movement technique used when speed is necessary and contact with enemy forces is not likely (FM 3-90). Within the formation all elements of the unit move simultaneously. The commander or small-unit leader locates where best to control the situation. Trailing elements may move in parallel columns to shorten the column and reaction time. The interval between units is based on visibility, terrain, and weapon ranges. (See figure 2-6.)

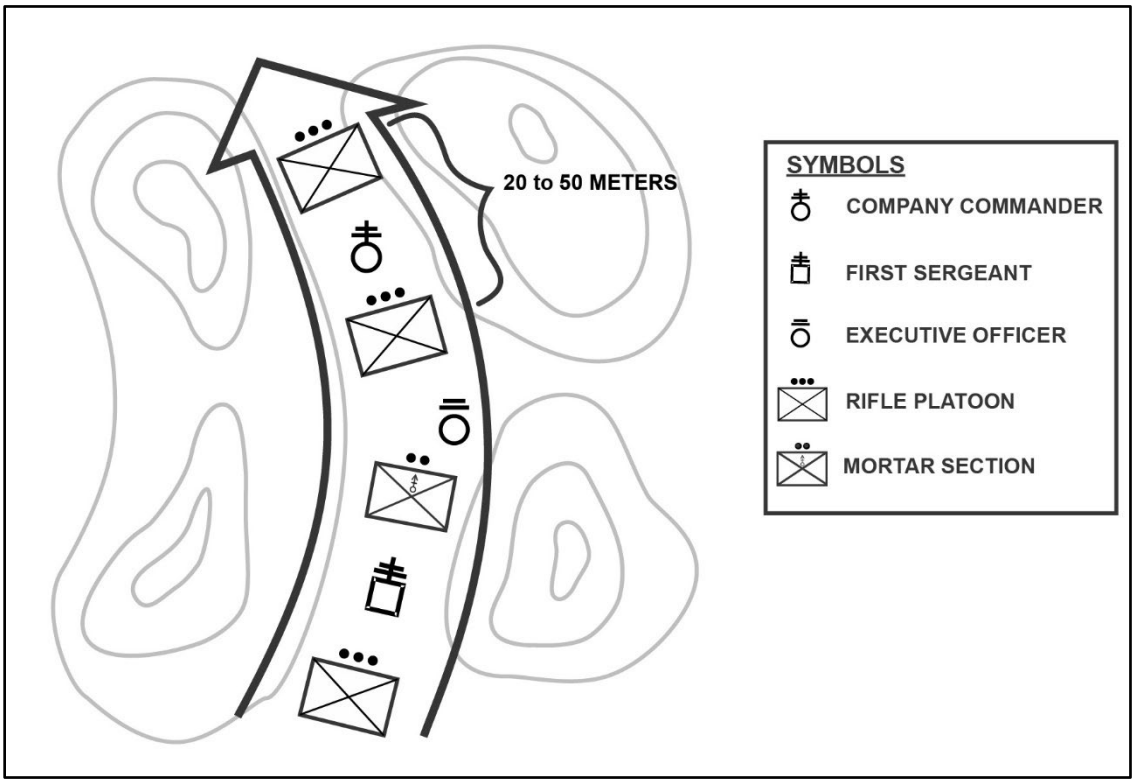


Figure 2-6. Traveling, example

Traveling Overwatch

2-19. *Traveling overwatch* is a movement technique used when contact with enemy forces is possible (FM 3-90). The lead element and trailing element are separated by a short distance which varies with the terrain. The trailing element moves at variable speeds and may pause for short periods to overwatch the lead element. It keys its movement to terrain and the lead element. The trailing element overwatches at such a distance that, should the enemy engage the lead element, it will not prevent the trailing element from firing or moving to support the lead element. The overwatch unit displaces as necessary, moving at a variable speed. (See figure 2-7 on page 28.)

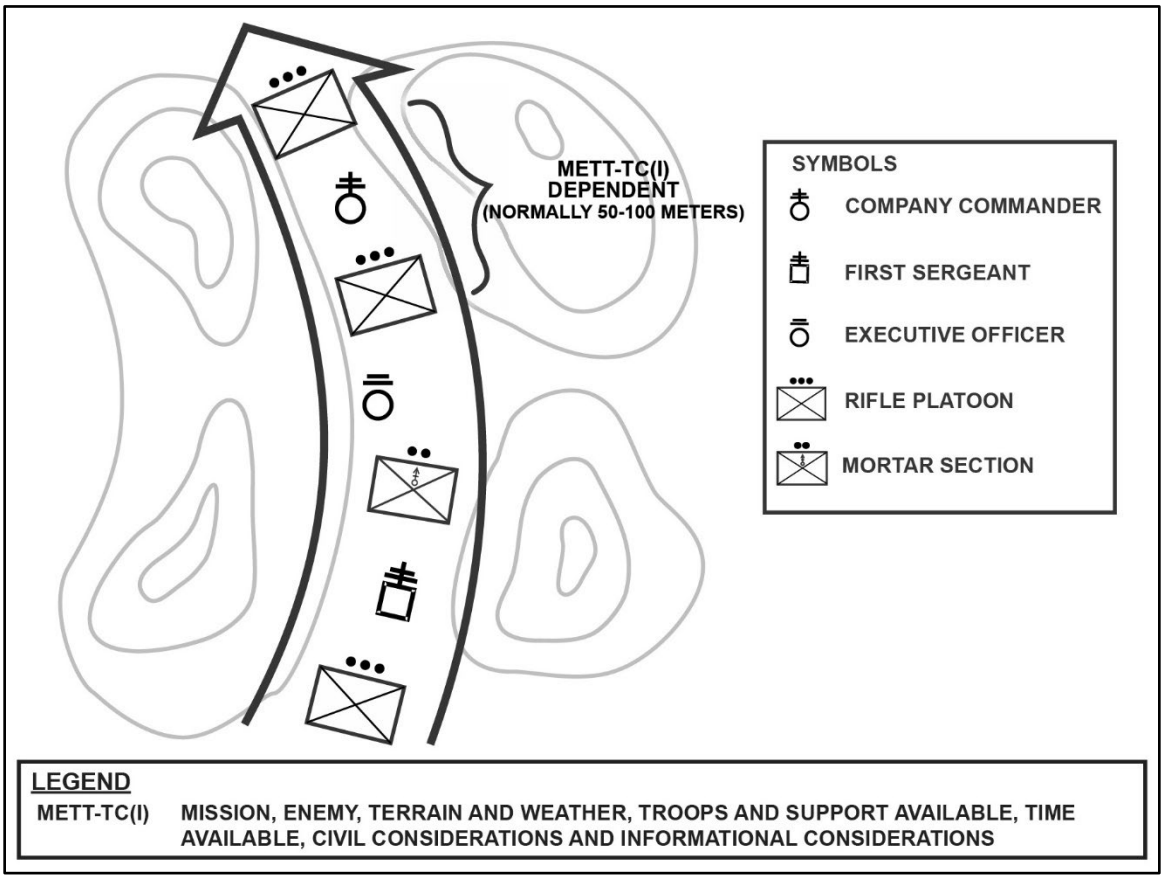


Figure 2-7. Traveling overwatch, example

Bounding Overwatch

2-20. *Bounding overwatch* is a movement technique used when contact with enemy forces is expected (FM 3-90). The unit moves by bounds. One element is always halted in position to overwatch another element while it moves. The overwatching element is positioned to support the moving unit by fire or fire and movement. Bounding overwatch is the most secure, but slowest, movement technique. The purpose of bounding overwatch is to deploy prior to contact, giving the unit the ability to protect a bounding element by immediately suppressing an enemy force. The overwatch element is assigned sectors to scan while the bounding element uses terrain to achieve cover and concealment. The bounding element avoids masking the fires of the overwatch element and never bounds beyond the range at which the overwatch element can effectively suppress likely or suspected enemy positions. (See figure 2-8.)

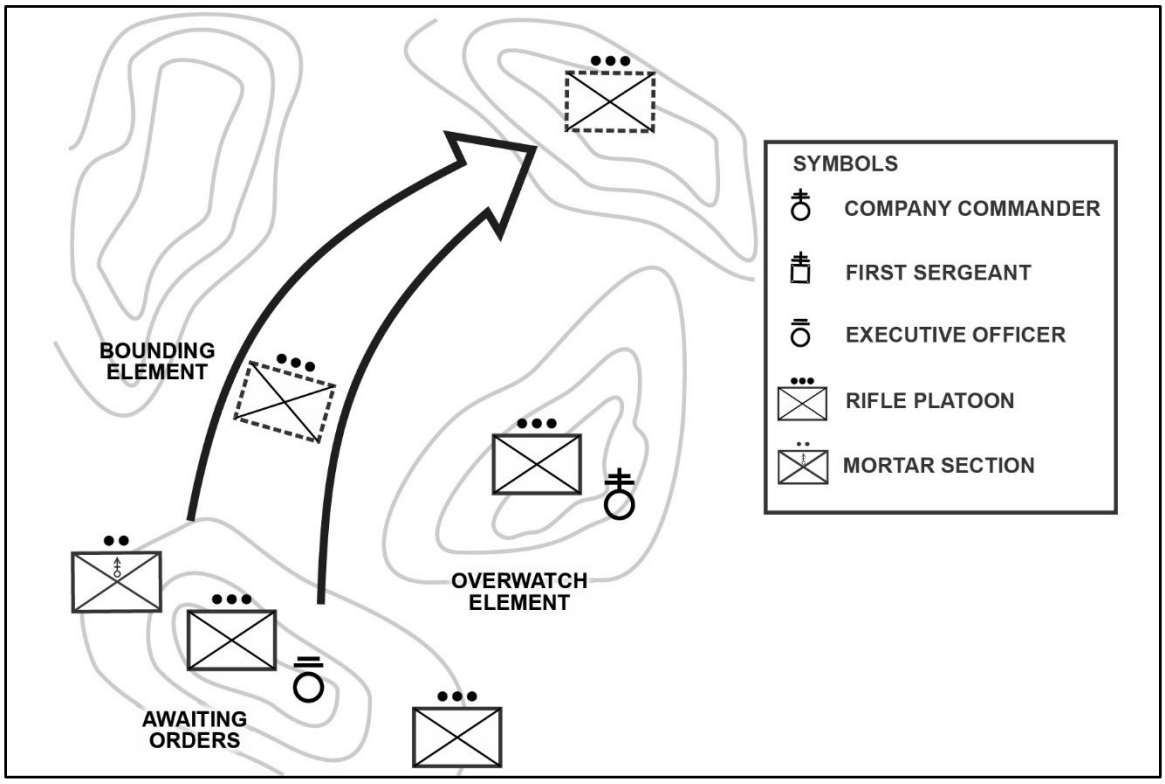


Figure 2-8. Bounding overwatch, example

2-21. During bounding overwatch, the company can employ either of two variations of this technique: alternating bounds and successive bounds (see figure 2-9 on page 30). In both techniques, the overwatching elements cover the bounding elements from covered, concealed positions with good observation and fields of fire against possible enemy positions. Overwatching elements can immediately support the bounding elements with fires if the bounding elements make contact. Unless they make contact en route, the bounding elements move via covered and concealed routes into the next set of support by fire positions. The length of the bound is based on the terrain and the range of overwatching weapons.

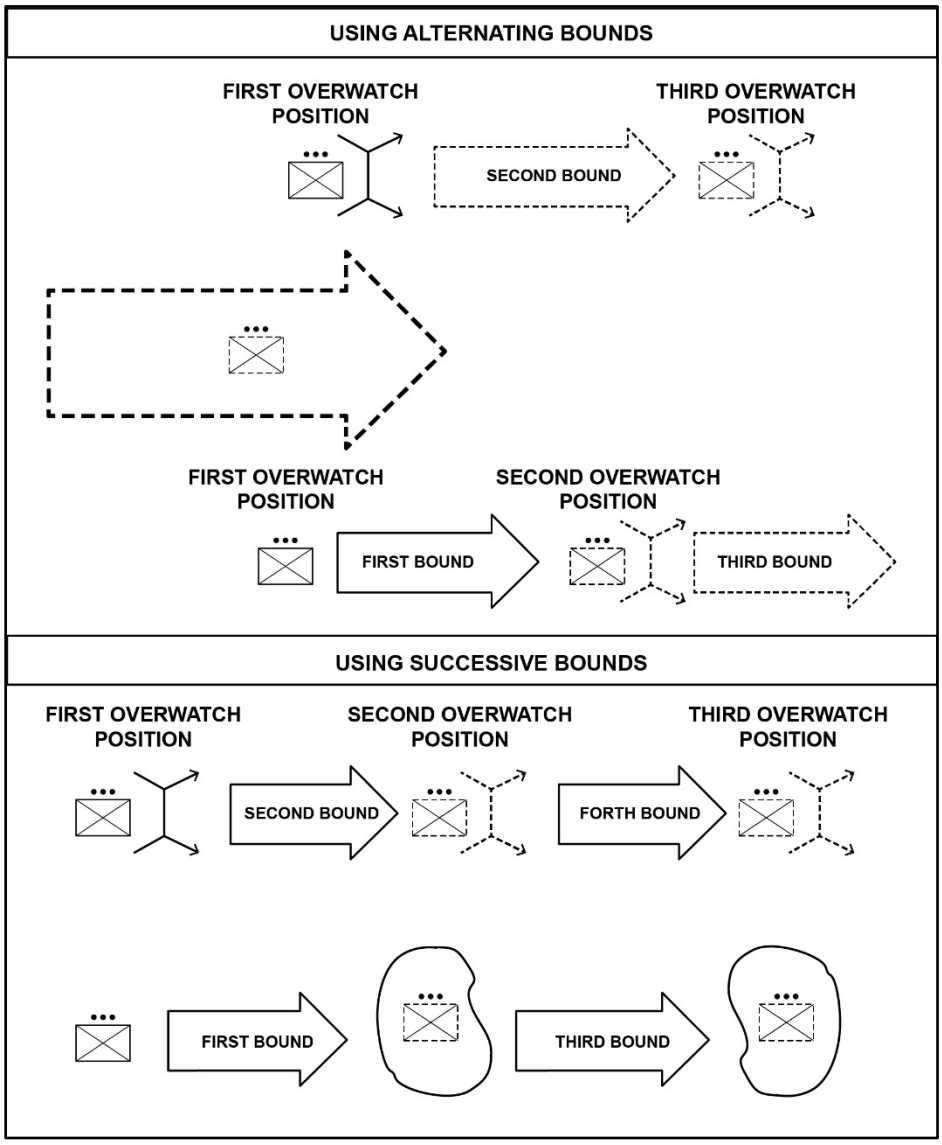


Figure 2-9. Alternating and successive bounds

Alternating Bounds

2-22. Covered by the rear element, the lead element moves forward, halts, and assumes overwatch positions. The rear element advances past the lead element and takes up overwatch positions. This sequence continues as necessary with only one element moving at a time. This method is usually more rapid than successive bounds.

Successive Bounds

2-23. In the successive bounding method, the lead element, covered by the rear element, advances and takes up overwatch positions. The rear element then advances to an overwatch position roughly abreast of the lead element and halts and takes up overwatch. 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 alternating bound method, but it is slower.

Maneuver

2-24. Maneuver begins once a unit has made contact with the enemy (see figure 2-10). Direct fire is inherent in maneuver, as is close combat. At the company level, maneuver subordinate elements form the heart of every tactical operation and task. Company commanders maneuver their platoons to close with, gain positional advantage over, and ultimately destroy the enemy.

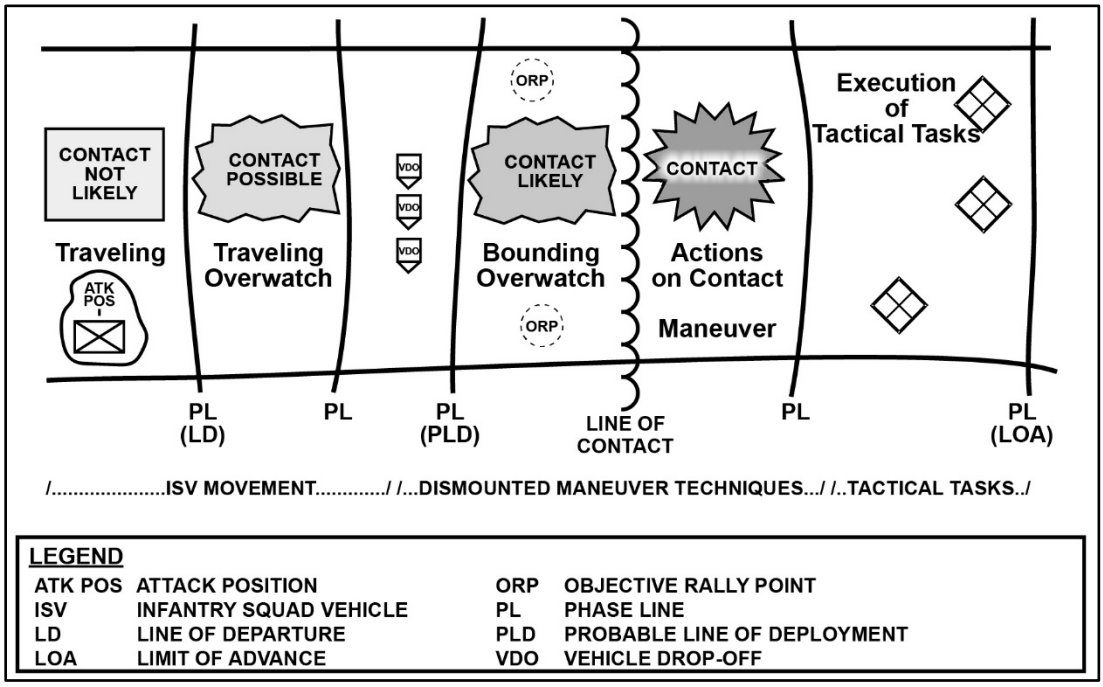


Figure 2-10. Transition from movement techniques to maneuver

Actions on Contact

2-25. *Actions on contact* is a process that helps leaders understand what is happening and to take action (FM 3-90). Leaders analyze the enemy during TLPs to identify likely contact scenarios and plan their initial actions. While not all contact can be anticipated, this framework guides the response to any enemy contact, whether expected or not. Actions on contact do not replace battle drills; instead, battle drills are often key elements of this broader process.

2-26. A unit's SOPs, along with the commander's intent and scheme of maneuver, dictate specific actions. During movement, once the lead element makes contact with the enemy (or an obstacle, which is assumed to be covered by fire), it executes these actions. The unit's security force then works to gain a tactical advantage using tempo and initiative, allowing it to maintain contact without becoming decisively engaged. The unit's proficiency with well-rehearsed SOPs and battle drills is directly related to its ability to develop the situation quickly, survive contact, and regain the initiative. The action on contact process provides an orderly framework for decision-making and action, though many steps may occur simultaneously. The four steps of actions on contact are:

- React—immediately act to survive and posture the unit.
- Develop the situation—gain an understanding of the enemy.
- Choose an action—decide on a COA.
- Execute and report—carry out the chosen action and inform higher HQ.

React

2-27. If the enemy initiates contact, the unit performs the react to contact battle drill. This involves crucial survivability decisions: whether to stay mounted or dismounted, and whether to stay in place or displace. Unengaged elements monitor and prepare to support. The unit in contact immediately reports to higher HQ,

which helps develop the situation and enables support. If friendly forces make contact first without being detected, they should move to an unobserved location and continue the process, attempting to use the smallest element possible.

Develop the Situation

2-28. After the initial reaction, the leader works to define the threat by understanding its strength, location, disposition, and capabilities. This may involve employing direct and indirect fire while maneuvering to gain information without getting fixed by the enemy. The leader's goals are survival, delivering an overwhelming response, and regaining the initiative, while considering if the contact requires a deviation from the current plan. Key factors to consider include the enemy's size, activity, and location, as well as terrain, friendly capabilities, and potential ways to gain a position of relative advantage to the enemy.

Choose an Action

2-29. Based on an assessment of the situation and the higher commander's intent, the leader chooses an action. Some actions may require approval from a higher commander, especially if they require additional resources, consume essential assets, fall outside the commander's intent, or commit the higher echelon to a new scheme of maneuver. These actions typically include:

- Attack.
- Bypass.
- Defend.
- Delay.
- Withdrawal.
- Establish a support base of fire.

Execute and Report

2-30. Once a COA is selected and approved, the unit begins execution. For a unit moving in an unarmored vehicle like the ISV, the execute phase often begins with the command to dismount. This command initiates a core battle drill, such as react to contact or react to ambush.

2-31. Upon making contact, Soldiers execute this well-rehearsed drill: they exit the vehicle, immediately clear and scan their surroundings and move rapidly to the nearest covered and concealed positions to return fire. This transitions the squad from a transport posture to a maneuver formation. Simultaneously, the ISV driver maneuvers the vehicle to a safe, covered position, as fighting from the unarmored platform is not its intended role. Once the squad has established a secure foothold, the leader is in a much better position to report an accurate assessment of the enemy to higher HQ, ensuring all actions remain within the commander's intent and contributing to the broader operational picture.

FORMS OF MANEUVER

2-32. *Forms of maneuver* are distinct tactical combinations of fire and movement with a unique set of doctrinal characteristics that differ primarily in the relationship between the maneuvering force and the enemy (ADP 3-90). Commanders select the form of maneuver based on their analysis of the mission variables of METT-TC (I) integrated into the other variables. Commanders then synchronize the contributions of all warfighting functions to the selected form of maneuver. An operation may contain several forms of offensive maneuver. (See FM 3-90 for more information.) The forms of maneuver are as follows:

- Frontal attack.
- Penetration.
- Envelopment.
- Turning movement.
- Infiltration.

Frontal Attack

2-33. A *frontal attack* is a form of maneuver in which an attacking force seeks to destroy a weaker enemy force or fix a larger enemy force in place over a broad front (FM 3-90). The frontal attack is usually the least

desirable form of maneuver because it exposes most of the offensive force to the concentrated fires of the defenders. The company normally conducts a frontal attack as part of a larger operation against a stationary or moving enemy force. (See figure 2-11.) The company, or a part of the company, attacks the enemy across a wide front and along the most direct approaches. It uses a frontal assault to overrun and destroy enemy security forces, a weakened enemy force, or to fix an enemy force. Frontal assaults are used when the commander possesses overwhelming combat power, the enemy is at a clear disadvantage, or when fixing the enemy over a wide front is the desired effect and a decisive defeat in that area is not expected. The frontal assault may be appropriate in a hasty operation, for example, an attack culminating in a MTC or a meeting engagement. Also, where speed and simplicity are paramount to maintain *tempo*—the relative speed and rhythm of military operations over time with respect to the enemy (ADP 3-0)—and, ultimately, the initiative; or in a supporting effort or meeting engagement to fix an enemy force.

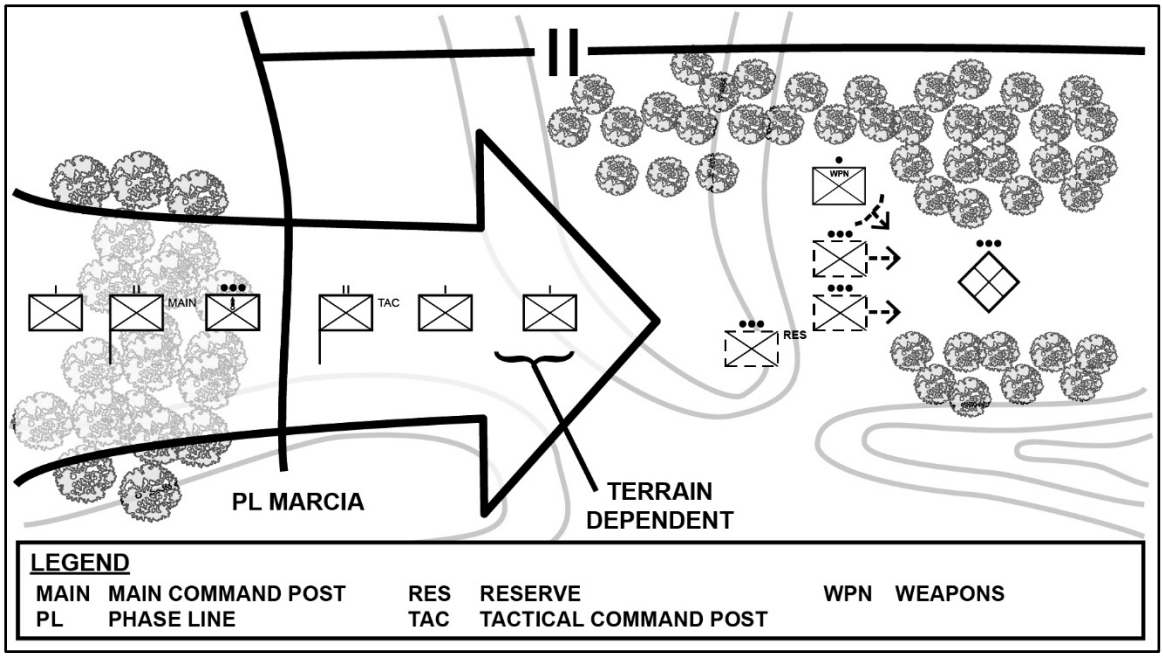


Figure 2-11. Frontal attack

Envelopment

2-34. *Envelopment* is a form of maneuver in which an attacking force avoids an enemy's principal defense by attacking along an assailable flank (FM 3-90). Envelopments focus on seizing terrain, destroying specific enemy forces, and interdicting enemy withdrawal routes. An envelopment avoids the enemy's front; where they are strongest, where the attention is focused, and where enemy fires are most easily concentrated. For example, a supporting effort can fix the defender, while the main effort maneuvers out of contact around the enemy's defenses to strike at assailable flanks, the rear, or both. If no assailable flank is available, the attacking force creates one through the conduct of a penetration.

2-35. Envelopments may be conducted against a stationary or moving enemy force. Sometimes the enemy exposes a flank by their own forward movement, unaware of their opponent's location. Attacking forces need to be agile enough to concentrate and mass combat power before the enemy can reorient defenses. Fixing forces must have sufficient combat power to keep the enemy engaged, while the enveloping force maneuvers to close with the enemy. The three variations of envelopment are single envelopment, double envelopment, and vertical envelopment:

- A *single envelopment* is a variation of envelopment where a force attacks along one flank of an enemy force (FM 3-90).
- A *double envelopment* is a variation of envelopment where forces simultaneously attack along both flanks of an enemy force (FM 3-90).
- A *vertical envelopment* is a variation of envelopment where air-dropped or airlanded troops attack an enemy force's rear, flank, or both (FM 3-90).

2-36. During a single envelopment, the attacking element's main effort focuses on attacking an assailable flank. It avoids the enemy's strength at the front where the effects of fires and obstacles are greatest. Generally, an envelopment is the preferred form of maneuver instead of a frontal assault or penetration because the attacking force tends to suffer fewer casualties while having the most opportunities to destroy the enemy. If no assailable flank is available, the attacking force creates one. At the tactical level (specifically at platoon and company echelons, sometimes called a flank attack), the envelopment force, main effort, is delivered squarely on the enemy's flank while the supporting effort of the envelopment usually engages the enemy's front by fire. (See figure 2-12.) The supporting effort diverts the enemy's attention from the threatened flank and prevents maneuver against the main effort. This form of maneuver is often used for a hasty operation (specifically an attack) or meeting engagement where speed and simplicity are paramount to maintaining battle tempo and, ultimately, the initiative.

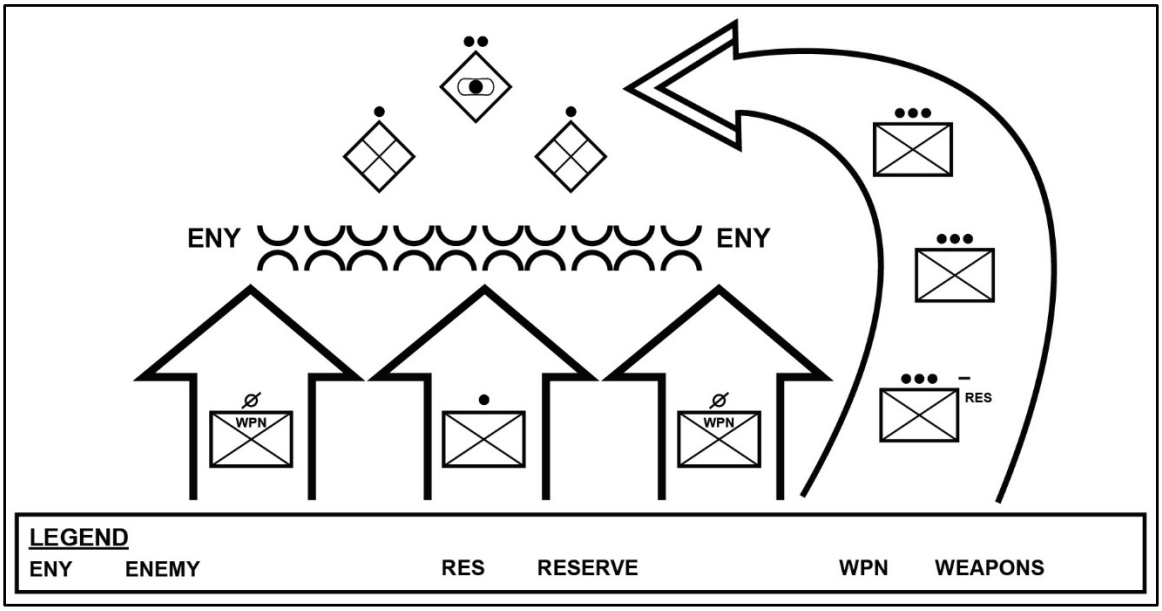


Figure 2-12. Envelopment

Infiltration

2-37. An *infiltration* is a form of maneuver in which an attacking force conducts undetected movement through or into an area occupied by enemy forces (FM 3-90). The commander uses infiltration to—

- Attack lightly defended positions or stronger positions from the flank and rear.
- Secure key terrain in support of the main effort.
- Disrupt or harass enemy defensive preparations/operations.
- Relocate the company by moving to battle positions (BPs) around an EA.
- Reposition to attack vital facilities or enemy forces from the flank or rear.

2-38. Infiltration occurs by land, water, air, or a combination of means. Moving and assembling forces covertly through enemy positions is time consuming. To infiltrate successfully, the force avoids detection and engagement. Infiltrated forces alone can rarely defeat an enemy. Infiltration is normally used in conjunction with other forms of maneuver.

Turning Movement

2-39. A *turning movement* is a form of maneuver in which the attacking force seeks to avoid the enemy's principal defensive positions by attacking to the rear of their current positions forcing them to move or divert forces to meet the threat (FM 3-90). A turning movement seeks to make contact with the enemy, but at a location of the commander conducting the turning movement's advantage and out of the enemy's established kill zones.

2-40. A turning movement differs from envelopment because the force conducting a turning movement seeks to make the enemy forces displace from their current locations, whereas an enveloping force seeks to engage the enemy forces in their current locations from an unexpected direction. The commander directing the turning movement can employ a vertical envelopment using airborne or air assault forces (see FM 3-99) to affect a turning movement.

Note. The Infantry rifle company conducts a turning movement as part of that larger force, most likely as a supporting effort or fixing force as opposed to the main effort involving the turning force.

Penetration

2-41. A *penetration* is a form of maneuver in which a force attacks on a narrow front (FM 3-90). In a penetration, the commander concentrates forces to strike at an enemy's weakest point, rupture the defense, and break up its continuity to create an assailable flank. Penetration of an enemy position requires a concentration of combat power to permit continued momentum of the attack. The commander uses the breach created to pass forces through to defeat the enemy through attacks into the enemy's flank and rear. The attack should move rapidly to destroy the continuity of the defense since, if it is slowed or delayed, the enemy is afforded time to react.

2-42. A successful penetration depends on the attacking force's ability to suppress enemy weapons systems, to concentrate forces to overwhelm the enemy defender at the point of attack, and to pass sufficient forces through the gap to defeat the enemy quickly. If the attacker does not make the penetration sharply and secure objectives promptly, the penetration is likely to resemble a frontal attack. This may result in high casualties and permit the enemy to fall back intact, thus avoiding destruction.

INTELLIGENCE

2-43. The commander uses threat templates, the situation template (SITEMP), the most likely COA, the most dangerous COA, civil consideration products, terrain products, and other intelligence products to identify any aspect in the OE that affects the friendly force and enemy force. This information may come from the intelligence sections from within the battalion and brigade OPORD. (See ATP 2-01.3 for more information on IPOE.) The commander uses the intelligence estimate to reflect analysis two echelons down.

2-44. The company continuously conducts information collection during the mission because it is unlikely that the commander has complete knowledge of the enemy's intentions and actual actions. The commander receives constant updates from higher and adjacent units with the sharing of the common operational picture. The company's organic SUAS can be used at specified points within the attack when feasible, to confirm or deny enemy BP locations or observing avenues of approach beyond the objective to identify incoming enemy reserves and reinforcements.

FIRES

2-45. Leaders conduct fires planning concurrently with maneuver planning at all levels. As part of the top-down fire planning system, the Infantry battalion includes a fires annex with its OPORD. The company commander refines the fire plan from higher HQ to meet the mission requirements and ensures these refinements are incorporated into the higher HQ's plan (includes a fires annex with its OPORD).

2-46. A clearly defined concept of operations enables the company commander to articulate precisely how to use indirect fires to affect the enemy during the different phases of the operation. This allows the company to develop a fire support plan that supports the company's mission. The commander needs to understand the battalion's scheme of maneuver, but also understand the concept of fires and understand what, if any, resources that have been allocated. The company can possibly use battalion 120-mm mortars (see appendix D for more information on how to develop an effective fires plan):

- Use massed fires, especially time on target fires.
- Position fire support assets to support the reconnaissance effort.
- Plan suppressive and obscuration fires at the point of penetration.
- Plan fires on enemy positions supporting and overwatching the objective.
- Plan suppressive and obscuration fires to support breaching operations.
- Plan fires in support of the approach to the objective as these fires—
  - Engage enemy security forces.
  - Destroy enemy forces bypassed.
  - Screen friendly movement.
- Plan preparation fires on the objective to suppress, neutralize, or destroy critical enemy forces that can most affect the combined arms battalion's (also called CAB) closure on the objective.
- Plan fires beyond the objective to support an attack or defense, or to isolate the objective to prevent the egress or ingress of threat forces.
- Use indirect fires and CAS to delay or neutralize repositioning enemy forces and reserves.
- Plan locations of critical friendly zones to protect critical actions such as support by fire positions, breaching efforts, and mortar assets.
- Use risk estimate distances (REDs) to determine triggers to initiate, shift, and cease loading of rounds.
- Use echelon fires to maintain continuous suppression of enemy forces throughout the movement to and actions on the objective.
- Proper employment and positioning of attached FSOs where they can influence the fight.

SUSTAINMENT

2-47. The objective of sustainment in offensive operations is to ensure the commander maintains the momentum. The commander wants to take advantage of windows of opportunity and launch offensive operations with minimum advance warning. Therefore, sustainment planners and operators anticipate these events and maintain the flexibility to support the offensive plan.

2-48. A key to successful offensive operations is the ability to anticipate the requirement to push support forward, specifically regarding ammunition, fuel, and water. The 1SG requests supplies or supply packages based on the logistics status (LOGSTAT) reports to consolidate sustainment requirements for the company. Future consumption planning factors, based on a change in mission, should be factored in for delivery up to 72 hours in advance when the company coordinates its logistical resupply for a specific time and location. (See chapter 4 for more information.)

Logistics

2-49. Sustainment maintains the momentum of the attack by delivering supplies as far forward as possible. The commander can use throughput distribution and preplanned and preconfigured packages of essential items to help maintain offensive momentum and tempo.

Health Service Support

2-50. The burden on medical resources increases due to the intensity of offensive operations and the increased distances over which support is required as the force advances. The commander relocates medical resources as the tactical situation changes.

PROTECTION

2-51. Protection manifests differently at each echelon. Commanders integrate and synchronize protection capabilities and other operations and tasks that create protection effects inherent to their formation. A unit's protection foundation begins with individual Soldier tasks and becomes comprehensive, integrated, layered, redundant, and enduring when commanders synchronize and integrate unit tactics, techniques, and procedures, coordinating with their higher HQ for the required operational protection support to achieve mission success. When a unit's foundational protection capabilities are insufficient, commanders coordinate with higher echelons for operational protection support.

2-52. The rapid tempo of offensive operations poses challenges in the protection of friendly assets. The forward movement of subordinate units is critical if the commander is to maintain the initiative necessary for successful offensive operations. Commanders maintain a high operating tempo to deny the enemy a chance to plan, prepare, and execute an effective response to friendly offensive operations, ultimately ensuring the survivability of the force. Using multiple routes, dispersion, highly mobile forces, piecemeal destruction of isolated enemy forces, scheduled rotation, and relief of forces before they culminate, and wise use of terrain are techniques for maintaining a high tempo of offensive operations. The exact techniques employed in a specific situation must reflect the mission variables.

2-53. In the offense, survivability operations enhance the ability to avoid or withstand hostile actions by altering the physical environment. Camouflage and concealment typically play a greater role in survivability during offensive operations. Protective positions for indirect fire and logistics positions, however, still may be required in the offense. The use of terrain provides a measure of protection during halts in the advance, but the company still should develop as many protective positions as necessary for key weapons systems, CPs, and critical supplies based on the threat level and unit vulnerabilities. During the early planning stages, geospatial engineer teams can provide information on soil conditions, vegetative concealment, and terrain masking along routes to facilitate the company's survivability.

2-54. Depending on the threat, primary protection concerns of the commander may be enemy artillery, air, and chemical, biological, radiological, or nuclear (CBRN) threats. If these threats exist, the commander prepares the unit and adjusts the scheme of maneuver accordingly. In the face of an enemy air threat, the company usually only has passive and active (with its organic weapons) air defenses. However, air defense assets may be located near the company and may provide coverage. If air defense elements are assigned, the commander, with the advisement of the air defense leader, determines likely enemy air avenues of approach and plans positions accordingly.

2-55. The commander integrates CBRN defense considerations into mission planning depending on the CBRN threat. This includes the CBRN core functions of assess, protect, and mitigate and the integrating activity of hazard awareness and understanding. Assessing the threats and hazards through integration with intelligence, targeting, and reconnaissance aid in the implementation of the CBRN threat defense principles, such as contamination avoidance. CBRN protective measures reduce the risk to the force from CBRN hazards; however, they may slow the tempo, degrade combat power, and increase logistics requirements. Personnel wearing individual protective equipment find it difficult to operate for an extended period. Mitigating hazards with a scaled response to CBRN incidents reduces the spread and impact on forces.

2-56. The commander protects subordinate forces to prevent the enemy from interfering in ongoing operations. That protection meets the commander's legal and moral obligations to the organization's Soldiers. To help protect the force, the commander ensures that all 16 protection tasks (see chapter 8) are addressed during the unit's planning, preparation, and execution while constantly assessing the effectiveness of those protection tasks. Commanders also integrate, layer, and synchronize operations and tasks from other warfighting functions with the primary protection tasks, which creates a layered effect that offers strength and depth across time and space during offensive operations. (See ADP 3-37 for more information.)

KEY DOCTRINAL TERMS AND DEFINITIONS

2-57. The following key doctrinal terms and definitions are used throughout this and other chapters and appendixes. See referenced publications for additional information:

- *Assault* is a short and violent well-ordered attack against a local objective (FM 3-90).
- *Assault position* is a covered and concealed position short of the objective from which final preparations are made to assault the objective (ADP 3-90).
- *Assured mobility* is a framework—of processes, actions, and capabilities—that assures the ability of a force to deploy, move, and maneuver where and when desired (ATP 3-90.4).
- *Attack by fire* is a tactical mission task using direct and indirect fires to engage an enemy from a distance (FM 3-90).
- *Attack by fire position* is the general position from which a unit performs the tactical task of attack by fire (ADP 3-90).
- *Attack position* is the last position an attacking force occupies or passes through before crossing the line of departure (ADP 3-90).
- *Bypass* is a tactical mission task in which a unit deliberately avoids contact with an obstacle or enemy force (FM 3-90).
- *Countermobility* is a set of combined arms activities that use or enhance the effects of natural and man-made obstacles to prevent the enemy freedom of movement and maneuver (ATP 3-90.8).
- *Fire superiority* is the dominating fires of one force over another force that permits that force to maneuver at a given time and place without prohibitive interference by the other (FM 3-90).
- *Follow and assume* is a tactical mission task in which a committed force follows and supports a lead force conducting an offensive operation and continues mission if lead force cannot continue (FM 3-90).
- *Follow and support* is a tactical mission task in which a committed force follows and supports a lead force conducting an offensive operation (FM 3-90).
- *Interdiction* is an action to divert, disrupt, delay, or destroy the enemy's military surface capability before it can be used effectively against friendly forces or otherwise be used to achieve enemy objectives (JP 3-03).
- *Local security* is the low-level security activities conducted near a unit to prevent surprise by the enemy (ADP 3-90).
- *Named area of interest* is the geospatial area or systems node or link against which information that will satisfy a specific information requirement can be collected, usually to capture indications of enemy and adversary courses of action (JP 2-0).
- *Observation post* is a position from which observations are made or fires are directed and adjusted (FM 3-90).
- *Reconstitution* is an operation that commanders plan and implement to restore units to a desired level of combat effectiveness commensurate with mission requirements and available resources (ATP 3-94.4).
- *Support by fire* is a tactical mission task in which a unit engages the enemy by direct fire in support of another maneuvering force (FM 3-90).

SECTION II – MOVEMENT TO CONTACT

2-58. *Movement to contact* is a type of offensive operation designed to establish or regain contact to develop the situation (FM 3-90). An MTC creates favorable conditions for subsequent tactical actions. The commander conducts an MTC when the enemy situation is vague or not specific enough to conduct an attack. An MTC may result in a meeting engagement.

2-59. A properly executed MTC develops the combat situation and maintains the commander's freedom of action after contact. The Infantry rifle company normally conducts MTC as part of a battalion or larger element; however, based on the mission variables of METT-TC (I), it can conduct the operation independently. This section discusses MTC and concludes with a discussion on cordon and search and search and attack variations of an MTC. (See appendix B for planning and preparation information.)

FUNDAMENTALS OF A MOVEMENT TO CONTACT

2-60. An MTC employs purposeful and aggressive movement, decentralized control, and the hasty deployment of combined arms formations from the march to conduct offensive and defensive operations or operations in support of stability tasks. The fundamentals of an MTC are—

- Focusing all efforts on finding the enemy.
- Making initial contact with the smallest force possible, consistent with protecting the force.
- Avoiding decisive engagement of the main body on ground chosen by the enemy, allowing the commander maximum flexibility to develop the situation.
- Task-organizing the force and using movement formations and battle drills to deploy and attack rapidly in any direction.
- Keeping subordinate forces within supporting distances, facilitating gaining and maintaining contact.
- Upon gaining contact, maintaining contact regardless of the adopted COA.
- Planning fires throughout the movement, including in and around march objectives and actions on contact locations identified during planning.

ORGANIZATION OF FORCES FOR A MOVEMENT TO CONTACT

2-61. An MTC organizes (at a minimum) with a forward security force, an advance guard, and a main body. Based on the mission variables of METT-TC (I), the commander may increase the unit's security by resourcing additional forward security forces and assets, as well as establishing flank and rear security (normally a screen or guard). (See chapter 5, section II, for more information on security operations tasks.) The main body consists of forces not detailed to security duties and normally includes the maneuver element that will be the main effort within the conduct of the MTC. When the Infantry company conducts an MTC as part of the Infantry battalion's independent MTC, the battalion normally organizes (as a minimum) with its companies and platoons allocated within the forward security force and a main body. (See ATP 3-21.20 for additional information.)

FORWARD SECURITY FORCES

2-62. The composition depends on mission variables. The forward security force generally comprises an advance guard and flank and rear security. The forward security force moves as quickly and aggressively as possible but remains within supporting range of the main body's weapon systems. It is essential to provide early warning and reaction time for the main body. It destroys small enemy forces or causes the enemy to withdraw before they can disrupt the main body. Within a company, a single platoon normally serves as the forward security force.

Advance Guard

2-63. The advance guard is usually a company or company team. Its composition depends on the mission variables of METT-TC (I). Engineers, if available, follow or are attached to the lead elements to ensure mobility and provide route/bridge classification expertise. Subordinate elements of the platoon may be an attachment to the advance guard. The two lead companies or company teams are task-organized accordingly when a battalion moves in parallel columns.

Security

2-64. The advance guard for the Infantry battalion operates forward of the main body to provide security for the main body and ensures its uninterrupted advance. The advance guard protects the main body from surprise attacks and develops the situation to allow time and space for the deployment of the main body when it is committed to action. The advance guard accomplishes this by destroying or suppressing enemy reconnaissance or ambushes, delaying enemy forces, and marking bypasses for or reducing obstacles. A company or company team tasked as the advance guard—

- Remains oriented on the main body.
- Reports enemy contact to the battalion commander.
- Collects and reports all information about the enemy.

- Selects tentative fighting positions for following units.
- Tries to penetrate enemy security elements and reach or identify the enemy main force.
- Destroys or repels enemy reconnaissance forces.
- Prevents enemy ground forces from engaging the main body with direct fires.
- Locates, bypasses, or breaches obstacles along the main body's axis of advance.
- Executes tactical tasks such as fix, contain, or block against enemy forces to develop the situation for the main body.
- Conducts a passage of lines with the main body.

2-65. Until the main body is committed, the company responsible for the advance guard is the battalion commander's initial main effort. Priority of fires shifts to the main body once it is committed. In planning the MTC, each contingency operation should revolve around the actions of the advance guard. The lead platoons and squads within the company must be well trained on battle drills, especially those involving obstacle reduction and actions on contact.

Actions on Contact

2-66. Forward security forces focus on determining the enemy's composition, dispositions, and intent, and on providing the commander with relevant combat information to ensure commitment of the main body under optimal conditions. During movement, the enemy situation becomes clearer as forward security forces conduct actions on contact to develop the situation in accordance with the commander's plan and intent. In determining the strength, location, and disposition of enemy forces, security forces allow the commander to focus the effects of the main body's combat power against an enemy position or the enemy's main body. As the overall force must remain flexible to exploit both information and intelligence, forward security forces must maintain contact with the enemy unless ordered to break contact by the commander.

2-67. When contact is made, the advance guard forces the enemy to withdraw or destroys small enemy groups before they can disrupt the advance of the main body. When the advance guard encounters large enemy forces or heavily defended areas, it takes prompt and aggressive action to develop the situation and, within its capability, defeat the enemy. The commander reports the location, strength, disposition, and composition of the enemy and tries to find the enemy's flanks and gaps or other weaknesses in the enemy's position. The main body then may join the attack.

Flank and Rear Security

2-68. Flank and rear security missions may be given to one company or to a platoon-sized element from one of the companies within the main body to conduct security missions under organic company control or battalion control. These security elements remain at a distance from the main body to allow the battalion time and space to maneuver to either the flanks or the rear. Flank and rear security elements also operate far enough out to prevent the enemy from placing direct or observed indirect fires on the main body. Indirect fires are planned on major flank and rear approaches to enable security.

2-69. The flank guard force protects the main body from ground observation and surprise ground attack from the flank. Should the enemy initiate an attack, the flank guard may counterattack, defend, or delay to allow the main body to pass from the area, deploy, or maneuver. The following applies:

- Responsibility might be assigned to the flank guard using a series of terrain features that block enemy likely avenues of approach and these positions must be coordinated with the protected main body unit(s).
- Movement of the guard force is tied to movement of the protected unit(s) and may employ successive or alternating bounds to blocking positions.
- The flank guard must maintain close liaison with the protected unit(s) by all available means such as radio, patrols, or helicopters.
- Distances to the flank must assure mission accomplishment while trying to stay within range of the battalion mortars.
- Normally, about one terrain feature is tactically sound.

2-70. The rear-guard force prevents enemy interference with the main body by stopping or delaying an attack to the rear and prevents enemy direct fire or ground observed indirect fire from harassing the main body. The following applies:

- During halts, the rear guard occupies positions that enable it to protect the rear of the main body.
- The rear guard normally moves in column formation except where expected enemy action causes the need to deploy in width.

MAIN BODY

2-71. The main body consists of forces not detailed to the security and is normally the force that conducts the decisive operation, or the force resourced as the main effort within the conduct of the MTC. The main body contains most of the combat elements and is arrayed to achieve all-around security throughout the movement. Companies and platoons within the main body are prepared to deploy and attack, giving them the flexibility to maneuver to a decisive point on the battlefield to destroy the enemy. The commander and platoon leaders anticipate changes within the plan to remain flexible and adaptive. The commander designates a portion of the main body for use as the reserve. The size of the reserve is based upon the mission variables of METT-TC (I) and the amount of uncertainty concerning the enemy.

2-72. The main body's rate of movement is dictated by the advance guard. The main body maintains SA of the advance guard's progress and current enemy situation and provides responsive support when the advance guard is committed. The use of standard formations and battle drills allows the commander, based on the information available, to shift combat power rapidly on the battlefield. Companies employ the appropriate formation and movement techniques within the formation. A company not in the lead uses traveling or traveling overwatch. It must be ready to maneuver in support of the lead company, or in another direction, or to assume the lead company's mission. During the movement the company commander within the main body visualizes how the company will be employed into the larger fight and informs subordinate leaders of potential contingencies throughout.

CONTROL MEASURES

2-73. The MTC usually starts from an LD at the time specified in the OPORD. The commander controls the MTC by using phase lines (PLs), contact points, target reference points (TRPs), and checkpoints, as required. The commander controls the depth of the MTC by using a limit of advance (LOA) or a forward boundary. The commander could designate one or more objectives to limit the extent of the MTC and orient the force. These objectives are often terrain-oriented and used only to guide movement. Although an MTC may result in taking a terrain objective, the primary focus should be on the enemy force.

2-74. The commander can designate a series of PLs that can successively become the new rear boundary of the forward security elements as that force advances. Each rear boundary becomes the forward boundary of the main body and shifts as the security force moves forward. The rear boundary of the main body designates the rear security element's limit of responsibility. This line shifts as the main body moves forward.

CONDUCT OF THE MOVEMENT TO CONTACT

2-75. The company normally conducts MTC as part of a larger element; however, based on METT-TC (I) it can conduct the operation independently (see figure 2-13 on page 42). A company normally conducts MTC by advancing within an assigned zone toward a designated march objective. Because the enemy situation is not clear, the company moves in a way that provides security and supports a rapid buildup of combat power against enemy units once they are identified. Two additional techniques for conducting an MTC are the search and attack and cordon and search. If no contact occurs, the company might be directed to conduct consolidation on the objective. The company commander analyzes the situation and selects the proper tactics to conduct the mission. The commander reports all information rapidly and accurately and strives to gain and maintain contact with the enemy. The commander retains freedom of maneuver by moving the company in a manner that—

- Ensures adequate force protection measures are always in effect.
- Orients on planned march objectives.
- Makes enemy contact (ideally visual contact) with sensors, unmanned systems, or the smallest element possible; the commander plans for any forms of contact to identify enemy locations.

- Rapidly employs combat power upon enemy contact.
- Provides all-around security for the unit.
- Supports the commander's concept.

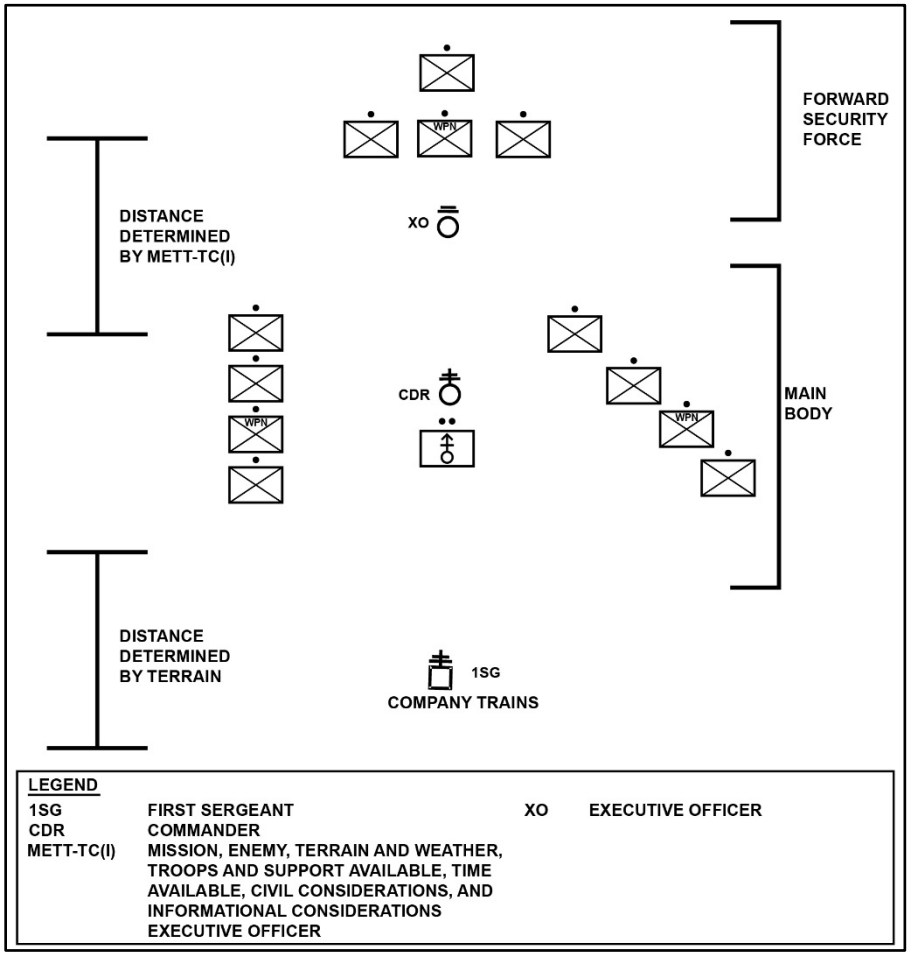


Figure 2-13. Company movement to contact

Execution of the Movement to Contact

2-76. During execution, the company moves rapidly to maintain the advantage of a rapid tempo. However, the commander must balance the need for speed with the requirement for security. The commander bases the decision on the effectiveness of the reconnaissance and surveillance (R&S) efforts, friendly mobility assets, effects of terrain, and the enemy's capabilities. The company must closely track the movement and location of subordinate platoons, attachments, and adjacent units. This ensures that company security forces provide adequate security for the main body and that they remain within supporting range of the main body and mortars, and field artillery (if augmented).

2-77. A *meeting engagement* is a combat action that occurs when a moving force engages an enemy at an unexpected time and place (FM 3-90). The enemy force may be moving or stationary. Once in contact, the company maneuvers and overwhelms the enemy with combat power before they can react. This requires the commander to keep forces in a posture ready to act immediately to contact and develop the situation. Subordinate platoons must act on contact, develop the situation, report, and gain a position of advantage over the enemy to give the company time to act quickly and appropriately. The company's success depends on its subordinate leaders' ability to develop the situation.

Find the Enemy

2-78. The company uses all available sources to gain and maintain contact with the enemy. The company will find the enemy's location and dispositions to ensure that forces can be committed under optimal conditions. The optimal condition is to make and maintain contact with sensors, unmanned systems, or the smallest element possible. Sensors such as the Soldier borne sensor and UASs alone cannot confirm the exact disposition and location of all enemy forces. This allows the commander to develop the situation before committing the main body.

Fix the Enemy

2-79. Depending on higher HQ bypass criteria and the composition of the advance guard, the advance guard may fix company or smaller sized enemy forces identified by the forward security force. Once committed as the fixing force, the advance guard fixes the enemy until the main body can destroy it. The communication between the main body and fixing force is critical to coordinating actions and avoiding fratricide. The fixing force directs or guides the finishing force to the best location to attack the enemy.

2-80. Once contact is made, the main body brings overwhelming fires onto the enemy to prevent them from conducting either a spoiling attack or organizing a coherent defense. The lead platoon maneuvers, as quickly as possible, to find gaps in the enemy's defenses. The commander gathers as much information as possible about the enemy's dispositions, strengths, capabilities, and intentions allowing for rapid assessments of the situation, while the company FSO utilizes any available fires to disrupt the enemy's maneuver forces.

2-81. The commander initiates a maneuver tempo the enemy cannot match, since success in a meeting engagement depends on effective actions on contact. The lead platoon does not allow the enemy to maneuver against the main body. The organization, size, and combat power of the lead platoon are the major factors that determine the size of the enemy force it can defeat without deploying the main body. The techniques a commander employs to fix the enemy when both forces are moving are different than those employed when the enemy force is stationary during the meeting engagement. In both situations, when the lead platoon cannot overrun the enemy by conducting a hasty frontal attack, the commander must deploy a portion of the main body. When this occurs, the unit is no longer conducting an MTC but an attack.

Finish the Enemy

2-82. If the lead platoon cannot overrun the enemy security forces with a frontal attack, the commander quickly maneuvers the main body to conduct a penetration, frontal attack, or envelopment. The commander does this to overwhelm the enemy before it can react effectively or reinforce. The commander attempts to defeat the enemy in detail while maintaining the momentum of the advance. After a successful attack, the commander resumes the MTC. If the enemy was not defeated, or the commander assessed that an attack would not be successful prior to committing the entire company, the commander has three options: bypass, transition to a more deliberate attack, or conduct a defense.

2-83. Main body elements deploy rapidly to the vicinity of the contact if the commander initiates a frontal attack. The commander avoids piecemeal commitment except when rapidity of action is essential and combat superiority at the vital point is present and can be maintained throughout the attack, or when compartmentalized terrain forces a COA. When conducting an envelopment, the commander focuses on attacking the enemy's flanks and rear before countering these actions. The commander uses the security force to fix the enemy while the main body looks for an assailable flank or uses the main body to fix the enemy while the security force finds the assailable flank.

Follow Through

2-84. If the enemy is defeated, the company can transition back into an MTC and continue to advance. The MTC terminates when the unit reaches the final objective or LOA or it transitions to a more deliberate attack, a defense, or retrograde.

2-85. Once the company seizes the objective, the company immediately establishes local security, prepares hasty defensive positions, and prepares for an enemy attack to retake the objective. The commander positions forces in a manner that best defends the objective while allowing a rapid transition to follow-on operations.

VARIATIONS FOR A MOVEMENT TO CONTACT

2-86. When the Infantry rifle company is involved in operations, such as peace operations, irregular warfare, and military engagement, unit offensive actions are normally closely related to the MTC variations of cordon and search or search and attack.

CORDON AND SEARCH

2-87. *Cordon and search* is a variation of movement to contact where a friendly force isolates and searches a target area (FM 3-90). While the primary purpose of a cordon and search is to find a high-value target, person of interest, information, or material, often parallel, is the search for and exploitation of material of evidentiary or intelligence value to use in the execution of future operations and criminal prosecutions.

2-88. *Site exploitation* is the synchronized and integrated application of scientific and technological capabilities and enablers to answer information requirements, facilitate subsequent operations, and support host-nation rule of law (ATP 3-90.15). Individuals with the requisite technical expertise or equipment may be added to the unit conducting the cordon and search. Information gained from site exploitation provides the commander with additional information to identify and target enemy personnel and materials. (See ATP 3-90.15 for more information on site exploitation.)

2-89. The need to conduct a search or to employ search procedures may be a continuous requirement. A search can orient on people, materiel, buildings, or terrain. A search can involve civilian police and Soldiers.

Task Organization

2-90. The cordon and search force includes a command element, a security element, a search element, and a support element, each with a clear task and purpose. The security element sets up the cordon, which usually comprises an outer cordon and an inner cordon. The search element is the main effort and will clear and search the target's area. The support element may be the reserve, provide support by fire, and be prepared to perform the other cordon and search tasks. The size and composition of the cordon and search force is based on the size of the area to be cordoned, the size of the area to be searched, and the suspected enemy situation.

2-91. The company often receives additional assets to assist in a cordon and search based on availability and the mission variables of METT-TC (I). Assets may be included as teams in the security element or the search element, or they may remain independent and on call. Assets may be internal or external to the battalion and company and can include military police, engineers, civil affairs, psychological operations, military intelligence, or artillery.

Command Element

2-92. The command element serves as the HQ of the cordon and search force. The commander applies the same planning and decision making (TLP) used in other operations. While sudden opportunities may arise with little planning time, the nature of a search and what it may uncover can result in significant amounts of time spent in the objective area. The commander must be prepared to execute cordon and searches with very little notice while simultaneously being prepared to spend many hours, even days, conducting the operation.

2-93. The command element considers numerous mission variables of METT-TC (I) when planning and preparing for a cordon and search operation. The commander identifies elements and assigns units to them along with a clear task and purpose. Ideally, existing base units (platoons and squads) within the rifle company are task-organized into a security element, a search (or assault) element, and support elements for the cordon and search. These elements organize sub-elements as necessary to accomplish the mission. The command element (company primary CP and, when established, an alternate CP) normally nests (though where best to receive information and transmit orders, and shift and commit forces during the cordon and search) within one of the other elements, rather than travel as its own entity.

Security Element

2-94. The security element is responsible for sealing off the objective through emplacement of an outer and inner cordon. The security element limits or prevents enemy or civilian influence in the objective area and prevents targets from escaping the cordon. The security element may receive the bulk of the available combat power due to multiple avenues of approach and requirements to disperse widely across the objective area to accomplish its mission. It may have to establish multiple blocking positions, observation posts (OPs) and conduct patrols to seal off the target area. Whether the cordon and search force travels as a single force (single point ingress) or moves in multiple elements on multiple routes (for multidirectional ingress, see ATP 3-21.20), the security element normally leads movement. It must have the inner and outer cordons in place, or nearly in place, prior to actions by other elements.

2-95. As security elements deploy to set up the outer and inner cordons, both reinforce each other, creating an environment in which unwanted influences and actions, from both outside the objective area and from within the target area, are prevented from interfering with the success of the mission. Cordon elements (outer and inner) focus both inward and outward for security purposes. As security elements deploy, actions are dictated by the requirements of the cordons, methods by which the security element moves into the objective area, and the way it chooses to occupy the positions that will make up both cordons. The security element leader uses information collection assets internal and external to the Infantry battalion and its companies to observe the target area before the approach of security elements. The establishment of the cordon starts when the first security element reaches its release point position or similar control measure and ends as the security element has sealed off the objective area.

2-96. Establishment of the outer cordon, (see figure 2-14 on page 46) during the cordon phase requires detailed planning, coordination, and meticulous integration and synchronization to achieve the required effects. The outer cordon prevents anyone from entering the objective area and assists the inner cordon in preventing the enemy from escaping from the objective area. The outer cordon's element leader maintains SA, and within the commander's abilities, situational understanding to facilitate the progress of the operation, specifically the inner cordon and search efforts. Tactical tasks associated with the outer cordon security element include the following:

- *Block*—is a tactical mission task that denies the enemy access to an area or avenue of approach (FM 3-90).
- *Deny*—is a task to hinder or prevent the enemy from using terrain, space, personnel, supplies, or facilities (ATP 3-21.20).
- *Interdict*—is a tactical mission task in which a unit prevents, disrupts, or delays the enemy's use of an area or route in any domain (FM 3-90).

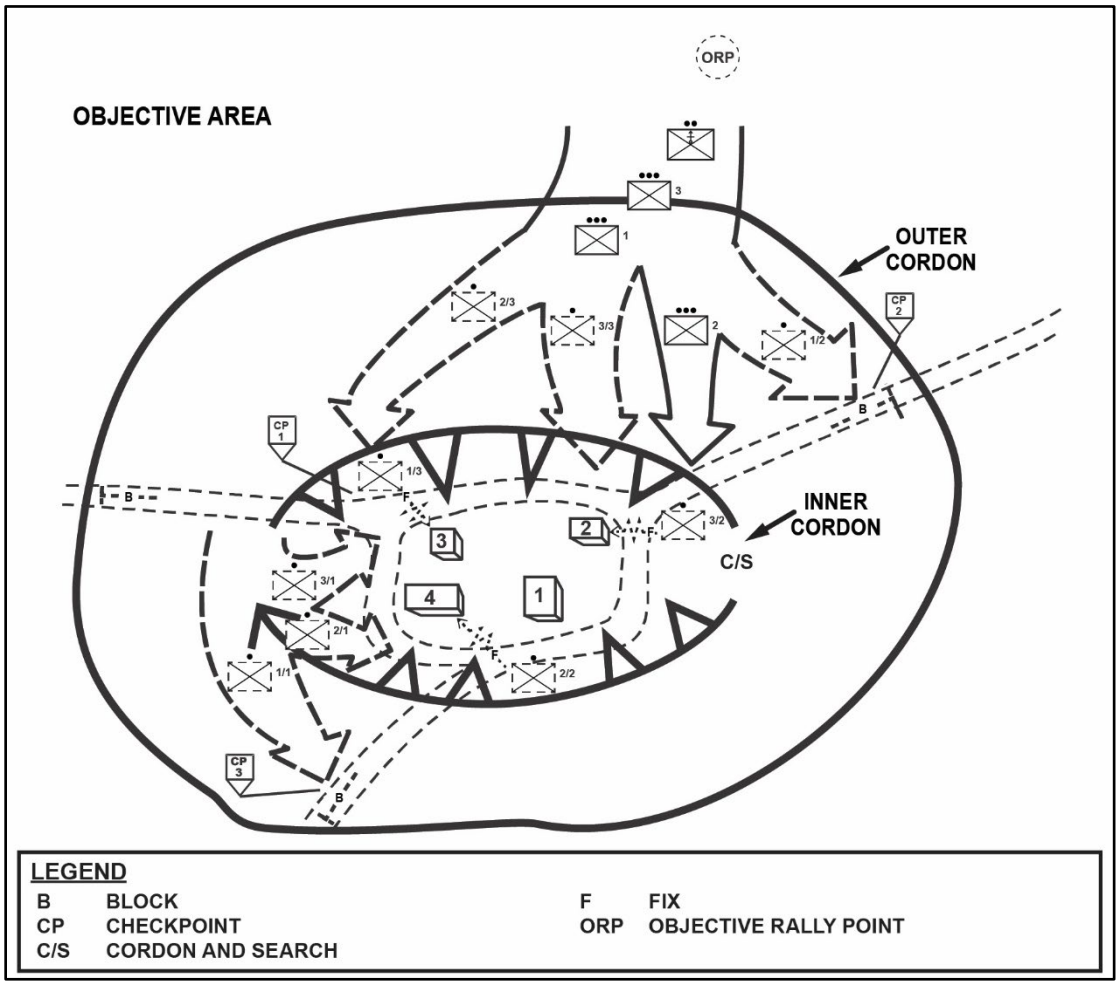


Figure 2-14. Cordon and search (inner and outer cordon)

2-97. Establishment of the inner cordon requires the same level of planning, coordination, and integration and synchronization to achieve desired effects as did the outer cordon. The inner cordon seals off the target area to protect the search element from enemy activity. (See figure 2-15) It prevents enemy movement within the target area and prevents enemy entry or exit. The security element is properly armed and equipped to control the ground and mitigate the most likely issues they are to face as determined in the reconnaissance phase. The cordon's primary orientation is inward toward the target area. However, the inner cordon performs a secondary function of controlling movement into the objective area as well. Tactical tasks associated with the inner cordon security element include—

- *Contain*–a tactical mission task in which a unit stops, holds, or surrounds an enemy force (FM 3-90).
- *Fix*–a tactical mission task in which a unit prevents the enemy from moving from a specific location for a specific period (FM 3-90).
- ***Overwatch*–a task that positions an element to support the movement of another element with immediate fire.**
- *Suppress*–a tactical mission task in which a unit temporarily degrades a force or weapon system from accomplishing its mission (FM 3-90).

2-98. During the actions in the objective phase, the security element maintains the inner and outer cordons. The inner cordon overwatches actions on the objective, prevents egress from the target area, and coordinates actions with the outer cordon. The outer cordon prevents external influences from entering the objective area, prevents or controls movement in and out of the objective area, and coordinates with the inner cordon.

2-99. Whether the cordon and search force withdraws as a single force or moves in multiple elements on multiple routes, the security element is normally the last to depart. The inner and outer cordons and their controls on the objective and target areas provide overwatch for the search and support elements. If the withdrawal is canceled by design or by enemy action, the cordon remains in place. Once the other cordon and search force elements have committed to withdrawal and are safely away from the target area, the security element first collapses the inner, then the outer cordon.

Search Element

2-100. The search element's mission is to clear, search, and conduct site exploitation on the objective to locate and seize contraband material; and identify, search, or detain suspected insurgents. The search element moves as either the second or third element of movement, in the order of march. When resistance is not expected, or when speed and surprise are paramount, the commander places the search element as the second march element so it can move immediately and directly into the target area. When resistance is expected or when ensuring the target area is sealed off, the search element will travel behind the security and support elements.

2-101. The search element normally divides into three types of teams: search teams, security teams, and support teams (see figure 2-15). As these teams are most often in direct contact with the local populous and potential threats, these teams train and enable accordingly. Teams within the search element initiate actions once the outer and inner cordons are in place. The following three paragraphs address the actions of each team.

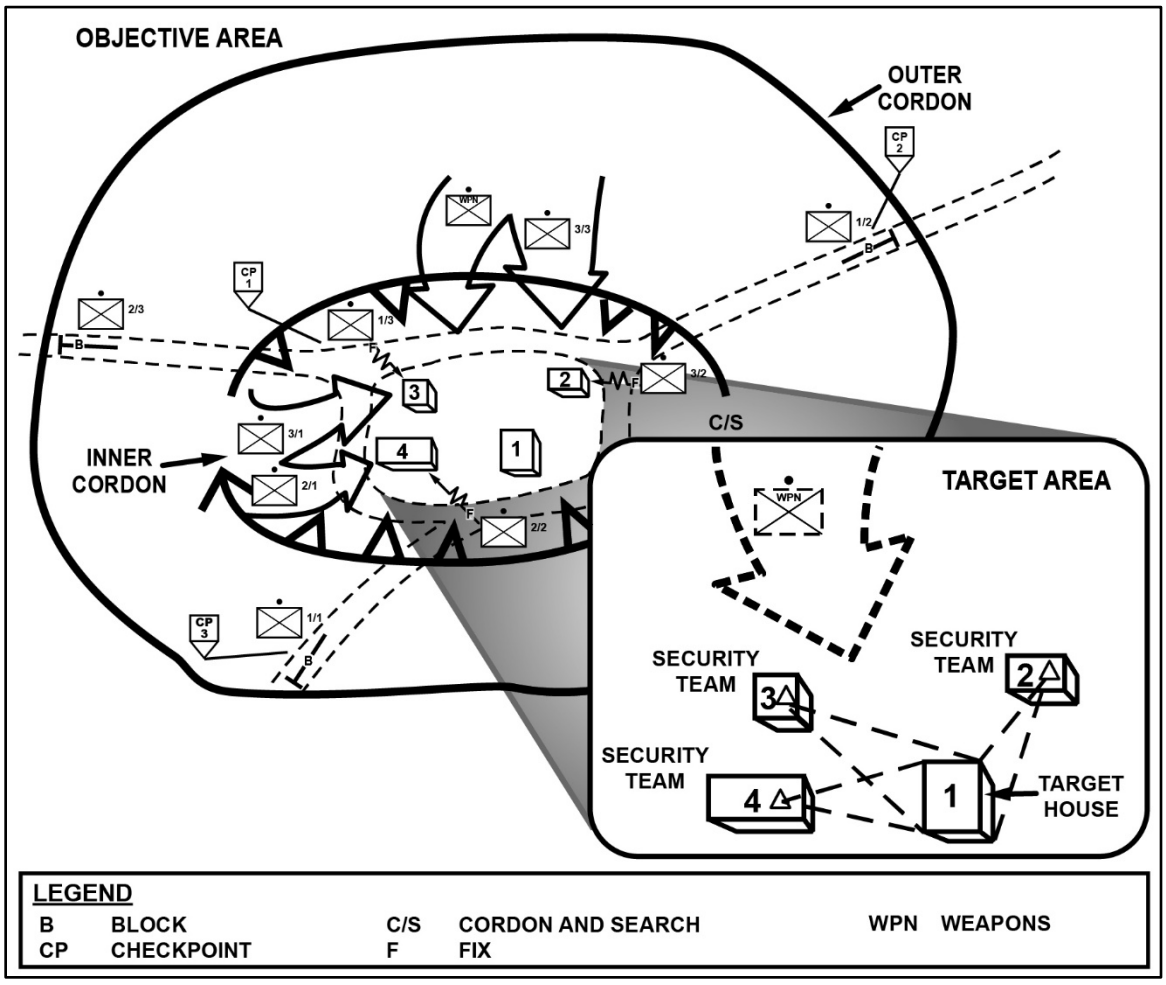


Figure 2-15. Cordon and search (target area)

2-102. Search teams focus on the actual conduct of the search and the processes of site exploitation. The search team is not normally part of the security of the target area, but can be, if required. The team relies on the support team for secondary tasks such as evidence and detainee handling.

2-103. Security teams are responsible for gaining access, clearing, and maintaining security of the immediate objective. Security functions include providing immediate security, protection, overwatch, and supervising movement in and out of the objective. The security team should not be tasked with actions that detract from security. In most cases, the existence of inner and outer cordons does not constitute local security for the search element.

2-104. Support teams are responsible for providing organized manpower to conduct continuing actions in the objective area. They provide direct assistance to the search team and security team, if required. Such actions might consist of, but are not limited to, detainee handling, collected exploitable material collection and handling, and CASEVAC and MEDEVAC.

Support Element

2-105. Support elements are designed to act as a force multiplier during a cordon and search operation and should be positioned where they can best accomplish assigned tasks. Support elements may assist the cordon and search force by serving as a designated reserve, providing additional enabling teams to support all elements of the force, and conducting continuing actions such as establishing a temporary defensive position, conducting vehicle recovery, CASEVAC, and resupply.

2-106. The support element moves as either the second or the third element of movement in the order of march. When resistance is not expected, or when speed and surprise are paramount, the support element moves as the trail element, so it does not interfere with the security and search elements' movement, but is still positioned to support, begin and continue actions in support of actions on the objective. When resistance is expected or when ensuring the target area is sealed off, the support element travels as the second element, allowing it to move into positions of support and security around the target area before the search element is committed.

2-107. As actions on the objective occur, the support element executes its assigned tasks for the cordon and search force. The support element establishes secure positions in or near the target area in which detainees, collected exploitable material, and casualties can be safely secured. These positions are established where they are readily accessible to cordon and search forces, and if necessary defendable against attack. The support element may provide extra detainee and collected exploitable material handling teams to the search element, conduct CASEVAC and provide internal resupply, vehicle recovery and hasty repair capabilities. Often the support element controls various enablers attached to the search element until they are needed. Tactical mission tasks associated with the support element include follow and assume and follow and support.

2-108. The support element, normally with the command element nested, follows in trace of the search element and is the last of the cordon and search force to depart the target area overwatched by the security element. During the withdrawal, depending on tasking, the support element may transport multiple detainees or large amounts of captured material and tow downed vehicles.

SEARCH AND ATTACK

2-109. *Search and attack* is a variation of a movement to contact where a friendly force conducts coordinated attacks to defeat a distributed enemy force (FM 3-90). This variation of an MTC is conducted when the enemy operates as small, dispersed elements whose locations cannot be determined to targetable accuracy by methods other than a physical search or when the task is to deny the enemy the ability to move within a given area. A search and attack often occurs during the conduct of irregular warfare. However, this variation may also be necessary when conducting noncontiguous operations during combat operations and consolidation of gains. These type search and attack operations are normally characterized by robust R&S, and rapidly concentrated combat power to fix and defeat or destroy the enemy once located. (See ATP 3-21.20 for additional information on search and attack operations at the battalion echelon.) The commander conducts a search and attack for one or more of the following purposes:

- Protect the force—prevent the enemy from massing to disrupt or destroy friendly military or civilian operations, equipment, property, and key facilities.

- Collect information:
  - Gain information about the enemy and the terrain to confirm the enemy COA predicted by the IPOE process.
  - Help generate SA for the company and higher HQ.
- Destroy the enemy—render enemy units in the AO combat ineffective.
- Deny the area—prevent the enemy from operating unhindered in any area they are using for a basecamp or for logistics support.

Organization of Forces

2-110. The Infantry rifle company normally conducts search and attack as part of a battalion or larger element; however, based on the mission variables of METT-TC (I) it can conduct the operation independently. When conducting a search and attack independently, the company organizes with a reconnaissance force, a fixing force, and a finishing force, each with a specific purpose and task to accomplish and the appropriate level of support in terms of fire support, sustainment, and other combat enablers. Ideally, as with a cordon and search, the commander uses existing base units (platoons and squads) to organize search and attack forces.

Reconnaissance Force

2-111. The company uses information from reconnaissance forces and surveillance assets to include UASs, and EW assets to find and potentially fix a dispersed enemy. The size of the reconnaissance force is based on the available intelligence about the size of enemy forces in the AO and the size of the AO. The less known about the situation, the larger the reconnaissance force. The reconnaissance force must be small enough to achieve stealth but large enough to provide adequate self-defense until fixing and finishing forces arrive.

Fixing Force

2-112. The fixing force prevents the enemy from moving to or from a specific location until the enemy is engaged and destroyed. The fixing force must have enough combat power to isolate the enemy forces once the enemy is located. Ideally, the fixing force positions prior to initiating the search and attack. Initial fixing positions are determined based on the enemy situation and, more appropriately, pre-positioned in areas where fixing forces could most likely support the finishing force. When contact is made in other areas, fixing forces must have procedures in place to facilitate moving to where it can influence the fight. The fixing force attacks if that action meets the commander's intent, and it can generate sufficient combat power against the detected enemy.

Finishing Force

2-113. A finishing force engages and destroys the enemy force and is normally the main effort of the search and attack. Finishing forces must have enough combat power to defeat those enemy forces expected to be located within the AO. Finishing forces must be responsive and require synchronization with all support forces to accomplish the desired end state. Procedures must be in place to facilitate quick movement of the finishing force. Otherwise, the enemy will rapidly attrit the fixing force and immediately break contact before engagement by the finishing force. These procedures include, but are not limited to, good graphic control measures, responsive means of transportation if required, and effective communication with the force in contact.

Search and Attack Execution

2-114. The Infantry rifle company operates in an assigned area (see figure 2-16 on page 50), and is organized to find (reconnaissance), fix, and finish (destroy) the enemy within its capabilities. Once the company reconnaissance force finds the enemy, the company commander concentrates combat power to quickly fix and finish the enemy. If the subordinate platoon is unable to destroy the detected enemy, the commander considers means to fix or contain the enemy. The commander may divert another platoon to the task or request higher HQ to utilize battalion fires to contain and destroy the enemy. The commander redirects and repositions R&S assets to support any change to the plan, but also to identify enemy counterattack forces entering the assigned area.

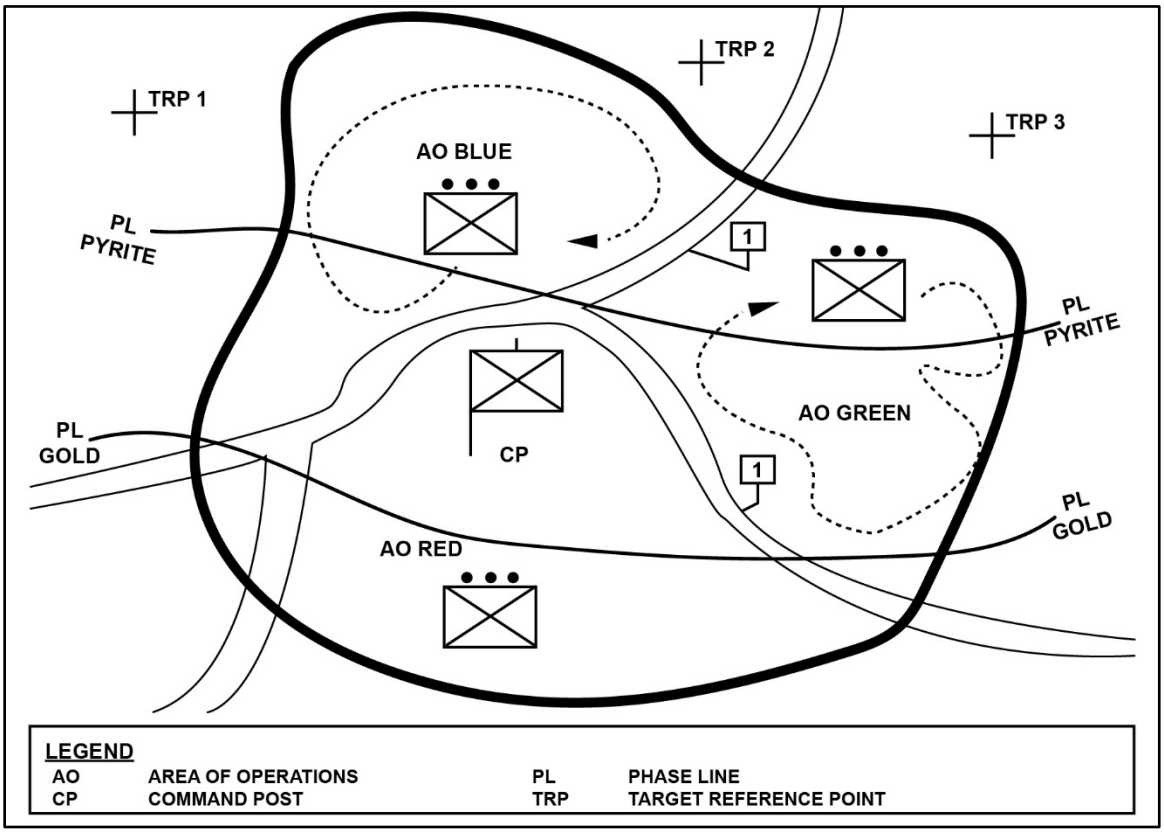


Figure 2-16. Search and attack

Find the Enemy

2-115. When conducting a search and attack, reconnaissance forces should spend significant time reconnoitering the assigned area. The rifle platoons should be reinforced with UASs for this operation. The commander should develop a contingency plan for when and if the reconnaissance force is compromised and how the company is postured to support.

Fix the Enemy

2-116. Once the reconnaissance force finds the enemy force, the fixing force develops the situation and executes one of two options based on the commander's guidance and the mission variables of METT-TC (I). The first option is to block identified enemy escape and reinforcement routes. The second option is to conduct an attack to fix the enemy in its current positions until the finishing force arrives.

2-117. To block enemy escape and reinforcement routes, the fixing force maintains contact and positions its forces to isolate and prevent the enemy from moving to a position of advantage and prevent the interdiction of reinforcements. This facilitates the conduct of attack by the finishing force. Control measures and communications must be established between closing units to prevent fratricide. Manned and unmanned aircraft and/or organic or tasked echelon-specific UAS (to include firing) platforms, can assist in preventing fratricide by observing forward of the moving units and identifying friendly and enemy units as they approach.

2-118. The fixing force conducts an attack to fix the enemy in its current positions until the finishing force arrives. The fixing force will use direct fire to disrupt the enemy and contain movement as the finishing force approaches. The fixing force should be prepared to conduct a finishing attack when it is consistent with the commander's intent with respect to tempo, and if the available forces can generate the required combat power. Depending on the enemy's mobility and the likelihood of the reconnaissance force being compromised, the commander may need to position the fixing force before the reconnaissance force enters the AO.

Note. If conditions are not right to use the finishing force to attack the detected enemy, the fixing force and the reconnaissance force can continue to conduct R&S activities to develop the situation further. The fixing force continues to avoid detection, reporting enemy order of battle and activities. The force uses stealth in this effort, is careful to avoid an enemy ambush, and must always retain the ability to fix the enemy.

Finish the Enemy

2-119. Ultimately, the purpose of the search and attack is to destroy the enemy. Reconnaissance forces find the enemy; fixing forces rapidly fix the enemy, as finishing forces mass combat power to facilitate the enemy's destruction. During the execution of the search and attack, the commander locates the best place to obtain information and react to subordinate unit contacts with appropriate force.

2-120. When a search and attack is conducted out of a centrally located CP, the commander's control becomes more complex during execution. One technique is for the commander to remain centrally located with the mortars to ensure immediate and responsive fire support to the platoons and squads who make contact with the enemy.

2-121. As the situation develops, decentralized operations may require the establishment of additional fire support positions to provide responsive fires. Fire support should be able to provide complete 360-degree circle coverage. A decentralized operation could also drive situations where finishing forces conduct point or area ambushes while using fires to drive the enemy into the ambushes. Such fires would require the establishment of restrictive fire areas, coordinated fire lines, or no-fire areas around or between positions of adjacent ambush units within the assigned area.

2-122. The finishing force must be responsive enough to engage the enemy before the enemy can break contact with the reconnaissance force or the fixing force. The commander uses the finishing force to destroy the enemy by conducting a hasty or deliberate attack, maneuvering to block enemy escape routes while another unit conducts the attack, or employing indirect fire to destroy the enemy. The commander may have part of the fixing force establish an area ambush and use the reconnaissance and remaining fixing forces to drive the enemy into the ambush, establish a reserve, and screen the objective area. (See ATP 3-21.20 for additional information.)

SECTION III – ATTACK

2-123. An *attack* is a type of offensive operation that defeats enemy forces, seizes terrain, or secures terrain (FM 3-90). When the commander decides to attack, the commander masses the effects of overwhelming combat power against a portion(s) of the enemy force with a tempo and intensity that the enemy cannot match. The enemy force may be stationary or moving. The company may attack an enemy force as part of a counterattack, spoiling attack, or as an initial attack against an enemy defense.

2-124. A terrain-oriented objective (at the company level) requires the company to seize, secure, or retain a designated geographical area. All attacks depend on the synchronization and integration of combat power for success. They require planning, coordination, and time (although time may be limited) to prepare. (See ATP 3-21.20 for additional information.)

2-125. When attacking a moving enemy force, the commander often desires to stop the enemy's advance. In doing so, the commander makes the attack an attack against a stationary force. In this situation, the commander can attack the enemy and force them to stop. Limited visibility attacks are the norm for the Infantry rifle company. Limited visibility attacks are conducted the same as daylight attacks.

ORGANIZATION OF FORCES FOR AN ATTACK

2-126. Once the commander determines the scheme of maneuver for the attack, the commander task-organizes the company to accomplish the mission. The attack is usually organized into the security force, main body, and a reserve, all of which are supported by a sustainment organization. The commander completes any changes in task organization in a timely manner so units can conduct rehearsals with their attached and supporting elements.

2-127. The company usually conducts rehearsals, but the type and technique may vary based on time available and the security that is required. The company internally conducts rehearsals to further emphasize (at the company level) enemy positioning and repositioning, employment of fires, and commitment of reserves. As with all rehearsals, the primary focus of the rehearsal is actions on the objective. (See appendix B for more information on rehearsals.)

SECURITY FORCE

2-128. Security forces, under normal circumstances during an attack, are only resourced if the attack will uncover one or more flanks or the rear of the attacking force as it advances. In this case, the commander designates a flank or rear security force and assigns it a screen or guard mission depending on the mission variables of METT-TC (I). An attacking unit usually does not need extensive forward security forces. Most attacks are launched from positions when in contact with the enemy, which reduces the usefulness of a separate forward security force. An exception occurs when the attacking unit transitions from the defense to an attack and had previously established a security area as part of the defense.

MAIN BODY

2-129. The commander organizes the main body as the main effort and necessary supporting efforts. The commander aims the main effort toward the decisive point, which can consist of the immediate and decisive destruction of the enemy force, its will to resist, seizure of a terrain objective, or the defeat of the enemy's plan.

RESERVE

2-130. The commander uses the reserve to exploit success, defeat enemy counterattacks, or restore momentum to a stalled attack. Once committed, the reserve's actions normally become or reinforce the echelon's main effort, and the commander makes every effort to reconstitute another reserve from units made available by the revised situation. Often the commander's most difficult and important decision concerns the time, place, and circumstances for committing the reserve. The reserve is not a committed force; it is not used as a follow and support force or a follow and assume force.

PLANNING CONSIDERATIONS FOR AN ATTACK

2-131. In an attack, the company attempts to place the enemy in a position where they can easily be defeated or destroyed. The commander seeks to keep the enemy off-balance while continually reducing the enemy's options. In an attack the commander focuses maneuver effects, supported by the other warfighting functions, on those enemy forces that seek to prevent the unit from accomplishing its mission and seizing its objective.

2-132. The main focus of planning for an attack is to develop a fully synchronized plan that masses all available combat power against the enemy. The commander avoids using resources and incurring needless casualties by attacking piecemeal. If an objective is small enough to be taken by a platoon attack (dependent upon the overall mission) then the commander provides the necessary support to the attacking platoon. However, if the task requires it, the commander commits the entire company and all other available resources to quickly and violently defeat the enemy. The commander refines the plan based on continuous situational updates. (See appendix B.) These situational updates can include updates to intelligence, sustainment capabilities, and enabling operations.

COMMAND AND CONTROL

2-133. The commander uses the enemy SITEMP, probable COA, dangerous COA, and other products of the IPOE process to identify aspects within the AO, area of interest, and area of influence that can affect how the friendly force accomplishes the mission. (See appendix B for more information.) The commander develops control measures to help coordinate actions throughout the AO. The commander develops decision points for the commitment of the attacking force to each location based on relative locations and rates of movement of the attacker and the enemy. When attacking an enemy force that is moving, NAIs are selected to identify the enemy's rate and direction of movement to support the commander's decision of where to fight the engagement.

2-134. The commander assigns zones to subordinate forces and normally designates, as a minimum, a PL as the LD (which may also be the line of contact) and point of departure; the time to initiate the operation; and the objective, regardless of whether the attack takes place in contiguous or noncontiguous assigned areas. The commander may designate checkpoints, additional PLs, and a probable line of deployment and final coordination line, assault positions, direct fire control measures, and fire support coordination measures; and can use either an axis of advance or a direction of attack to further control maneuver forces. Between the probable line of deployment and the objective, a commander can use a final coordination line, assault positions, support by fire positions, and attack by fire positions to control the final stage of the attack. Beyond the objective, the commander can impose a *limit of advance*, a phase line used to control forward progress of the attack (ADP 3-90). The attacking unit does not advance any of its elements or assets beyond the LOA, but the attacking unit can push its security forces to that limit if there is no follow-on mission. By starting with actions on the objective and working back to the LD or point of departure, the company commander takes into consideration the most effective allocation of combat power, mobility assets, and indirect fires including suppression and obscuration based upon the higher HQ allocation to the company.

MOVEMENT AND MANEUVER

2-135. By studying the terrain, the commander determines the avenues of approach to the objective. The commander determines the most advantageous area for the enemy's main defense to occupy, routes that the enemy may use to conduct counterattacks, and other factors, such as observation and fields of fire, avenues of approach, key terrain, obstacles, and cover and concealment. The commander directs the main effort against an objective, ideally an identified enemy weakness, which will cause the collapse of the enemy defense. The commander seeks to attack the enemy's flanks, rear, or supporting formations causing disintegration or dislocation. By so doing, the enemy loses control of its systems and the enemy commander's options are reduced. Concurrently, the company retains the initiative and reduces its own vulnerabilities.

2-136. The commander attempts to attack a small unit lacking mutual support within the enemy defense or a weak flank that they can exploit gaining a tactical advantage. When attacking a well-prepared enemy defense, the commander normally plans to isolate and then destroy small vulnerable portions of the enemy defense in sequence. The commander incorporates plans for exploiting success and opportunities that may develop during execution. The plan emphasizes synchronization of movement, precise direct and indirect fires, and support throughout the attack.

2-137. UAS and indirect fires, destroy, defeat, disrupt, divert, or delay enemy forces to enable the company to seize, retain, or exploit the initiative. The commander and FSO manage the distribution and deconfliction of UAS and indirect fires through airspace coordination with the appropriate airspace control authority (see FM 3-04 and ATP 3-09.42 for additional information):

- *Airspace control* is the exercise of delegated authority over designated airspace and users through control procedures and coordination measures to maximize operational effectiveness (JP 3-52).
- *Airspace management* is the planning, coordination, integration, and regulation of airspace by airspace control elements in support of airspace control (JP 3-52).

2-138. Mobility during the attack is critical. Although Infantry rifle companies can cross almost any terrain, supporting and sustaining forces cannot. Considerations to aid movement and maneuver include the following:

- Always searching for a bypass to an obstacle.
- Maintaining direct observation of the obstacle throughout the breaching operation.
- Planning for adjustment of the breach location based on the latest obstacle intelligence.
- Ensuring information on obstacles receives immediate company-wide dissemination, including fire support, protection, and sustainment platforms and units.
- Ensuring adequate mobility support is task-organized well forward during the approach to the objective, supporting breaching requirements.
- Retaining the ability to mass engineers or organic breaching force, supporting breaching operations.
- Supporting assaulting forces with engineers when available to breach enemy protective obstacles.
- Ensuring adequate guides, traffic control, and lane improvements, supporting movement of follow-on forces and sustainment vehicle traffic.
- Using situational obstacles for flank security.

2-139. When the company is unable to bypass an obstacle, the commander considers the enemy's strengths and obstacles to determine when and where to conduct a breach. The size of the enemy force overwatching the obstacle drives the type of breach to be conducted. The commander considers the enemy's ability to mass combat power, reposition forces, or commit the reserve. The commander then develops a scheme of maneuver to mass sufficient combat power at an enemy weakness. The scheme of maneuver identifies the focus of the main effort. The location selected for breaching and penetration depends largely on a weakness in the enemy's defense where its covering fires are limited.

INTELLIGENCE

2-140. To employ the proper capabilities and tactics, the commander must have detailed knowledge of the enemy's organization, equipment, and tactics in addition to understanding the enemy's strengths and weaknesses. The commander uses the enemy SITEMP, threat COA, and other products (provided by the battalion) of the IPOE process (see appendix B) to identify aspects within the AO, area of interest, and area of influence that can affect how the friendly force accomplishes the mission. An *area of interest* is area of concern to the commander, including the area of influence, areas adjacent to it, and extending into enemy territory (JP 3-0). This area also includes areas occupied by enemy forces who could jeopardize the accomplishment of the mission.

2-141. Information collection is continuously updated during planning to gain an increased understanding of the enemy's intentions, actions, and relative combat power. The outcome of this analysis should replicate how the commander would fight given their own insight if they were in the enemy's position. When preparing for a deliberate operation, the company commander participates in the development of the information collection plan. A well-resourced and coordinated information collection effort paints a detailed picture of the enemy situation before an attack and provides the company commander and subordinate leaders a critical insight into how to prepare for the attack.

RECONNAISSANCE AND SURVEILLANCE

2-142. The R&S effort focuses on answering commander's critical information requirements (CCIRs) to support the commander's decisions on when and where to initiate fires, where to fight the enemy, and how best to maneuver against the enemy. NAIs are developed to identify enemy actions and decisions that indicate the enemy-selected COA. Before conducting an attack, commanders through R&S identify terrain characteristics, enemy and friendly obstacles to movement, and the disposition of enemy forces and civilian population, so commanders can maneuver their forces freely and rapidly. During hasty operations the entire information collection, analysis, and dissemination process must respond rapidly to CCIRs. (See chapter 5, section I, for more information on reconnaissance.)

2-143. *Surveillance* is the systematic observation of aerospace, cyberspace, surface or subsurface areas, places, persons, or things by visual, aural, electronic, photographic, or other means (JP 3-0). Although there are similarities between R&S to facilitate information collection, reconnaissance collection uses multiple means, including surveillance, to find information by systematically checking multiple locations in a designated area.

2-144. Preferably, the company establishes contact with the enemy using digital sensor platforms before it makes physical contact. Intelligence produced from the information gathered by these sensors helps the direct ground reconnaissance forces to advantageous positions to physically observe and report information on the enemy. The information gained from sensors as well as ground reconnaissance forces must be shared with all elements of the attacking force and with higher echelons as quickly as possible. Normally, information requirements include—

- The enemy's rate and direction of movement.
- The enemy's formation, strength, and composition to include locations of security forces, main body, reserves, and artillery formations.
- Enemy actions and decisions that indicate a future enemy action or intention.
- Location of enemy high-payoff targets.
- Enemy vulnerabilities such as exposed flanks or force concentrations at obstacles.

2-145. The reconnaissance of the objective might be done in many ways. An effective technique is to task organize a reconnaissance patrol with leaders from the assault, support, and breach elements. There should be sufficient personnel to establish surveillance on the objective and to secure the ORP, but the party must be small enough to move undetected. The reconnaissance patrol either returns to the company's location or meets the company at a designated linkup point and guides it into the ORP. The ORP then becomes the company's assault position. The commander may also consider leaving an R&S team to directly observe the objective before, during, and after the attack.

Enemy's Current Array of Forces

2-146. The first priority is to confirm information available on the enemy's strength, composition, and disposition. The next priorities are the effects of weather and terrain, and how the enemy is likely to fight. Utilizing information gained from the battalion intelligence staff officer (S-2), the company commander refines the plan based on the potential enemy array of forces at the company's level, identifying the enemy's strength, composition, disposition, and how the enemy is likely to fight. The company's information collection effort focuses on identifying indicators for confirming the enemy's actual COA within the company's AO. This information is vital in answering the commander's information and intelligence requirements and helps the commander in developing and refining plans. Ideally, the commander does not make final decisions on how to execute the attack until the current array of enemy forces is identified. Key areas to identify about a defending enemy force include—

- Composition, disposition, and strength of enemy forces along a flank or at an area selected for attack.
- Composition, strength, and disposition of security and disruption forces.
- Location, orientation, type, depth, and composition of obstacles.
- Locations of secure bypasses around obstacles.
- Composition, strength, and disposition of defending movement formations within the enemy's main battle area (MBA).
- Composition, strength, and location of enemy reserves.
- Location of routes the enemy may use to counterattack or reinforce defenses.
- Type of enemy fortifications and survivability effort.

2-147. Reconnaissance patrols and surveillance activities within the company (as time permits) observe the enemy's defense from covered and concealed positions and OPs to locate gaps in the enemy's defense, identify weapons systems and fighting positions, view rehearsals and positioning, and determine the enemy's security activities and times of decreased readiness. The company attempts to discern any enemy deception efforts such as dummy obstacles and emplacements. During the commander's leader's reconnaissance of the objective prior to the attack, this information is updated and provided to higher HQ and to subordinate elements of the company. This information updates the common operational picture throughout organization. If possible, the commander positions an OP to observe the objective throughout the attack. These OPs report

on current enemy activity, conduct battle damage assessment, and call for fires, if required. These OPs provide the capability for the most updated information. With the updated information the commander is able update the plan accordingly.

Enemy Engagement Areas

2-148. The commander seeks to define the limits of the enemy EAs. This includes where the enemy can mass fires, weapon ranges, direct fire integration with obstacles, ability to shift fires, and mutual support between positions. This analysis requires efficient, and effective terrain analysis, confirmed locations of enemy weapons systems, and a good understanding of the enemy's weapons capabilities and tactics. Reconnaissance forces and surveillance assets report locations, orientation, and composition of defending weapons systems and obstacles. The analysis of the enemy's direct and indirect fire plan assists the commander in developing the scheme of maneuver by—

- Determining the location of the probable line of contact.
- Identifying when the company must transition to maneuver.
- The targets and positioning of heavy direct fire weapons.
- Identifying targets for indirect fires.

FIRES

2-149. Throughout the attack, Infantry rifle companies are usually supported by battalion mortars as the battalion commander positions the battalion mortar platoon to provide continuous indirect fires to subordinate companies. Rifle companies often have their mortars follow behind the forward platoons, so they are prepared to provide immediate indirect fires. Army attack reconnaissance units and CAS may be available to destroy defensive positions and interdict enemy counterattack forces. During the attack, using preparation fires, counterfire, suppression fires, and electronic warfare assets provides commanders with numerous options for gaining and maintaining fire superiority. Additional fire support considerations include the following:

- Using massed fires, especially time on target fires.
- Positioning fire support assets to support the reconnaissance effort.
- Planning suppressive and obscuration fires at the point of penetration.
- Planning fires on enemy positions supporting and overwatching the objective.
- Planning suppressive and obscuration fires to support breaching operations.
- Planning fires in support of the approach to the objective by—
  - Engaging enemy security forces.
  - Destroying bypassed enemy forces.
  - Screening friendly movement.
- Planning preparation fires on the objective, suppressing, neutralizing, or destroying critical enemy forces that can most affect the battalion's closure on the objective.
- Planning fires beyond the objective to—
  - Support an attack or defense.
  - Isolate the objective to prevent the egress or ingress of threat forces.
- Using indirect fires and CAS to delay or neutralize repositioning enemy forces and reserves.
- Planning locations of critical friendly zones to protect critical actions such as—
  - Support by fire positions.
  - Breaching efforts.
  - Mortar assets.
- Using REDs to determine triggers to initiate, shift, and cease loading of rounds.
- Using echelon fires to maintain continuous suppression of enemy forces throughout the movement to and actions on the objective.

SUSTAINMENT

2-150. The company commander with the XO's assistance plans for increased sustainment demands during the attack. Coordination between the battalion staff planners and company XOs must be continuous to maintain momentum and freedom of action. The company commander anticipates where the greatest need may occur to develop a sustainment plan that meets mission requirements. (See chapter 4 for more information on sustainment planning.)

PROTECTION

2-151. Survivability operations enhance the ability to avoid or withstand hostile actions by altering the physical environment. The emphasis lies on force mobility. Camouflage and concealment typically play a greater role in survivability during offensive operations than the other survivability operations. The use of terrain provides a measure of protection during halts in the advance, but platoons within the rifle company still should develop as many protective positions as necessary for key weapons systems, CPs, and critical supplies based on the threat level and unit vulnerabilities.

2-152. Depending on the threat, primary protection concerns of the commander may be enemy air and CBRN threats. If these threats exist, the commander prepares the unit and adjusts the scheme of maneuver accordingly. In the face of an enemy air threat, the company usually has only passive and active (with its organic weapons) air defenses. Air defense units are usually not assigned below the BCT level. However, air defense assets may be located near the company and may provide coverage. If air defense elements are assigned, the commander with the advisement of the air defense leader determines likely enemy air avenues of approach, and plans positions accordingly. During the attack, the commander integrates and synchronizes the use of obscuration to support critical actions such as breaching or assaults.

2-153. The commander integrates CBRN defense considerations into mission planning depending on the CBRN threat. This includes CBRN defense principles, such as contamination avoidance, individual and collective protection, and decontamination. Prior planning allows the commander to exploit the initiative in CBRN environments. If the enemy chooses to employ CBRN to deny terrain and canalize forces, friendly units are trained in CBRN R&S to avoid contamination. (See appendix G for more information.)

EXECUTION OF AN ATTACK

2-154. A series of advances and assaults by attacking units until they secure the final objective characterizes the attack. The commander uses the initiative to shift their main effort rapidly between units to take advantage of opportunities and momentum that ensure the enemy's rapid destruction. Attacking units move as quickly as possible following reconnaissance elements or successful probes through gaps in the enemy's defenses. They shift their strength to reinforce success and carry the operation deep into the enemy's rear.

2-155. The commander does not delay the attack to preserve the alignment of subordinate units or to adhere closely to the preconceived plan of attack. The commander avoids becoming so committed to the initial plan that opportunities are neglected. The commander is mentally prepared to abandon failed attacks and to exploit any unanticipated successes or enemy errors by designating another unit to conduct the main effort in response to the changing situation. (See FM 3-90 for more information.)

2-156. Gaining and maintaining contact with the enemy when they are determined to break that contact is vital to the success of offensive operations. A defending enemy establishes a security area around their forces to make early contact with the attacking forces to determine their capabilities, intent, chosen COA, and to delay their approach. The enemy commander wants to use this security area to strip away friendly reconnaissance forces and hide their dispositions, capabilities, and intent.

2-157. Once any form of contact is made with the enemy, the commander conducts shaping efforts that strike at the enemy. The element of surprise disrupts the enemy's ability to plan and control their forces. Once this disruption process begins, it continues throughout the attack.

SET CONDITIONS

2-158. The company commander employs fires to weaken the enemy's position and sets the conditions for success before closing within direct fire range of the enemy. Initially, preparation fire focuses on the destruction of key enemy forces that can most affect the scheme of maneuver. For example, during an attack to penetrate an enemy defense, the initial focus of preparation fire is to destroy the enemy positions at the selected point of penetration. Preparation fire may also—

- Suppress or neutralize enemy reserves.
- Emplace artillery-delivered situational obstacles to block enemy reserve routes into the objective.
- Deceive the enemy as to the company's actual intentions.
- Destroy enemy security and disruption forces.
- Obscure friendly movements and deployment.
- Destroy or neutralize the enemy's local C2 system.

2-159. The synchronization between indirect fires and maneuvering forces is critical. As maneuver forces approach the enemy defense, the commander uses triggers to shift fires and obscuration to maintain continuous suppression and obscuration of the enemy. Proper timing, adjustment of fires, and detailed triggers dictated REDs and enable a relatively secure closure by the maneuver force on the enemy's position(s). The commander must monitor the success of the preparation fire to determine whether adequate conditions exist for commitment of the force. The commander may need to adjust the tempo of the company's approach to the objective based on the battle damage assessment.

2-160. Prior to the assault, the company commander destroys the enemy or makes it ineffective through the employment of direct and indirect fires. The commander fixes the enemy in place and limits the enemy's options. One of the commander's objectives is to limit or change the options available to the enemy and to increase the enemy's uncertainty. A primary goal at the point of attack is to isolate the enemy targeted for destruction by preventing the enemy from repositioning and preventing another element from reinforcing it.

2-161. The company commander may begin isolating the objective during the leader's reconnaissance by positioning security elements to prevent enemy movement into or out of the objective area. The commander must ensure that these units understand what actions to take in the event of enemy contact. Initially, they only observe and report until the company deploys for the assault. At a designated time or signal, they begin active measures to isolate the objective.

2-162. The company may fix the enemy force by attacking an objective that isolates a portion of the enemy's defense. In open terrain, this supporting effort fixes the enemy with direct and indirect fire. In complex terrain, a supporting effort may seize terrain or destroy key enemy forces in limited objective attacks to pass the main effort to their objective. This ensures that the main effort does not have to fight its way and lose combat power en route to its objective. Deception operations may be used to fix the enemy; although, supporting efforts should exercise economy of force as they can take combat power from the main effort.

2-163. Once the objective area is isolated, the commander then focuses on isolation at the point of attack or breach point (if the company must breach). The commander always seeks an attack on the enemy's flank or rear and avoids a frontal attack into enemy obstacles (this is most likely the enemy's strength). This isolation helps prevent enemy reinforcement or repositioning at the point of breach (POB). It also helps to suppress enemy weapons and positions that have observation and fire on the POB.

ATTACK POSITION AND MOVEMENT TO THE LINE OF DEPARTURE

2-164. The company may move directly from its tactical assembly area (TAA) to the LD. The movement from the TAA to the LD that precedes many attacks is troop movement (specifically, tactical movement). The ISV's tactical mobility allows units to move rapidly from the TAA to the LD. If the distance from the TAA to the LD is lengthy, however, the commander may designate an attack position closer to the LD. An *attack position* is the last position an attacking force occupies or passes through before crossing the line of departure (ADP 3-90). The company conducts any final preparation and coordination in the attack position or may pass through it and proceed to the LD. The *line of departure* is, in land warfare, a line designated to coordinate the departure of attack elements (JP 3-31). Attacking on foot using infiltration and stealth, the commander may designate a point of departure for the attacking force instead of an LD. A *point of departure*

is the point where the unit crosses the line of departure and begins moving along a direction of attack (ADP 3-90). A point of departure is often used during limited visibility attacks.

Note. Combat vehicle-equipped units, for example the ISV and Stryker, normally use gaps or lanes through the friendly positions to allow them to deploy into movement formations before they cross the LD.

2-165. The company commander normally positions available reconnaissance forces and surveillance assets to overwatch an objective or to maintain observation of enemy reactions to the company's maneuver to, and on the objective. Reconnaissance forces and surveillance assets focus on areas that the enemy is likely to use to reposition forces, commit reserves, and counterattack. As the engagement on the objective develops, reconnaissance forces report enemy reactions, repositioning, reinforcements, and battle damage assessment. Reconnaissance forces identify targets to engage with indirect fires, enemy repositioning forces, reserves, counterattacking forces, and other high-payoff targets. Early identification of enemy reactions is essential to maintain the tempo and initiative during the attack.

Movement from the Line of Departure to the Probable Line of Deployment

2-166. The company usually transitions from movement to maneuver prior to crossing the LD arrayed in an appropriate movement formation. Once past the LD, the attacking force conducts tactical movement to the probable line of deployment. A *probable line of deployment* is a phase line that designates the location where the commander intends to deploy the unit into assault formation before beginning the assault (ADP 3-90). The attacking force moves aggressively and as quickly as the terrain and enemy situation allows. Fire and movement are closely integrated and coordinated. Effective suppressive fires facilitate friendly movement, which facilitates more effective fires. Whenever possible, the attacking unit uses avenues of approach that avoid strong enemy defensive positions, takes advantage of available cover and concealment, and places the unit on the flanks and rear of the defending enemy. Where cover and concealment are not available, the unit uses obscurants to conceal its movement. A reconnaissance element may lead the attacking forces if the distance from the LD to the probable line of deployment is long, or it may have another mission if the distance is relatively short and there is a chance that it may get in the way of the assaulting force.

2-167. If the distance from the probable line of deployment to the objective is short, support by fire elements is in position prior to the assault force crossing the probable line of deployment. If the distance from the probable line of deployment to the objective is long, then the commander should consider having two support by fire positions: one to cover the movement to the probable line of deployment, the other to cover the assault on the objective. The latter support by the fire element may lead the assault force and establish its position prior to the assault.

Approach to Objective

2-168. The company approaches the objective prior to the assault (see figure 2-17 on page 60). The company may cross the LD supported by heavy suppressive direct and indirect fires or wait until the appropriate time to initiate fires. The commander considers the time of the movement and the ammunition available. The commander also considers the effect of fires on the ability to achieve surprise. The commander decides if the element of surprise is lost and whether to initiate fires on the objective if unexpected contact is made prior to the objective. If so employed, these fires may continue until the company reaches its assault position or probable line of deployment; then they shift to allow the assault on the objective. The commander can initiate indirect fires based on the COA.

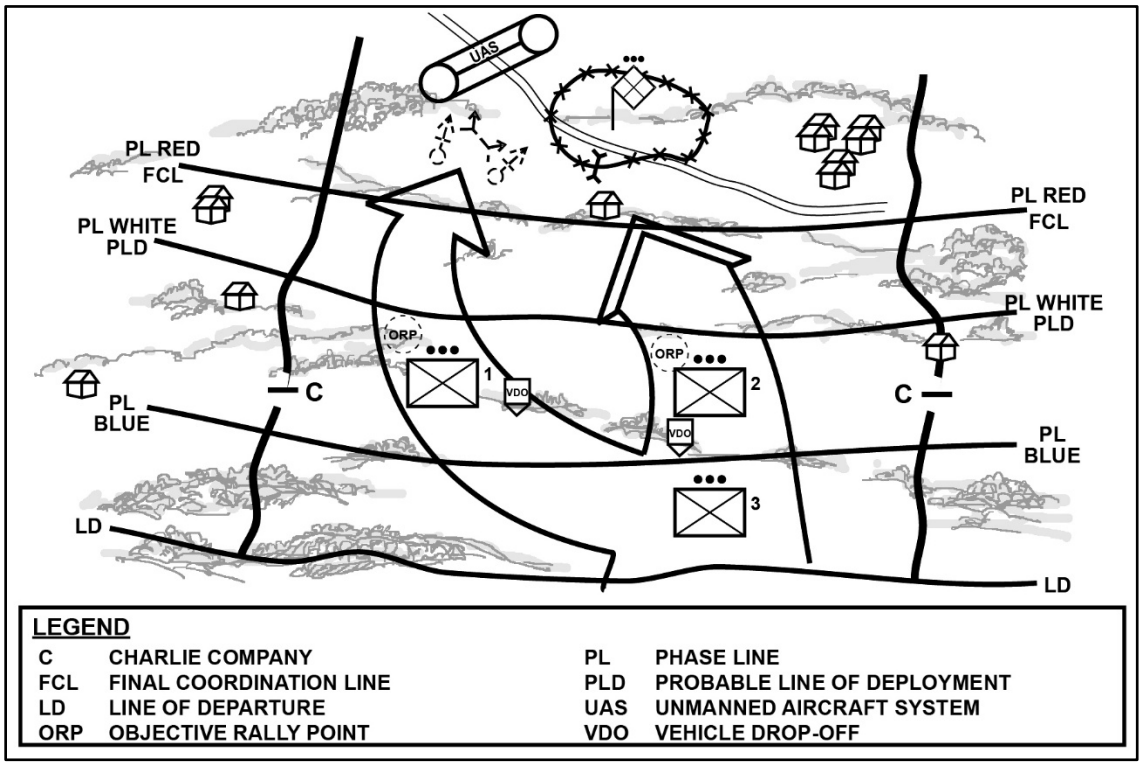


Figure 2-17. Approach to objective

2-169. The following fundamentals should be part of the movement to the objective:

- Movement from the assembly area to the LD is timed so that movement to and across the LD is continuous.
- Support elements may precede the assault and breach elements to the LD.
- The commander avoids stopping in the attack position (when established).
- Companies make the best use of cover, concealment, obscuration, and supporting fire during movement from the LD to the probable line of deployment.
- Companies move quickly out of the impact area if engaged by indirect fire en route.
- The company commander and the platoon leader in contact must take prompt and aggressive action if the company cannot bypass an enemy position.
- The company either bypasses, preferably, or breaches obstacles along the route.
- The support force (if any) should be in position before the company's assault force reaches the assault position.

ACTIONS AT THE PROBABLE LINE OF DEPLOYMENT, ASSAULT POSITION, OR FINAL COORDINATION LINE

2-170. The attacking unit maintains the pace of its advance as it approaches its probable line of deployment. Upon reaching the probable line of deployment or before, the commander divides the company into assault and support forces, if not previously completed. At the probable line of deployment, the Infantry Soldiers dismount from their ISVs, if required. All forces supporting the assault force should be set in their support by fire positions before the assault force crosses the probable line of deployment. The commander synchronizes the occupation of these support by fire positions with the maneuver of the supported attacking unit to limit the vulnerability of the forces occupying these positions. The commander uses unit tactical SOPs, battle drills, prearranged signals, EAs, and TRPs to control direct fires from these supporting positions. A commander normally designates restricted fire lines between converging forces.

2-171. The probable line of deployment can be collocated with the assault position. The commander ensures that the final preparations of the breach force in an assault position do not delay its maneuver to the POB as soon as the conditions are set. The final coordination line is a PL close to the enemy position used to coordinate the lifting or shifting of supporting fires with the final deployment of maneuver elements.

2-172. To further control the final stages before the attack, assault position(s) can collocate in the vicinity of the probable line of deployment. The commander ensures that the final preparations of the assault force and breach force (if required) in an assault position do not delay maneuver to the objective or breach point as soon as the conditions are set. Whenever possible, the assault force rapidly passes through the assault position. The assault force may have to halt in assault position while fires are lifted and shifted. In this case, if the enemy anticipates the assault, the assault force deploys into covered positions, screens its positions with obscuration, and waits for the assault order. If the assault force remains in the assault position, support forces continue their suppressive fires on the objective.

2-173. The *final coordination line* is a phase line close to the enemy position used to coordinate the lifting or shifting of supporting fires with the final deployment of maneuver elements (ADP 3-90). Final adjustments to supporting fires are necessary to reflect the actual versus the planned tactical situation that takes place prior to crossing this line. The final coordination line should be easily recognizable on the ground and may be located near the assault position or the probable line of deployment. The final coordination line is not a fire support coordination measure.

BREACHING OPERATIONS

2-174. If a breach is needed, once the support force sets the conditions, the breach force reduces, proofs, and marks the required number of lanes through the enemy's tactical obstacles to support the maneuver of the assault force. The commander must clearly identify the conditions that allow the breach force to proceed to avoid confusion. From the probable line of deployment, the assault force maneuvers against or around the enemy to take advantage of the support force's efforts to suppress the targeted enemy positions. (See appendix G for a more detailed explanation on breaching operations.)

ACTIONS ON THE OBJECTIVE

2-175. The commander concentrates available combat power on the point of attack. Before the attack initiates, the objective is isolated to prevent the ingress or egress of enemy forces. The commander must set favorable conditions before committing forces. The commander uses (when available) artillery, CAS, Army attack aviation (manned and unmanned) and/or organic or tasked echelon-specific UAS (to include firing) platforms, and organic mortars, and a supporting effort from another maneuver company to set conditions. The effects of the overwhelming and simultaneous application of fire, movement, and action characterize the final assault. This violent assault defeats, destroys, or drives the enemy from the objective area.

Note. The key to a successful attack is isolation and suppression. Isolation prevents the enemy from reinforcing the objective area. Suppression of fires from the objective and from enemy locations supporting the objective allows the attacking force to maneuver and seize the objective.

2-176. The support element must not reduce its suppressive fires as the assault element closes on the objective. These fires fix and isolate enemy forces on the objective, enabling the assault element to sequentially clear through the objective. Direct and indirect fires also prevent the enemy from repositioning within the objective or reinforcing or counterattacking from outside the objective. The commander employs all fire support means to suppress or destroy the enemy and sustain the momentum of the attack. As the assault element advances through the objective, the commander shifts direct and indirect fires and obscurants within the objective and then from the objective to other targets. If a breach was required, the assault force passes through the breach supported by the fires of the support force and the breach force. (See figure 2-18 on page 62 for main attack, example.)

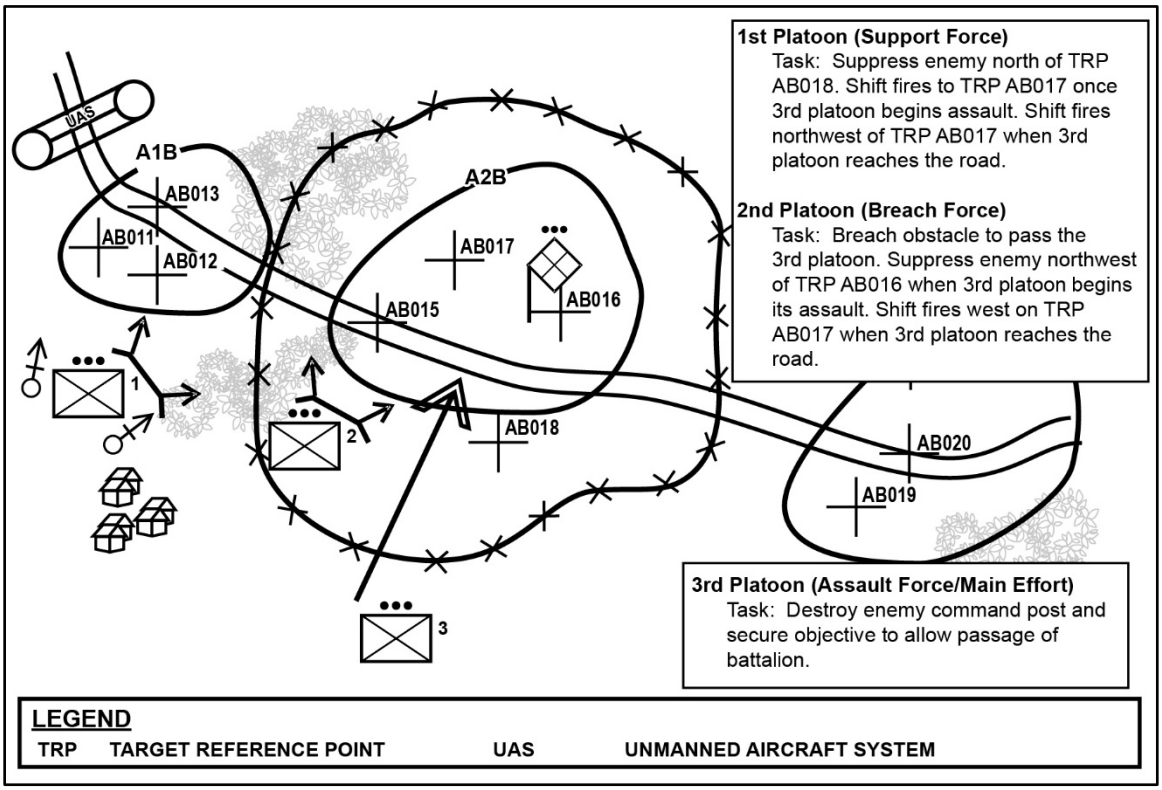


Figure 2-18. Main attack, example

2-177. As the assault force (Third Platoon) passed the probable line of deployment, the previously dispersed assaulting force moved into its final movement formation and maneuvered to destroy enemy forces and secure the assigned objective. The assaulting force moved along a covered and concealed route to a created point of penetration. Obscuration should be used to conceal the movement of the assaulting force.

2-178. The commander focuses on maintaining the momentum and security of the assaulting force. The R&S effort continues to report enemy repositioning, battle damage assessment, and enemy counteractions to the assault. Fires reduce the ability of the enemy to reposition and mass forces. Once the assault force has seized the objective, follow-on forces may pass through to continue the attack. The commander and subordinate leaders throughout the company ensure that units remain disbursed and check to ensure all the enemy on the objective are destroyed or captured. Assault forces on the objective reorganize and prepare positions for an enemy counterattack.

2-179. The assault force clears the enemy position as quickly as possible. If the assault force can capture or destroy the enemy's C2 facilities or other key positions and weapons, the enemy may surrender or abandon the position. This might be the decisive point for the assault force if there is key terrain that allows control of the objective. The assault force normally moves within the enemy's trenches to avoid exposure to enemy fire.

2-180. Platoon elements advance in the formation suitable to the terrain and situation when moving from their positions. When the assault element must move through a narrow lane in the obstacles, it maintains dispersion and assaults through the lane by fire commands; signals should be coordinated to support this. The commander moves where best able to control platoons and supporting fire. The support force's indirect and direct fires shift when they endanger the advancing Soldiers.

ACTIONS BEYOND THE OBJECTIVE

2-181. Actions beyond the objective are taken to secure the objective and defend against an enemy counterattack. The assaulting Soldiers clear enemy positions, secure and search prisoners, and move quickly across the objective. When they reach the far side, they take up hasty fighting positions and continue to fire at the withdrawing enemy. Teams may be assigned to sweep back across the objective to ensure all the enemy is either dead or captured.

2-182. The company consolidates once it seizes the objective. Reorganization, if required, is normally conducted concurrently with consolidation and consists of follow-on mission preparations. As with consolidation, the company commander must plan and prepare for reorganization during the conduct of TLP (see appendix B for more information). The commander ensures that the company is prepared to take the following actions:

- Eliminate enemy resistance on the objective.
- Establish security beyond the objective by securing areas that may be the source of enemy direct fires or enemy artillery observation.
- Establish additional security measures such as OPs and patrols.
- Prepare for and assist the passage of follow-on forces (if required).
- Call forward or recover ISVs from hide site (vehicle drop-off), (if required).
- Continue to improve security by conducting other necessary defensive actions, including EA development, direct fire planning, and BP preparation.
- Adjust final protective fires (FPFs) and register targets along likely mounted and dismounted avenues of approach.
- Protect the obstacle reduction effort.
- Secure detainees.
- Prepare for the enemy counterattack.
- Continue improvement of BPs, as needed.
- Provide essential medical treatment and evacuate casualties as necessary.
- Cross-level personnel and adjust task organization as required.
- Conduct resupply operations, including rearming and refueling.
- Redistribute ammunition.
- Conduct required maintenance.

2-183. When the objective is seized and secured, the supporting elements and company trains are called forward to a logistics release point (LRP). (See appendix F for additional information on combined arms breaching operations.)

VARIATIONS OF THE ATTACK

2-184. Variations of the attack are ambush, counterattack, raid, and spoiling attack. As attack variations, they share many of the planning, preparation, and execution considerations of the attack. The commander's intent and the mission variables of METT-TC (I) determine which of these variations of attack are employed. The commander can conduct each of these variations of attack, except for a raid, as either a hasty or a deliberate operation. (See ATP 3-21.8 for a detailed discussion of this attack variations.)

AMBUSH

2-185. An *ambush* is a variation of attack from concealed positions against a moving or temporarily halted enemy (FM 3-90). An ambush stops, denies, or destroys enemy forces by maximizing the element of surprise. An ambush can employ direct fire systems as well as other destructive means, such as command-detonated mines, indirect fires, and supporting nonlethal effects. An ambush may include an assault to close with and destroy enemy forces. In an ambush, ground objectives do not have to be seized and held.

Organization of Forces

2-186. A typical ambush is organized into three elements: assault, support, and security. Each of these elements can receive additional combat power, if necessary. For example, teams or assets can include machine guns, CCMSs (or M3 MAAWS), shoulder-launched munitions, mortars, and artillery.

Assault Element

2-187. The assault element's goal is to destroy the enemy force. The assault element attacks into and clears the kill zone; additional tasks may include searching for items of intelligence value, capturing prisoners, and completing the destruction of enemy equipment. With the elements that are assigned, the company commander plans to direct the assault to move directly into position or move through a predefined release point. The assault performs a combination of actions including but not limited to; conduct of the main assault, halt the enemy's motorized column/ moving target, kill and capture personnel, recover supplies and equipment, and destroy vehicles and supplies.

Support Element

2-188. The support element supports the assault element by firing into and around the kill zone and provides the ambush's primary killing power. The support element attempts to destroy most of the enemy combat power before the assault element moves into the objective or kill zone. The support element does this using the company's organic machine gun teams, CCMS (or M3 MAAWS) teams, and mortars or supporting battalion mortars and divisional field artillery fires.

Security Element

2-189. The security element isolates the kill zone, provides early warning of the arrival of any enemy relief force, and provides security for the assault and support elements. The security element secures the ORP and blocks enemy avenues of approach into and out of the ambush site, which prevents the enemy from entering or leaving. As the flanks and rear of an ambush site are open to counterattack, the security element plans accordingly. Flank and rear security may be enhanced in several different ways to increase security posture isolating the objective. During planning, the commander and security leader—

- Provide echelon security elements in-depth, ensuring redundancy in security.
- Designate sectors for observation and fire, while ensuring no lapse in coverage of an area the enemy may move through.
- Position reconnaissance devices to provide early warning to the security element.
- Ensure security element abides by strict execution of noise and light discipline.
- Ensure the infiltration, and withdraw plan is detailed, easily executed, and the routes to and from security areas are secured when they are moved through.

2-190. Prior to moving into position security elements ensure they are properly camouflaged to reduce movement while in place. Once in place, appropriate camouflage of positions is critical to limit the enemy's ability to detect the ambush.

Common Forms of a Small-Unit Ambush

2-191. In a point ambush, a unit deploys to attack a single kill zone. The *kill zone* is the location where fires are concentrated in an ambush (FM 3-90). In an area ambush, a unit deploys into two or more related point ambushes. A unit smaller than a platoon does not normally conduct an area ambush. Antiarmor ambushes focus on moving or temporarily halting enemy armored vehicles and may be part of an area ambush.

Point Ambush

2-192. A point ambush usually employs a linear or an L-shaped formation. The names of these formations describe deployment of the support element around the kill zone. The kill zone is that part of an ambush site where fires are concentrated to isolate, fix, and destroy the enemy. The ambush formation is important because it determines whether a point ambush can deliver the heavy volume of fire necessary to isolate and destroy the target. The commander determines the formation to use based on the advantages and disadvantages of each formation in relation to the mission variables of METT-TC (I).

2-193. The linear and L-shaped ambushes for the Infantry rifle company are conducted as point ambushes at the platoon level. The company coordinates these point ambushes by planning the area ambush and identifying which platoons, for example, will conduct the central ambush, and which will conduct outlying ambushes.

2-194. The assault and support elements generally deploy parallel to the target's route of movement—the long axis of the kill zone—which subjects the target to flanking fire in the line formation (security element positions itself where it can best provide security to the assault and support elements). The size of the target that can be trapped in the kill zone is limited by the size of the area that can be covered by the support element's weapons and obstacles, integrated with direct and indirect fires—trapping the target in the kill zone. A disadvantage of the line formation is that the target may be so dispersed that it is larger than the kill zone. (See figure 2-19.)

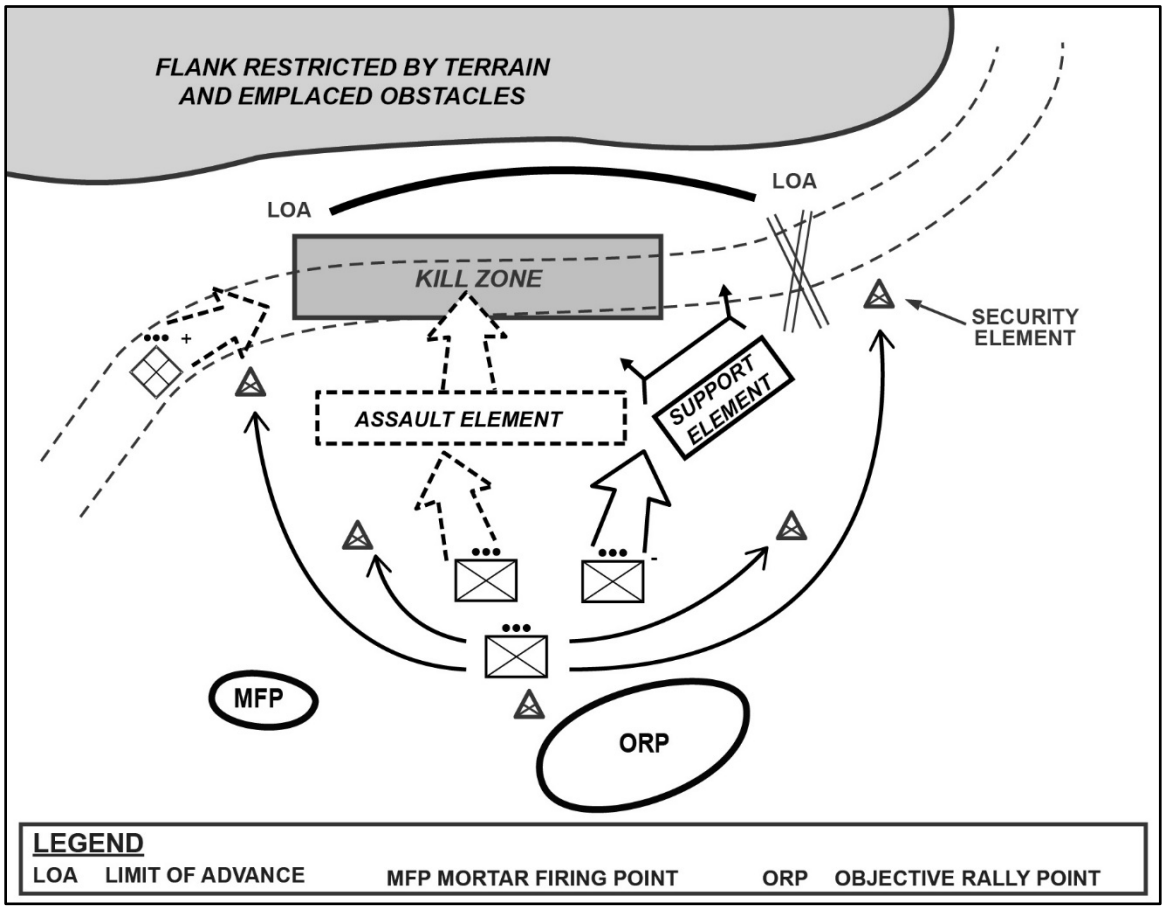


Figure 2-19. Linear ambush

Area Ambush

2-195. An area ambush is most effective when enemy movement is largely restricted to trails or roads. The area should offer several suitable point ambush sites. The commander selects a central ambush site around which the commander can organize outlying ambushes. The company typically conducts the area ambush employing individual platoons in different locations to accomplish an objective. Once the site is selected, the commander must determine the enemy's possible avenues of approach and escape routes. Outlying point ambush sites are assigned to subordinates to cover these avenues. Once they occupy these sites, they report all enemy traffic going toward or away from the central ambush site to the commander. These outlying ambushes allow the enemy to pass through their kill zones until the commander initiates the central ambush. Once the central ambush begins, the outlying ambushes prevent enemy troops from escaping or entering the area. The commander ensures that fratricide is mitigated by utilizing the distance between platoons and the terrain to mask friendly fires. (See figure 2-20 on page 66.)

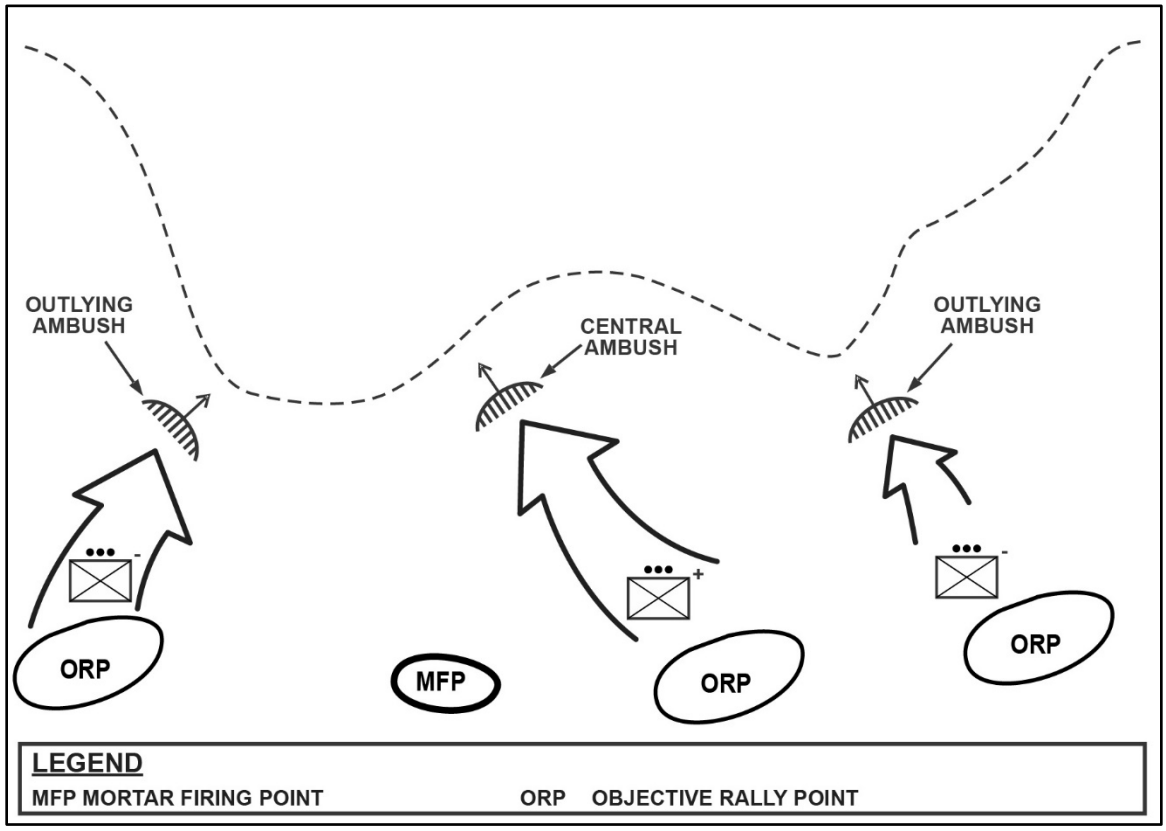


Figure 2-20. Area ambush (central and outlying ambushes)

Antiarmor Ambush

2-196. Antiarmor ambushes focus on moving or temporarily halted enemy armored vehicles and may be part of an area ambush. The antiarmor ambush assault element will include an armor-killer element. The armor-killer element is built around shoulder launched munitions such as the CCMSs (or M3 MAAWS). The commander considers the mission variables of METT-TC (I) to position all antiarmor weapons to take advantage of their best engagement aspect (rear, flank, or top). When the positioning of the assault element is better described as an attack by fire position, a separate search element can be established to conduct the assault across the ambush site. This can be the case when an assault/search of the ambush site is not possible due to the distance or restricted terrain between the assault position and the ambush site. (See figure 2-21.) When a search/assault across the ambush site is not required the ambush force quickly withdraws once targets are destroyed. The support and security elements function in the same manner as the other forms of ambushes.

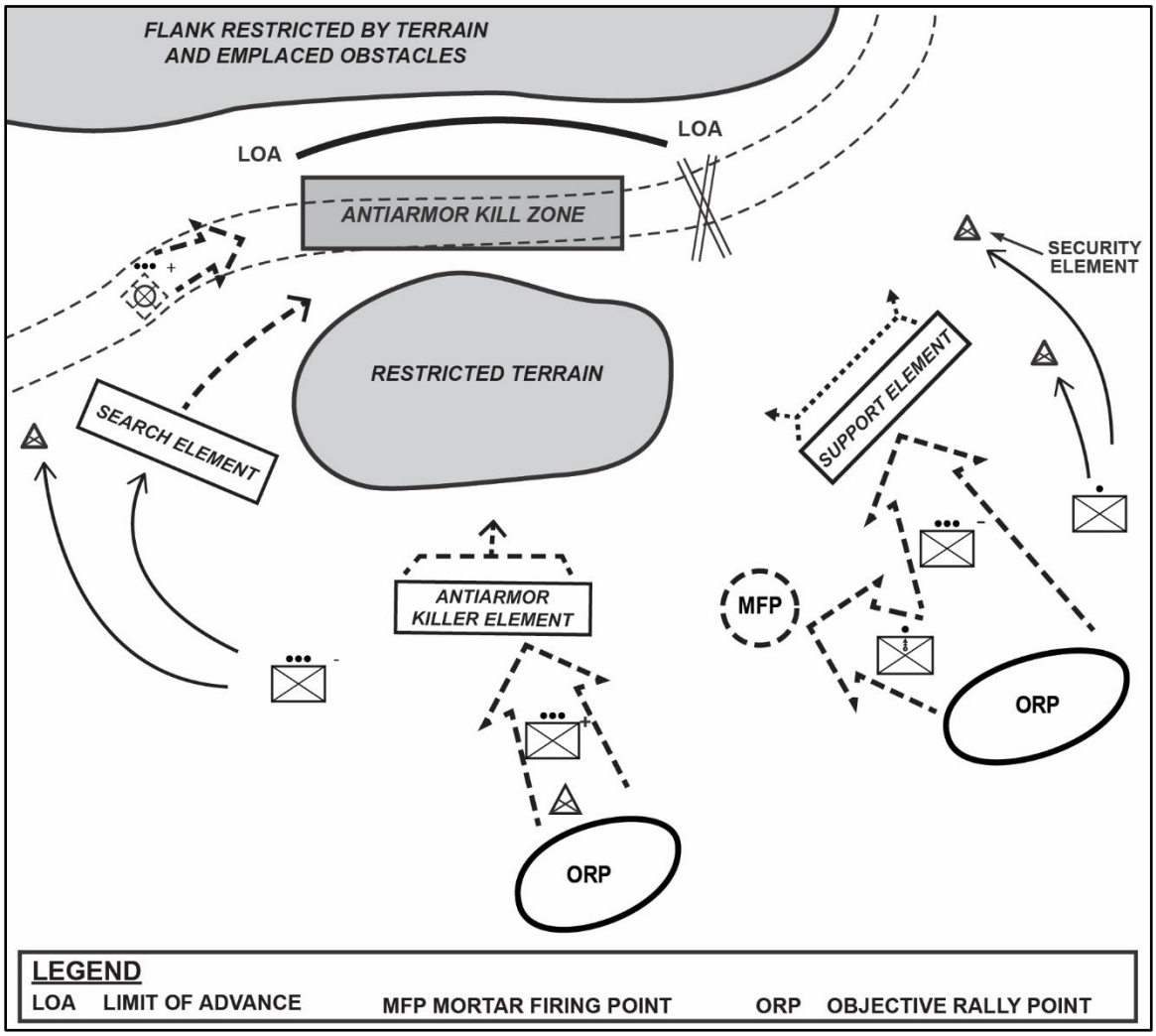


Figure 2-21. Antiarmor ambush (using separate search team)

COUNTERATTACK

2-197. A *counterattack* is a variation of attack by a defending force against an attacking enemy force (FM 3-90). In sustained defensive actions, it is undertaken to restore the BP and is directed at limited objectives. The commander directs a counterattack—normally conducted from a defensive posture—to defeat or destroy enemy forces, exploit an enemy weakness, such as an exposed flank, or to regain control of terrain and infrastructure after an enemy success. A unit conducts a counterattack to seize the initiative from the enemy through offensive action. A counterattacking force maneuvers to isolate and destroy a designated enemy force.

2-198. The Infantry rifle company as a counterattack force, attacks by fire into an EA to defeat or destroy an enemy force, to restore the original position, or to block an enemy penetration. The counterattack is often the deciding action in the defense and becomes the main effort upon commitment. The Infantry company is best suited for this role in restricted terrain. In unrestricted terrain, the company is vulnerable to fires and only possess, with the weapons squads, the mobility and potential firepower to counterattack. The commander may plan counterattacks as part of the company's defensive plan, or the company may be the counterattack force for the battalion or brigade.

RAID

2-199. A *raid* is a variation of attack to temporarily seize an objective with a planned withdrawal (FM 3-90). Raids are usually small scale, involving battalion sized or smaller forces, and surprise attacks requiring detailed intelligence (planners require precise, time-sensitive, all-source intelligence), planning, and preparation. At the company level, a raid is a surprise attack against a position or installation for a specific purpose other than seizing and holding the terrain. A raid is conducted to destroy a position or installation, destroy or capture enemy soldiers or equipment, or free prisoners. A raid (see ATP 3-21.8, chapter 7) retains terrain just long enough to accomplish the intent of the raid. The raid ends with a planned exfiltration off the objective and a return to the main body.

2-200. The fundamentals of the raid include surprise and speed, coordinated fires, violence of action, and a planned exfiltration. Surprise and speed are accomplished through infiltration and moving to the objective undetected. Coordinated fires seal off the objective with well-synchronized direct and indirect fires. Violence of action overwhelms the enemy with fires and maneuver. The planned exfiltration allows friendly forces to move off the objective in a well-organized manner while maintaining security.

SPOILING ATTACK

2-201. A *spoiling attack* is a variation of an attack employed against an enemy preparing for an attack (FM 3-90). The objective of a spoiling attack is to disrupt the enemy's offensive capabilities and timelines while destroying targeted enemy personnel and equipment, not to seize terrain and other physical objectives. A commander conducts a spoiling attack to—

- Disrupt the enemy's offensive preparations.
- Destroy key assets that the enemy requires to attack, such as fire support systems, fuel and ammunition stocks, and bridging equipment.
- Gain additional time for the defending force to prepare its positions.
- Reduce the enemy's current advantage in the correlation of forces.

2-202. A commander conducts a spoiling attack whenever possible during the conduct of friendly defensive operations to strike an enemy force while it is in assembly areas or attack positions preparing for its own offensive operation or is stopped temporarily. The commander synchronizes the conduct of the spoiling attack with other defensive actions. A spoiling attack usually employs armored, attack helicopter, or fire support elements to attack enemy assembly positions in front of the friendly commander's main line of resistance or BPs.

SECTION IV – EXPLOITATION AND PURSUIT

2-203. During the offense, combined arms maneuver involves taking the fight to the enemy and never allowing enemy forces to recover from the initial shock of the attack. *Exploitation* is a type of offensive operation that usually follows a successful attack and is designed to disorganize the enemy in-depth (ADP 3-90). *Pursuit* is a type of offensive operation to catch or cut off a disorganized hostile force attempting to escape, with the aim of destroying it (FM 3-90). The operations often involve pushing all available forces to the limit of their endurance to capitalize on momentum and to retain the initiative. Commanders maintain momentum by anticipating and transitioning rapidly as the situation develops. Retaining the initiative pressures enemy commanders into abandoning their preferred COAs, accepting too much risk, or making costly mistakes. As these conditions occur, friendly forces seize opportunities and create new avenues for exploitation or pursuit to break the enemy's will through relentless and continuous pressure.

EXPLOITATION

2-204. Exploitation is the primary means of translating tactical success into operational advantage. Exploitation can occur regardless of the operational theme or point along the range of operations in which the exploitation occurs. All units, regardless of their size, conduct exploitation, although discussions tend to focus on the activities of large units during conduct of major operations. Small tactical units also conduct exploitations. For example, during small unit combat operations, an Infantry battalion could conduct a company-level raid on a particular target during the night to exploit the information collected during the conduct of a company-level operation that occurred earlier in the day. In this example, effective search procedures, tactical site exploitation, tactical questioning, and the use of R&S assets are keys to the company being able to conduct exploitation.

2-205. During the conduct of major operations, exploitation often follows a successful attack to take advantage of a weakened or collapsed enemy. The purpose of exploitation can vary, but it generally focuses on capitalizing on a temporary advantage or preventing the enemy from establishing an organized defense or conducting an orderly withdrawal. To accomplish this, the MBCT attacks rapidly over a broad front to prevent the enemy from establishing a defense, organizing an effective rear guard, withdrawing, or regaining balance. The Infantry battalion as part of the MBCT secures objectives, severs escape routes, and destroys enemy forces. Failure to exploit success aggressively gives the enemy time to reconstitute an effective defense or regain the initiative by a counterattack.

2-206. The conditions for exploitation develop quickly. Often the lead battalion or subordinate unit in contact identifies the collapse of the enemy's resistance. The higher-level commander must receive accurate assessments and reports of the enemy situation to capitalize on the opportunity for exploitation. Typical indications of good conditions for exploitation include—

- A significant increase in enemy prisoners of war (EPWs).
- An increase in abandoned enemy equipment and material.
- The overrunning of enemy artillery, C2 facilities, and logistics sites.
- A significant decrease in enemy resistance or in organized fires and maneuver.
- A mixture of support and combat vehicles in formations and columns.
- An increase in enemy movement rearward, especially of reserves and fire support units.

2-207. Should the Infantry battalion conduct exploitation as part of a larger operation, it might receive the mission to seize a terrain-oriented objective. In this case, the battalion avoids decisive engagement and moves to the objective as quickly as possible. If assigned an objective directed at an enemy force, the battalion seeks and destroys enemy forces anywhere within its AO. Air assaults by the battalion or part of the battalion are an effective method to seize blocking positions in the enemy's rear. The exploitation ends when the enemy reestablishes its defense, all organized enemy resistance breaks down, or the friendly force culminates logistically or physically. (See FM 3-90 and FM 3-96 for additional information.)

PURSUIT

2-208. A pursuit differs from an exploitation in that it always focuses on completing the destruction of fleeing enemy forces by destroying their ability and will to resist. Unlike an exploitation, which may focus on seizing key or decisive terrain instead of the enemy force, pursuit operations begin when an enemy force attempts to conduct retrograde operations. At that point, it becomes most vulnerable to the loss of internal cohesion and complete destruction. An aggressively executed pursuit leaves the enemy trapped, unprepared, and unable to defend, faced with the options of surrendering or complete destruction.

2-209. Pursuits include the rapid shifting of units, continuous day and night movements, hasty attacks, containment of bypassed enemy forces, large numbers of prisoners, and a willingness to forego some synchronization to maintain contact with and pressure on a fleeing enemy. Pursuits require swift maneuvers and attacks by forces to strike the enemy's most vulnerable areas. A successful pursuit requires flexible forces, initiative by commanders at all echelons, and a high tempo during execution.

2-210. Two options exist when conducting a pursuit. Both pursuit options involve assigning a subordinate the mission of maintaining direct pressure on the rearward moving enemy force. The first option is a frontal pursuit that employs only direct pressure. The second is a combination that uses one subordinate element to maintain direct-pressure and one or more other subordinate elements to encircle the retrograding enemy. The combination pursuit is more effective, generally. The subordinate applying direct-pressure or the subordinate conducting the encirclement can conduct the main effort in a combination pursuit.

2-211. During the pursuit, the commander exerts unrelenting pressure to keep the enemy force from reorganizing and preparing its defenses. A mobility advantage over the enemy is vital to the effectiveness of the pursuit. A combined arms team consisting of Armored and Stryker forces, and Infantry conducting air assaults, can be extremely effective when cutting off the enemy, forcing them to either surrender or be destroyed. Dismounted movement over difficult terrain allows Infantry units to seize blocking positions. The range, speed, and weapons load of attack reconnaissance units make them uniquely useful in an exploitation or pursuit to extend the ground commander's reach. (See FM 3-90 and FM 3-96 for more information.)

Chapter 3
Defense

The Infantry rifle company conducts defensive operations to defeat enemy attacks, gain time, control key terrain, protect critical infrastructure, secure the population, and economize forces. Most importantly, the company sets conditions to transition to the offense or operations focused on stability. Defensive operations alone are not decisive unless combined with offensive operations to surprise the enemy, attack enemy weaknesses, and pursue or exploit enemy vulnerabilities. When in the defense, the Infantry rifle company should exploit opportunities to take offensive action within its assigned area. The purpose of these actions is to seize the initiative from the enemy and create the conditions to assume the offensive.

SECTION I – BASICS OF THE DEFENSE

3-1. Defensive techniques must be seamlessly integrated with the Army's foundational doctrine. The techniques in this publication are designed to complement the principles, tactics, and procedures detailed in official Army doctrinal publications and field manuals, ensuring a unified understanding between doctrine and application This section briefly discusses defensive operations, situations unique to the conduct of defensive operations and supporting doctrinal terms. (See ATP 3-21.8, ATP 3-21.20, and FM 3-96 for additional information.)

CHARACTERISTICS OF THE DEFENSE

3-2. Characteristics of the defense include disruption, flexibility, maneuver, mass and concentration, operations in-depth, preparation, and security. Together, these seven characteristics enable a defending force to absorb the enemy's attack, regain the initiative, and create opportunities for offensive action. (See FM 3-96 for a detailed discussion of each characteristic.)

DISRUPTION

3-3. The defender disrupts enemy tempo and synchronization, ability to mass fires, reconnaissance and security forces, and main body formation. The defender uses counterattack, counterbattery, and countermortar fires; spoiling attacks; EW; obstacles; and retention of key or decisive terrain to prevent the enemy from concentrating overwhelming strength against portions of the defense.

FLEXIBILITY

3-4. The defense requires preparation in-depth, use of reserves, the ability to shift the company’s main effort, supplementary positions within the defense, and the ability to counterattack. Flexibility requires the commander to visualize the battlefield to detect the enemy’s scheme of maneuver in time to direct fire and movement against it.

MANEUVER

3-5. Maneuver allows the commander to achieve a position of advantage over the enemy, mass and concentrate combat power, and to take full advantage of terrain. The commander arrays and allocates forces in relationship to likely enemy COAs. The commander uses allocations based on the results of the relative combat power analysis of the company and enemy forces’ assigned tasks and the terrain.

MASS AND CONCENTRATION

3-6. The defender shapes and decides the engagement by massing the effects of combat power in time and space and accepting risk in some areas to mass effects elsewhere. The defender masses its combat power to overwhelm the enemy and regain the initiative. The defender must be able to concentrate forces and mass the effects of fires at the decisive point and time.

OPERATIONS IN-DEPTH

3-7. Simultaneous application of combat power throughout the depth of the defender's assigned area allows for the destruction of the enemy with attacks to its flanks, as that enemy force is most exposed and vulnerable. Integration of all combat power throughout an assigned area, as well as the defender's area of influence and area of interest, improves the chances for success while minimizing friendly casualties.

PREPARATION

3-8. Preparation, an inherent strength of the defense, provides the defender time to study the ground and select positions that allow the massing of fires on likely approaches. Defenders use available time to combine natural and manmade obstacles to canalize attacking forces into EAs, coordinate and rehearse actions on the ground, gaining intimate familiarity with the terrain, place security, intelligence, and reconnaissance forces throughout the AO, and continue defensive preparations in-depth, even as the close engagement begins.

SECURITY

3-9. Measures taken to protect the defender against all acts designed to, or which may, impair the defender's effectiveness to deceive the enemy as to friendly locations, strengths, and weaknesses, inhibit or defeat enemy reconnaissance, provide early warning, or to disrupt enemy attacks early and continuously.

DEFENSIVE OPERATIONS

3-10. A *defensive operation* is an operation to defeat an enemy attack, gain time, and develop conditions favorable for offensive or stability operations (ADP 3-0). There are three basic defensive operations—area defense, mobile defense, and retrograde. These three types have significantly different concepts and pose significantly different problems. Each defensive operation is dealt with differently when planning and executing the defense. Although, the names of these defensive operations convey the overall aim of a selected defense, each typically contains elements of the other and combines static and mobile elements. As with offensive operations, defensive operations can result in non-physical effects, such as those generated in the information environment. For example, the use of deception in support of operations security can be highly effective at gaining time and tactical deception can support the economization of forces.

PLANNING CONSIDERATIONS

3-11. The product of planning is an order—a directive for future action. The commander begins with an assigned area (AO or sector), identified mission, and available forces. The commander develops and issues planning guidance based on their own visualization in terms of the means to accomplish the mission. The commander controls the defense by using control measures to provide the flexibility needed to respond to changes in the situation, and to allow the commander to concentrate combat power rapidly at the decisive point. The six warfighting functions are the framework for discussing planning considerations that apply to all primary and subordinate defensive operations. (See FM 3-96 for a detailed discussion, by warfighting function, of common defensive planning considerations and control measures.)

COMMON DEFENSIVE CONTROL MEASURES

3-12. The defending leader controls defensive operations by using control measures to provide the flexibility needed to respond to changes in the situation and allow the defender to concentrate combat power at the decisive point(s). Defensive control measures within the organization of forces of an AO include designating the security area, the MBA, within the close area, with its associated forward edge of the battle area (FEBA), and rear area with its echeloned support areas. The defender can use BPs and additional direct fire control and fire support coordination measures in addition to those control measures to synchronize the employment of combat power. The defender designates a *disengagement line*(s)—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 position (ADP 3-90)—to trigger displacement of subordinate forces. (See ATP 3-21.20 and FM 3-96 for additional information.)

Security Area

3-13. A *security area* is that area occupied by a unit's security elements and includes the areas of influence of those security elements (ADP 3-90). It may be located as necessary to the front, flanks, or rear of a protected unit, facility, or location. Forces in a security area furnish information on an enemy force; delay, deceive, and disrupt that enemy force; and conduct counterreconnaissance.

Main Battle Area

3-14. The *main battle area* is the area where the commander intends to deploy the bulk of their unit to defeat an attacking enemy (FM 3-90). The defender's major advantage is the ability to select the ground on which the battle takes place. The defender positions subordinate forces in mutually supporting positions in-depth to absorb enemy penetrations or *canalize*—a tactical mission task in which a unit restricts enemy movement to a narrow zone (FM 3-90)—them into prepared EAs, defeating the enemy's attack by concentrating the effects of overwhelming combat power. The natural defensive strength of positions determines the distribution of forces in relation to both frontage and depth. Defending units also typically employ field fortifications and obstacles to improve the terrain's natural defensive strength.

Battle Handover Line

3-15. The battle handover line (BHL) is a designated PL where responsibility transitions from the stationary force to the moving force and vice versa. The common higher commander of the two forces establishes the BHL after consulting with both forces. The stationary defender determines the exact location of the line. The BHL is forward of the FEBA in the defense or the forward line of own troops (FLOT) in the offense and utilized during a passage of lines (forward or rearward).

Battle Positions

3-16. A *battle position* is a defensive location oriented on a likely enemy avenue of approach (ADP 3-90). The BP is a graphic that depicts the location and general orientation of the majority of the defending forces. The commander's use of a BP does not direct the position of the subordinate's entire force within its bounds since it is not an assigned area. The subordinate commander can move elements freely within the assigned BP. To comply with the commander's intent, a force can maneuver outside the BP to adjust fires or to seize opportunities for offensive action. The repositioning of units between BPs must be carefully coordinated to prevent fratricide. (See ATP 3-21.20 and FM 3-96 for additional information.) There are five types of BPs (see figure 3-1 on page 74):

- *Primary position* is the position that covers the enemy's most likely avenue of approach into the assigned area (FM 3-90).
- *Alternate position* is a defensive position that the commander assigns to a unit or weapon system for occupation when the primary position becomes untenable or unsuitable for carrying out the assigned task (FM 3-90). The following considerations apply for an alternate BP which—
  - Covers the same avenue of approach or sector of fire as the primary BP.
  - Is located slightly to the front, flank, or rear of the primary BP.
  - May be positioned forward of the primary BP during limited-visibility operations.
  - Is employed to supplement or support positions with weapons of limited range, such as dismounted positions.
- *Supplementary position* is a defensive position located within a unit's assigned area 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 (FM 3-90).
- *Subsequent position* is a position that a unit expects to move to during the course of battle (ADP 3-90):
  - A defending unit may have a series of subsequent positions.
  - Subsequent positions can have associated primary, alternate, and supplementary positions.

- *Strong point* is a heavily fortified battle position tied to a natural or reinforcing obstacle to create an anchor for the defense or to deny the enemy decisive or key terrain (ADP 3-90):
  - The mission to create and defend a strong point implies retention of terrain to stop or redirect enemy formations.
  - A strong point requires extensive time, engineer support, and Class IV resources to construct.

3-17. BP prescribes the orientation of the position. The company commander defines when and under what conditions the company can displace from the BP or maneuver outside of the BP (see figure 3-1). The company commander provides guidance for raids, ambushes, and security patrols being conducted while the company conducts the defense. (See ATP 3-21.8 for more information.) The company commander also ensures platoons understand the conditions to reposition, and displacement criteria planning considerations for a BP, although not all inclusive, may include—

- Establishment of outposts and forward of BPs.
- Combat patrol plan and routes forward of BPs.
- Activities in the company security area.
- All-around security and the utilization of mines.
- Development of integrated fires plans that include FPFs.
- Priorities of work.
- Counterattack plans.
- Stockage of supplies.
- Integration and support of subordinate forces outside the strong point.
- Actions of adjacent units.
- Fire control measures in support of the BP.
- Obstacles and BP emplacement and orientation.

3-18. The commander also takes into consideration the positioning of the company HQ personnel and equipment. (See appendix A.) There should be enough space allocated between the EAs to the HQ element to afford forward platoons ample space to reposition if necessary, as the engagement begins. The CP should be in a defilade, also, and concealed from air and ground observation. The route to and from the CP should be adequately covered and concealed. It is important for the commander to identify and prepare an alternate CP if the CP needs to be relocated during the engagement.

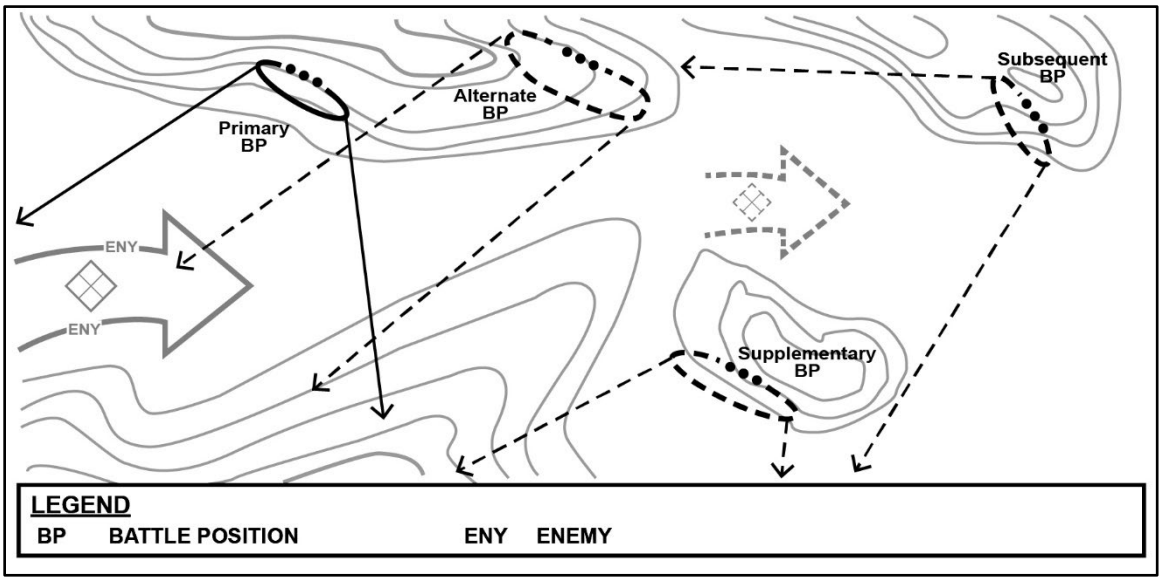


Figure 3-1. Primary, alternate, supplementary, and subsequent battle positions

Forward Edge of the Battle Area

3-19. The *forward edge of the battle area* is the foremost limits of a series of areas in which ground combat units are deployed to coordinate fire support, the positioning of forces, or the maneuver of units, excluding areas in which covering or screening forces are operating (JP 3-09.3). When the defender defends forward in an area defense the unit employs most of its combat forces near the FEBA.

Forward Line of Own Troops

3-20. The *forward line of own troops* is a line that indicates the most forward positions of friendly forces in any kind of military operation at a specific time (FM 3-90). The FLOT normally identifies the forward location of covering or screening forces. In the defense, it may be beyond, at, or short of the FEBA. It does not apply to small, long-range reconnaissance assets and similar stay-behind forces. Friendly forces forward of the FLOT may have a restrictive fire support coordination measure, such as a restrictive fire area, placed around them to prevent fratricide incidents.

Sector

3-21. A *sector* is an operational area assigned to a unit in the defense that has rear and lateral boundaries and interlocking fires (ADP 3-0). The non-bounded side is open towards the enemy. A higher echelon HQ uses fire support coordination and maneuver control measures such as BPs and trigger lines to synchronize subordinate units. Higher HQ are responsible for synchronizing operations forward of the main battle and security areas or coordinated fire lines. Units use sectors to synchronize and coordinate EAs and allow for mutually supporting fields of fire, which do not require coordination between adjacent units. Units treat everything behind the FLOT as an AO. Sectors can be further subdivided as needed. (See FM 3-90, appendix A for additional information on sectors.)

Additional Common Defensive Control Measures

3-22. The following additional common defensive control measures are used throughout this and other chapters and appendixes. They (although not all-inclusive) include:

- Boundaries.
- PLs.
- AO.
- EAs.
- Decision point.
- Passage point.
- Contact point.
- NAI.
- Target areas of interest.
- TRPs.
- Fire support coordination measures.

KEY DOCTRINAL TERMS AND DEFINITIONS

3-23. The following key doctrinal terms and definitions are used throughout this and other chapters and appendixes. See referenced publications for additional information:

- *Block* is also an obstacle effect that integrates fire planning and obstacle effort to stop an attacker along a specific avenue of approach or prevent the attacking force from passing through an engagement area (FM 3-90). See paragraph 2-96 for the definition of the term, block, when used as a tactical mission task.
- *Counterreconnaissance* is a tactical mission task that encompasses all measures taken by a unit to counter enemy reconnaissance and surveillance efforts (FM 3-90).
- *Disengage* is a tactical mission task in which a unit breaks contact with the enemy to conduct another mission or to avoid becoming decisively engaged (FM 3-90).
- *Final protective fire* is an immediately available, prearranged barrier of fire designed to impede enemy movement across defensive lines or areas (JP 3-09.3).

- *Fix* is also an obstacle effect that focuses fire planning and obstacle effort to slow an attacker's movement within a specified area, normally an engagement area (FM 3-90). See paragraph 2-97 for the definition of the term, fix, when used as a tactical mission task.
- *High-value target* is a target the enemy requires for the successful completion of the mission (JP 3-60).
- *Target area of interest* is the geographical area where high-value targets can be acquired and engaged by friendly forces (JP 2-0).
- *Terrain management* is the process of allocating terrain by specifying locations for units and activities to deconflict activities that might interfere with each other (FM 3-90).

SECTION II – AREA DEFENSE

3-24. The *area defense* is a type of defensive operation that concentrates on denying enemy forces access to designated terrain for a specific time rather than destroying the enemy outright (ADP 3-90). The focus of the area defense is retaining terrain where the bulk of the defending force positions itself in mutually supporting, prepared positions. Units maintain their positions and control the terrain between these positions. The defeat mechanism is normally the massing of combat power to destroy the enemy in EAs.

3-25. An area defense capitalizes on the strength inherent in a closely integrated defensive organization on the ground. The defending force limits the enemy's freedom of maneuver and channels the enemy into designated EAs. Security force efforts, designed to regain the initiative, limit the attacker's options and disrupt the enemy's plan in the security area. Supporting efforts, coupled with sustainment, combine with the main effort of the MBA to defeat the enemy. Area defenses at the company echelon are conducted when—

- Directed to defend or retain specified terrain.
- Forces available have less mobility than the enemy forces.
- The terrain affords natural lines of resistance.
- The terrain limits the enemy to a few well-defined avenues of approach.
- There is time to organize the position.
- Conditions require the preservation of forces.

ORGANIZATION OF FORCES

3-26. The Infantry commander organizes an area defense around the static framework of the defensive positions seeking to destroy enemy forces by interlocking fire or local counterattacks. The company commander typically has two methods for the placement of positions when conducting an area defense: defense in-depth and forward defense. The depth of the force positioning depends on the threat, task organization of the company, and nature of the terrain. When the commander defends forward within an AO, the force is organized so that most of the available combat power is committed early in the defensive effort. In an area defense, the commander organizes the defending force into a security force, main body, and a reserve. (See ATP 3-21.20 and FM 3-96 for additional information.)

METHODS OF AN AREA DEFENSE

3-27. While the company commander usually selects a method of area defense to use, the higher commander often defines the general defensive scheme. These two employment choices are not exclusionary. Part of a defending unit can conduct a forward defense, while the other part conducts a defense in-depth. The specific mission may also impose constraints such as time, security, and retention of certain areas, which are significant factors in determining how the unit will defend.

DEFENSE IN-DEPTH

3-28. A defense in-depth is normally the commander's preferred option. Forces defending in-depth absorb the momentum of the enemy's attack by forcing the enemy to attack repeatedly through mutually supporting positions in-depth. Depth provides more space and time to exploit information collection efforts and fire support to reduce the enemy's options, weaken the enemy force, and set the conditions for the enemy's destruction, disintegration, or dislocation. This provides more reaction time for the defending force to appropriately respond to the attack. The commander continues to gather additional information about the

attacking enemy's intentions and capabilities between the time combat starts and the time the enemy commits to a COA. This reduces the risk of the enemy force quickly penetrating the main line of defense along an unexpected axis.

3-29. While defending in-depth, the company plans and prepares primary, alternate, supplementary, and subsequent fighting positions. As the attacking enemy force attempts to create a penetration, the company's platoons hold and or shift from one position to the next while coordinating the combined effects of direct and indirect fires. This enables the defenders to keep continuous pressure on the advancing enemy. Commanders continuously look for the opportunity to conduct local counterattacks to destroy an enemy and seize the initiative.

3-30. The commander usually decides to conduct a defense in-depth when—

- The mission is not restrictive and allows the commander to fight throughout the depth of the battlefield.
- The terrain does not favor a defense well-forward, and there is better defensible terrain deeper within the AO.
- The AO is deep compared to its width, and there is significant depth available.
- The cover and concealment on or near the FEBA is limited.
- The enemy has several times the combat power of the defender.
- The enemy can employ large quantities of precision-guided munitions or weapons of mass destruction (WMD).

FORWARD DEFENSE

3-31. The intent of the forward defense is to prevent enemy penetration. Due to its lack of depth, a forward defense is the least preferred. The company deploys most of its combat power into forward positions near the FEBA. The commander fights to retain its forward position and may conduct counterattacks against enemy penetrations or destroy enemy forces in forward EAs. Often, counterattacks are planned forward of the FEBA to defeat the enemy.

3-32. In general, the commander uses a forward defense when a higher commander directs the commander to retain forward terrain for political, military, economic, and other reasons. Alternatively, a commander may choose to conduct a forward defense when the terrain in that part of the AO—including natural obstacles—favors the defending force because—

- The best BPs are located along the FEBA.
- Strong, natural obstacles are located near the FEBA.
- Natural EAs occur near the FEBA.
- Cover and concealment in the rear portion of the AO is limited.

VARIATIONS OF THE AREA DEFENSE

3-33. The three variations of the area defense (defense of a linear obstacle, perimeter defense, and reverse-slope defense) have special purposes and unique considerations associated with each. When conducting a variation of the area defense, proper evaluation and organization of the company's AO are essential to maximize the effectiveness of the defending force. The commander exploits the advantages of occupying the terrain where the battle will occur and positions the company to engage the attacker from locations that give the defending force an advantage. The commander selects terrain that allows for the massing of friendly fires, forcing the enemy to commit forces piecemeal into friendly EAs, thus exposing portions of the enemy force for destruction without giving up the advantages of fighting from protected positions. The three variations of the area defense provide distinct advantages to the defender and its subordinate units during an area defense and the operations of the fixing force during a mobile defense (see section III). (See ATP 3-21.8, ATP 3-21.20, and FM 3-96 for additional information.)

DEFENSE OF A LINEAR OBSTACLE

3-34. The defense of a linear obstacle is similar to a forward defense with the intent being to limit the terrain over which the enemy can gain influence or control. A linear obstacle adds to the strength of the defense and can be a river, a stream with steep embankments or a man-made obstacle such as a highway or embankment. The key to success in a defense of a linear obstacle is maintaining the integrity of the defense by preventing the enemy from securing a foothold on the friendly side of the obstacle. When the enemy can gain and maintain a foothold, the company must contain it and prevent its expansion. The commander should have a plan to conduct a delay if the enemy gains sufficient strength to attack out of the bridgehead. Defending units integrate additional obstacles to stop enemy forces, channel them into planned EAs, and to further enable the integrity of the linear obstacle. The defense of a linear obstacle usually forces the enemy to deploy, concentrate forces, and conduct breaching operations. (See figure 3-2.) When attacked, the defending force isolates the enemy, conducts counterattacks, and delivers fires onto the concentrated force to defeat attempts to breach the obstacle.

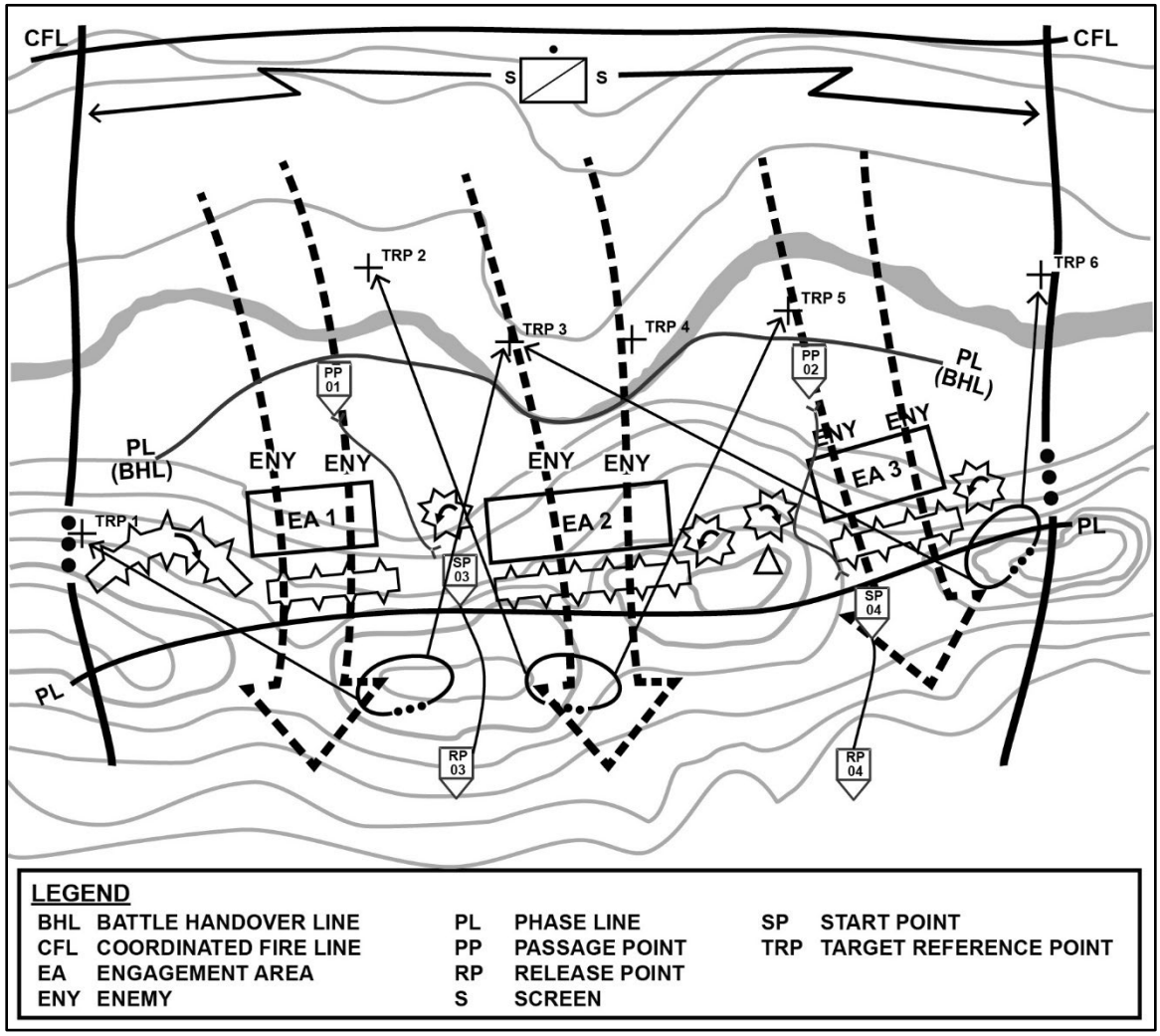


Figure 3-2. Defense of a linear obstacle (mutual support between rifle platoons)

3-35. The main purpose of the defense of linear obstacle, as with any defense, is to force or deceive the enemy into attacking under unfavorable circumstances. The defending commander seeks to dictate where the fight will occur, preparing the terrain and other conditions to the defender's advantage while simultaneously denying the enemy adequate intelligence of friendly forces defensive composition and disposition. During planning, the commander uses intelligence products from the S-2 to identify probable enemy objectives and

approaches. From those probable objectives and approaches, NAIs and targeted areas of interest are developed. The commander considers the mission variables METT-TC (I) to determine how best to concentrate efforts and economize forces. A detailed terrain analysis is most likely the most important process that the commander completes. A successful defense relies on a complete understanding of terrain to determine likely enemy COAs and the best positioning of company assets to counter them.

PERIMETER DEFENSE

3-36. A perimeter defense is a defense oriented in all directions. A perimeter defense by design has a secure inner area with most of the combat power located on the perimeter. Perimeters vary in shape depending on the terrain and situation with the perimeter shape conforming to the terrain features that best use friendly observation and fields of fire. The commander in a perimeter defense designates the trace of the perimeter, BPs, contact points, and lateral and forward boundaries. When the commander determines the most probable direction of enemy attack, the part of the perimeter covering that approach may be reinforced with additional resources. Once the threat is determined and from which direction, resources such as additional gun teams, and Javelins are emplaced to eliminate the enemy along the identified avenue of approach. The commander employs patrols, raids, ambushes, air attacks, and supporting fires to harass and destroy enemy forces before they make contact with the perimeter. The commander increases the effectiveness of the perimeter by tying it into a natural obstacle, such as a river, which allows the defending unit to concentrate its combat power in more threatened areas. Normally, if a reserve is identified by the company commander it is centrally located to react to any point of penetration along the company perimeter.

3-37. The commander may employ all defending forces forward along the perimeter or establish a defense in-depth within the perimeter. (Figure 3-3 on page 80 illustrates one of many ways the company can organize forces for a perimeter defense.) In this example, the commander positions platoons forward along the perimeter. The commander divides the perimeter into platoon sectors with boundaries and contact points. Rifle platoons orient on their respective sectors of fire. The CP is located at the center, and the mortar firing position is located near the CP. This organization of forces reduces the possibility of fratricide and friendly fire incidents within the perimeter and maximizes combat power on the perimeter.

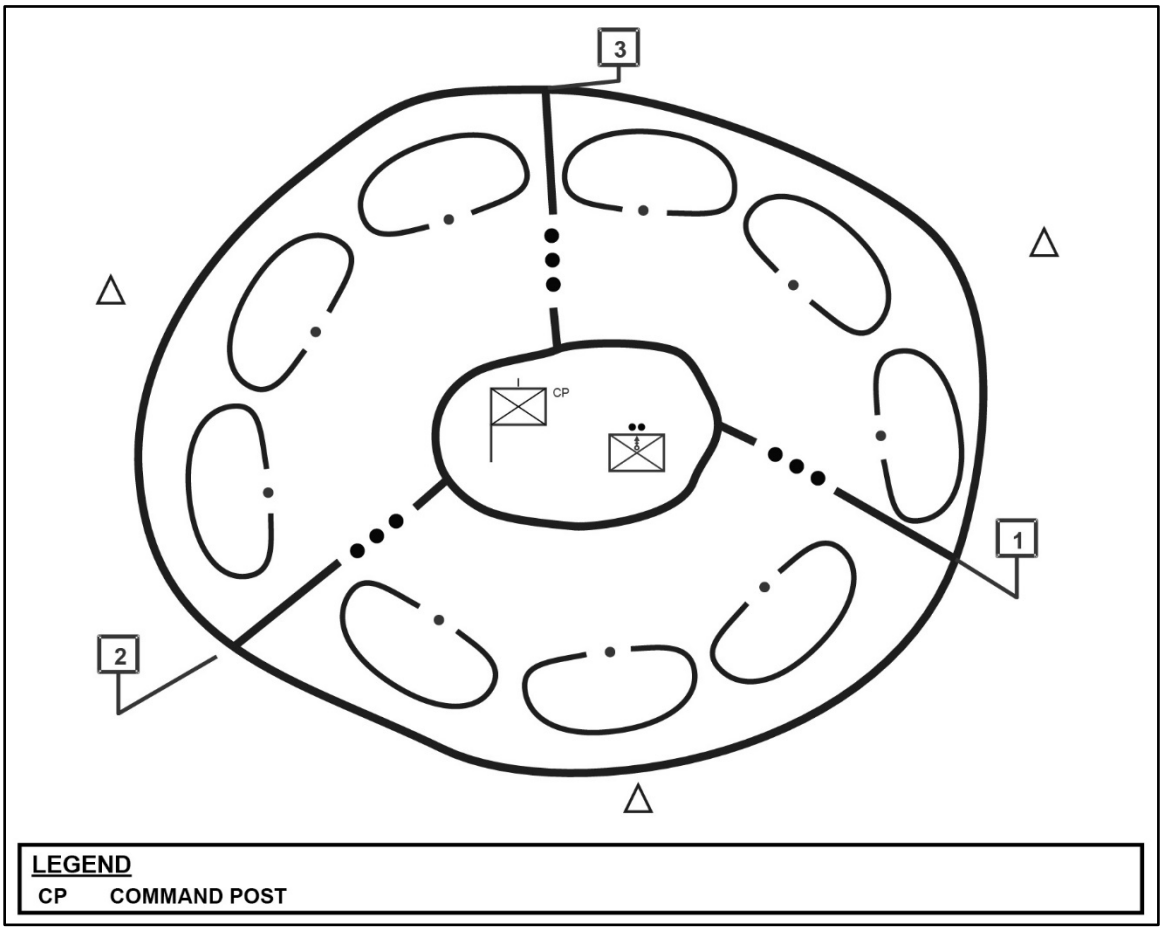


Figure 3-3. Perimeter defense (platoons positioned forward)

3-38. When conducting any of the perimeter defenses the commander does not allow gaps between defensive fighting positions when the unit is in restrictive terrain. At night or during periods of limited visibility, the commander may position tactical units closer together to retain the advantages of mutual support. Defending during periods of limited visibility or nighttime conditions, subordinate unit leaders must coordinate the nature and extent of their mutual support. The ability of the attacker to create conditions of smoke—including thermal neutralizing smoke—and the smoke and dust associated with a battle also means that the defending commander must be able to rapidly modify the defense to one effective during limited visibility. In fact, the commander should assume limited visibility rather than full visibility during defensive planning. During limited visibility, the commander may—

- Move forces forward to more closely observe an obstacle.
- Use organic and/or assigned echelon-specific UAS resources to detect enemy movement.
- Emplace stay-behind forces to report enemy activity.
- Plan white light and IR illumination.

3-39. Employment of organic and attached weapons in a perimeter defense are generally as prescribed for other defensive operations. The commander uses EAs, TRPs, FPFs, and principal direction of fire (PDF) control measures. Figure 3-4 illustrates three rifle platoons along the outer perimeter, company mortars, and HQ within the inner perimeter. In this example, EAs are established where the commander intends to contain and destroy an enemy force with the massed effects of all available weapons and supporting systems. The commander designates EAs to cover each enemy avenue of approach into the perimeter. The commander determines the size and shape of the EA by the relatively unobstructed line of sight from the weapon systems in their firing positions and the maximum range of those weapons.

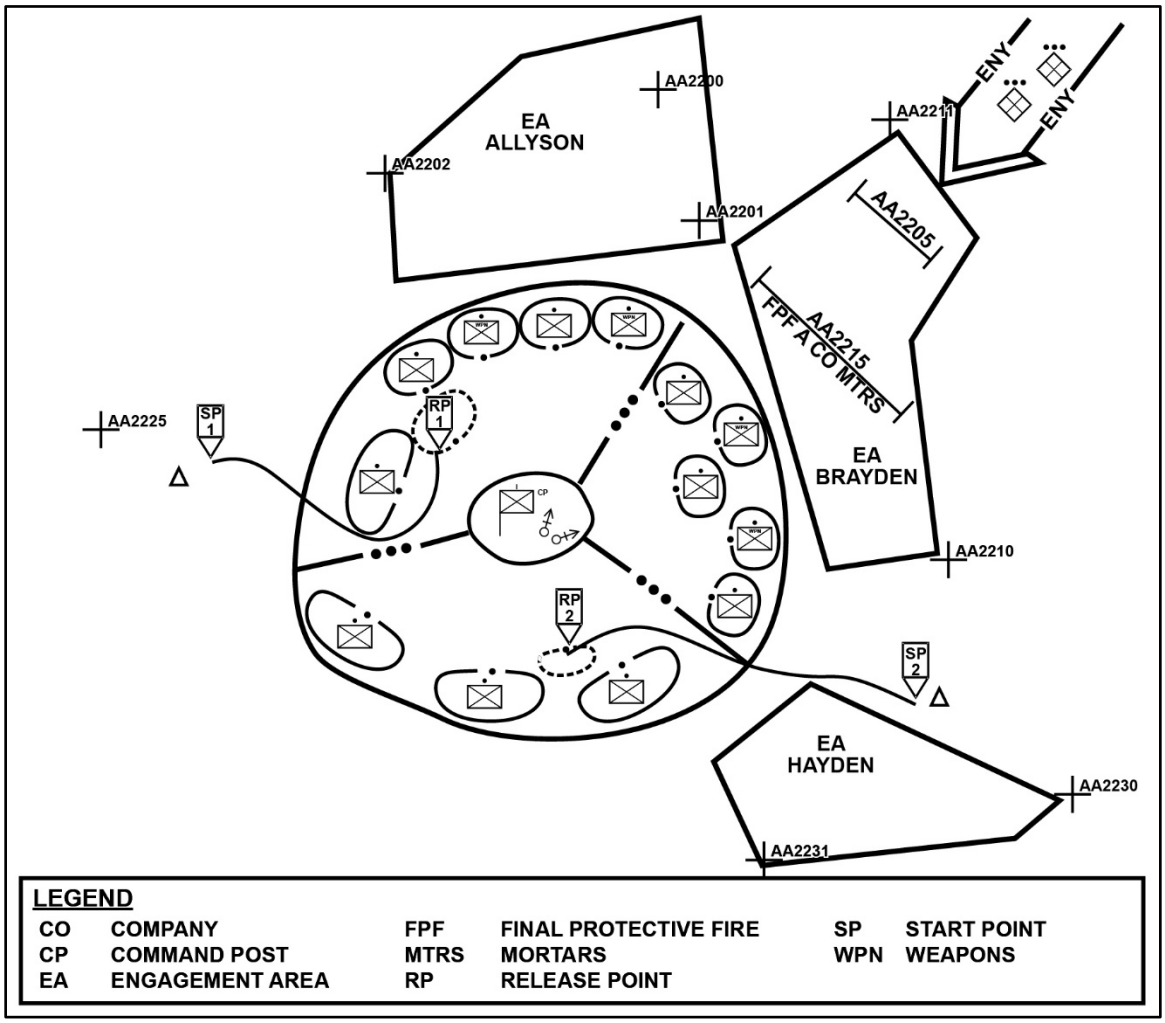


Figure 3-4. Perimeter defense (engagement area control measures)

3-40. Once EAs are determined, the commander arrays available forces and weapon systems in positions to concentrate overwhelming effects into these areas. The commander routinely subdivides an EA into smaller EAs for subordinates using one or more TRPs or by prominent terrain features. The commander assigns a sector of fire; that area assigned to an element, crew-served weapon, or an individual weapon within which it will engage targets as they appear in accordance with established engagement priorities, to subordinates within each EA. Indirect fires engage the enemy as far forward of the perimeter as possible and may support the company from within or outside the perimeter. Available fires from outside the perimeter are coordinated and integrated into the overall defensive plan. Using fire support from outside the perimeter conserves ammunition from within the perimeter.

Reverse Slope Defense

3-41. An alternative to defending on the forward slope of a hill or a ridge is to defend on a reverse slope. In such a defense, the Infantry rifle company deploys the majority of its forces on terrain that is masked from enemy direct fire and ground observation by a topographical crest (hill or ridgeline). Although some subordinate elements and weapons systems might be positioned on the forward slope, the crest, or the counterslope (a forward slope of a hill to the rear of a reverse slope), most defending forces are positioned to overwatch the EA. The key to this defense is control of the crest by direct fire. (See figure 3-5 on page 82.)

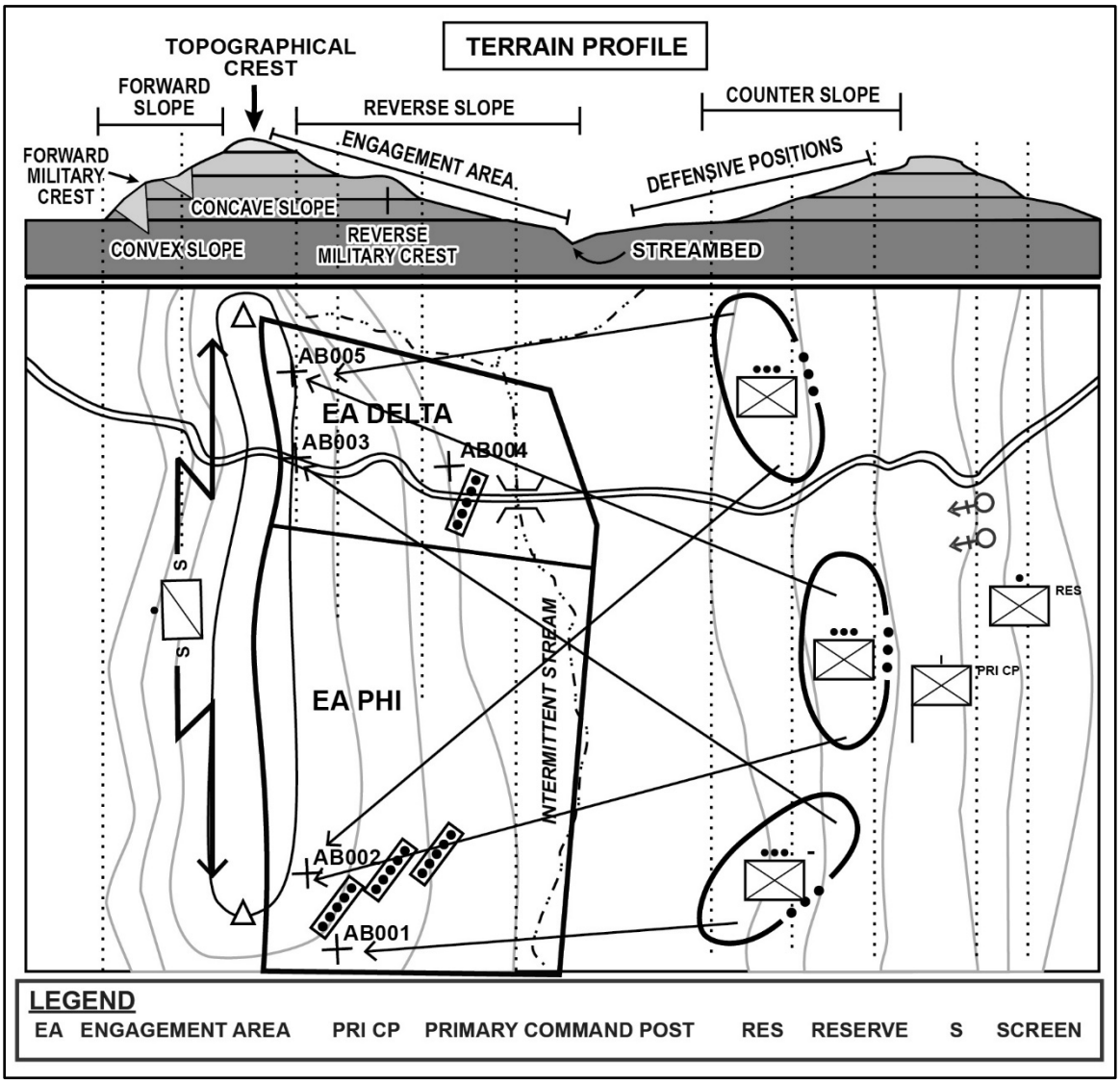


Figure 3-5. Company reverse slope defense (slope terminology)

3-42. The commander may choose to conduct a reverse slope defense when—

- Enemy fire makes the forward slope untenable.
- Lack of cover and concealment on the forward slope makes it untenable.
- The forward slope has been lost or has not yet been gained.
- The forward slope is exposed to enemy direct fire weapons fired from beyond the effective range of the defender's weapons.
- Moving to the reverse slope removes the attacker's standoff advantage.
- The terrain on the reverse slope affords better fields of fire than the forward slope.
- The defender wants to avoid creating a dangerous salient (an outwardly projecting part of a line of defense).
- The commander is forced to assume a hasty defense while in contact with or near the enemy.

3-43. When executing a reverse-slope defense, the company commander places special emphasis on the following:

- A fire support plan to prevent the enemy's occupation and use of the crest of the hill.
- The use of OPs or reconnaissance elements on the forward slope to provide observation across the entire front and security to the main BPs.
- A counterattack plan that specifies measures necessary to clear the crest or regain it from the enemy.
- Fire support to destroy, disrupt, and attrit enemy forces on the forward slope.

3-44. The forward edge of the position should be within small-arms range of the crest. It should be far enough from the crest that fields of fire allow the defender time to place well-aimed fire on the enemy before they reach friendly positions. The company establishes OPs on or forward of the topographical crest. This allows long-range observation over the entire front and indirect fire coverage of forward obstacles. OPs are usually provided by the unit that owns the terrain being observed and may vary in size from a few Soldiers to a full squad and should include FOs. At night, their number should be increased to improve security. Considerations that commanders may apply when defending on a reverse slope are the following:

- Observation of the enemy is more difficult:
  - Soldiers in this position see forward no farther than the crest, making it hard to determine exactly where the enemy is as they advance, especially when visibility is poor.
  - OPs must be placed forward of the topographic crest for early warning and long-range observation.
- Egress from the position might be more difficult.
- Fields of fire are usually short.
- Obstacles on the forward slope can be covered only with indirect fire or by units on the flanks of the company unless some weapons systems are initially placed forward.
- If the enemy gains the crest, they can assault downhill, which may give them a psychological advantage.

PLANNING

3-45. Planning an area defense is a complex effort requiring detailed planning and extensive coordination. In the defense, synchronizing the effects of warfighting functions with combat power allows the commander to apply overwhelming combat power against selected advancing enemy forces to unhinge the enemy commander's plan and destroy the enemy. An area defense is a mix of static and dynamic actions. As an operation evolves, the commander may shift main and supporting efforts to disrupt and maintain pressure on the enemy and to deny the enemy freedom of maneuver and the initiative. The commander's defensive plans must address how the preparations for, and the conduct of, the area defense impact the civilian population of the assigned area. (See ATP 3-21.20 and FM 3-96 for additional information.)

3-46. As with all company planning, when conducting the defense, the commander utilizes TLP—dynamic processes used by small unit leaders to analyze a mission, develop a plan, and prepare for an operation—as outlined in appendix B. The six warfighting functions are the framework for discussing planning considerations that apply to all primary and enabling tasks and activities. (See FM 3-96 for a detailed discussion, by warfighting function, of defensive planning considerations.)

COMMAND AND CONTROL

3-47. Upon receipt of the battalion defensive warning order (WARNORD) the company commander begins TLP (see appendix B for more information) and makes an estimate of the situation. The result of this estimate is a concept that includes control measures, the fires plan, the reconnaissance, surveillance, and security plans, logistics plan, and employment of the reserve, when established.

3-48. The commander considers the mission variables of METT-TC (I) to determine how best to concentrate efforts and economize forces. A detailed terrain analysis might be the most important process that the commander completes. The commander conducts the mission analysis based on available products, and information disseminated by the higher commander, and staff. A successful defense relies on a complete understanding of the terrain to determine likely enemy COAs and the best positioning of the company's assets to counter them. Initially, integrated with the staff's IPOE, the company commander visualizes the enemy's anticipated actions. The company commander refines the battalion's IPOE to focus on the details of the operation in the company's assigned area.

3-49. The company commander determines how and where to defeat the enemy, where it is believed the enemy will go, the terrain, the forces available, and the battalion commander's intent. The commander may define a defeat mechanism that includes the use of single or multiple counterattacks to achieve success. In an area defense, the company usually achieves success by massing the cumulative effects of obstacles and fires to defeat the enemy forward of a designated area. When followed by a delaying operation, success is achieved by combining maneuver, fires, and obstacles, and by avoiding decisive engagement until conditions are right to achieve the desired effect of gaining time or shaping the battlefield for a higher echelon counterattack.

3-50. In planning, the commander develops a concept for each COA determined by the mission analysis. Each COA should be developed starting at a potential decisive point and determining the result that must be achieved at the decisive point to accomplish the mission. Determining the decisive point, times, and locations to project combat power allows the commander to anticipate the fight to come. The commander determines the purposes that must be achieved at the decisive point to accomplish the mission. Normally, the purpose from the company mission statement clearly states task and purpose to subordinate units. In some instances, the commander must analyze the situation more closely to determine the desired result. The commander determines the purposes to be achieved by the main and supporting efforts (the two must be clearly linked). The main effort's purpose is often the purpose from the company's mission statement. At times the company's purpose must be modified slightly to be appropriate for the main effort platoon. When modified, it must be clear that by achieving the main effort's purpose the company achieves its purpose. Supporting purposes are selected by determining what must be achieved to support the success of the main effort. The commander ensures that all essential tasks for subordinate units are identified, and that once accomplished, they achieve the desired end state.

MOVEMENT AND MANEUVER

3-51. Maneuver allows the commander to take full advantage of the assigned area and to mass and concentrate when desirable. Maneuver, through movement in combination with fire, allows the company to achieve a position of advantage over the enemy to accomplish the mission. The commander studies the ground and selects positions that allow the massing of fires on likely approaches. The commander concentrates forces directed within the EA and positions security, intelligence, and reconnaissance forces and surveillance assets forward of defensive positions to gain the most information about the enemy as they move toward the EA.

3-52. When conducting an area defense the commander combines static and mobile actions to accomplish the mission. Static actions usually consist of fires from prepared positions. Mobile actions include using the fires provided by units in prepared positions as a base for counterattacks and repositioning units between defensive positions. The company commander can use the reserve and uncommitted forces to conduct counterattacks and spoiling attacks to desynchronize the enemy forces or prevent them from massing, or that the company may be employed as a counterattacking force in support of the battalion area defense.

General Considerations

3-53. The Infantry rifle company attempts to discern enemy intentions by collecting information on the massing of forces and troop movement. When emplacing sensors, listening and OPs, and launching reconnaissance and combat (commonly called security) patrols, the commander ensures all patrols and OPs are situationally aware of units forward of their position. It is important for subordinate elements establishing an OP and conducting reconnaissance and combat patrols to relay valuable collected information, and that adjacent units have SA as to their positioning on the battlefield. The commander should employ enough

forces in the company's security area to gather information regarding enemy movement, without severely degrading defensive MBA preparations and posture.

3-54. Once the rifle company has been assigned its sector, the commander analyzes the precise positions that subordinate elements will occupy. The commander determines any potential area between higher HQ, adjacent, and subordinate units that are unassigned. Any area within the company sector that is not assigned to a subordinate unit remains the responsibility of the company. The company may plan to cover this area with available R&S assets, to include organic and/or assigned ground sensors and UASs along with higher echelon information collection assets, or with OPs and reconnaissance and security patrolling. The commander plans local counterattacks to isolate and destroy any enemy that manages to penetrate through a gap in the sectors, including SA in unassigned areas.

Note. Defensive area security activities include the establishment of a perimeter defense, base perimeter security (see ATP 3-21.20, appendix I), combat outposts, OPs, surveillance, moving and stationary screen and guard missions, and reconnaissance and counterreconnaissance missions.

Engagement Area

3-55. An *engagement area* is an area where the commander masses effects to contain and destroy an enemy force (FM 3-90). The success of any engagement depends on how effectively the commander integrates the direct fire plan, the indirect fire plan, the obstacle plan, Army aviation fires (manned and unmanned), and/or organic or tasked echelon specific UAS (to include firing) platforms, joint/coalition CAS, and the terrain within the EA to achieve the tactical purpose. Within the defense, the company commander positions defending platoons (defense in-depth) in successive layers of BPs (primary, alternate, and strong point) along the enemy's most likely avenue of approach.

Engagement Area Development

3-56. The commander develops EAs, to include engagement criteria and priority, covering each enemy avenue of approach. Within the company MBA, the commander determines the size and shape of the EA by the relatively unobstructed line of sight from the weapons systems firing positions and the maximum range of those weapons systems. Once the commander selects EAs, the commander arrays available forces and weapons systems in positions to concentrate overwhelming effects into these areas. The commander routinely subdivides EAs into smaller EAs for subordinates using one or more TRPs or by key terrain or prominent terrain features. The commander assigns sector of fires to subordinates, ensuring complete coverage of EAs and preventing fratricide and friendly-fire incidents. Responsibility for an avenue of approach or key terrain is never split.

3-57. *Engagement criteria* is protocols that specify those circumstances for initiating engagement with an enemy force (FM 3-90). Engagement criteria may be restrictive or permissive in nature. For example, the commander may instruct a subordinate platoon leader not to engage an approaching enemy unit until the enemy commits to an avenue of approach. The commander establishes engagement criteria in the direct fire plan in conjunction with engagement priorities and other direct fire control measures to mass fires and control fire distribution.

3-58. *Engagement priority* identifies the order in which the unit engages enemy systems or functions (FM 3-90). The commander assigns engagement priorities based on the type or level of threat at different ranges to match organic weapon systems capabilities against enemy vulnerabilities. Engagement priorities are situationally dependent and used to distribute fires rapidly and effectively. Subordinate elements can have different engagement priorities but will normally engage the most dangerous targets first, followed by targets in-depth or specialized systems, such as engineer vehicles.

3-59. A *target reference point* is a predetermined point of reference, normally a permanent structure or terrain feature that can be used when describing a target location (JP 3-09.3). The company and subordinate units may designate TRPs to define unit or individual sectors of fire and observation, usually within the EA. TRPs, along with trigger lines, designate the center of an area where the commander plans to distribute or converge the fires of all weapons rapidly to further delineate sectors of fire within an EA. Once designated, TRPs may also constitute indirect fire targets.

3-60. A *trigger line* is a phase line located on identifiable terrain used to initiate and mass fires into an engagement area at a predetermined range (FM 3-90). The commander can designate one trigger line for all weapon systems or separate trigger lines for each weapon or type of weapon system. The commander specifies the engagement criteria for a specific situation. The criteria may be either time- or event-driven, such as a certain number or certain types of vehicles to cross the trigger line before initiating engagement. The commander can use a time-based fires delivery methodology or a geography-based fires delivery.

3-61. Although often identified as a method to defeat enemy armor, EAs are an effective method to defeat any enemy attack whether the attack is primarily an armor, Infantry, or a mixed armor and Infantry force. The key is the identification of the likely enemy avenues of approach and actions, and the placement of adequate friendly forces, obstacles, and fires to defeat the enemy. The following seven-step EA development process, used for discussion purposes, represents one way a rifle company builds an EA. The steps of EA development include the following:

- Identify likely enemy avenues of approach.
- Identify the most likely enemy COA.
- Determine where to kill the enemy.
- Position subordinate forces and weapons systems.
- Plan and integrate obstacles.
- Plan and integrate fires.
- Rehearse the execution of operations within the EA.

Army Aviation and Unmanned Aircraft Systems

3-62. In the defense, the speed and mobility of Army aviation and UASs can assist the Infantry in the concentration of forces and tactical flexibility. They support the Infantry with aerial R&S, observed fires (in contact), and deep operations (out of contact) independent of the ground maneuver. Army aviation attacks against enemy forces in or out of contact can have a decisive effect or be a shaping effort at the tactical or operational level and enable the combined arms team to maintain the tempo of operations while presenting multiple dilemmas to the enemy at the ground maneuver commander's time and place of choice. Synchronization of aviation assets into the defensive plan is important to ensure aviation assets are capable of massing fires and preventing fratricide. Detailed air-ground integration and coordination is necessary to ensure efficient use of aviation assets. (See appendix D for additional information on air-ground operations.)

3-63. In support of the area defense, Army aviation forces support forward security area operations and mass fires during the MBA fight. When assigned aviation assets, the commander carefully considers EA development and direct fire planning. (See ATP 3-21.20 and ATP 3-91.1 for additional information.)

Note. During deep operations, Army aviation attack and reconnaissance units conduct operations as a maneuver force with manned and unmanned systems maneuvering interdependently. *Manned unmanned teaming* is the synchronized employment of Soldiers, manned and unmanned air and ground vehicles, robotics, and sensors to achieve an objective (FM 3-04). Manned unmanned teaming enables increased depth and breadth of aviation reconnaissance and maneuver, longer persistence over the reconnaissance objective, increased ability to gain and maintain enemy contact, greater survivability and more options to develop the situation with enhanced maneuver, fires, and C2. Army aviation attack and reconnaissance units can attack deep high-payoff targets, enemy concentrations and moving columns, and disrupt the enemy at the decisive point. Aviation forces employ in-depth to attack exploitation forces or follow-on echelons before they can move forward to the close battle. (See FM 3-04 and ATP 3-04.1 for additional information.)

Countermobility

3-64. *Countermobility* is a set of combined arms activities that use or enhance the effects of natural and man-made obstacles to prevent the enemy freedom of movement and maneuver (ATP 3-90.8). Primary purposes of countermobility operations are to shape enemy movement and maneuver and to prevent the enemy from gaining a position of advantage. In support of the area defense, countermobility operations are conducted to disrupt enemy attack formations and assist in defeating the enemy in detail. Countermobility

operations channel attacking enemy forces into EAs throughout the depth of the defense and protect the flanks of friendly counterattack forces. Countermobility operations shape engagements, maximize the effects of fires, and provide close-in protection around defensive positions to defeat the final assault of the enemy and to prevent and warn of intrusion into critical support area sites and fixed sites such as bases. (See ATP 3-90.8 for additional information.)

3-65. The company commander, using available battalion staff products, develops the countermobility plan concurrently with the fire support plan and defensive scheme of maneuver for the company, guided by the battalion commander's intent. The conduct of countermobility typically involves engineers and includes proper obstacle integration with the maneuver plan, adherence to obstacle emplacement authority, and positive obstacle control. Combined arms obstacle integration synchronizes countermobility operations into the concept of operations. Because most obstacles have the potential to prevent freedom of movement and maneuver to friendly forces and enemy forces, it is critical that the commander properly weighs the risk and evaluates the trade-off of employing various types of obstacles.

3-66. Obstacle control is essential in supporting the commander's plan. Responsibilities for executing tasks within countermobility operations can be broadly divided into two entities: emplacing unit and owning unit. This framework helps the commander plan for and assign responsibilities for obstacle execution to subordinate units. The responsibilities of each may vary based on the type of obstacle and the situation. The commander's concept of operations will include the following tasks:

- Siting obstacles.
- Constructing, emplacing, or detonating obstacles.
- Marking, reporting, and recording obstacles.
- Maintaining obstacle integration.

Note. See TM 3-34.85 for information on the types and employment of friendly obstacles.

Existing and Reinforcing Obstacles

3-67. Countermobility operations typically reinforce the terrain to block, fix, turn, or disrupt the enemy's ability to move or maneuver, giving the commander opportunities to exploit enemy vulnerabilities or react effectively to enemy actions. The commander reinforces the terrain to prevent the enemy from gaining a position of advantage, taking full advantage of the natural restrictiveness of the existing terrain to minimize the time, effort, and materiel needed to achieve the desired obstacle effects. Reinforcing the terrain focuses on existing and reinforcing obstacles. Existing obstacles are inherent aspects of the terrain that impede movement and maneuver. Existing obstacles may be natural (rivers, mountains, wooded areas) or man-made (enemy explosive and nonexplosive obstacles and structures, including bridges, canals, railroads, and embankments associated with them).

3-68. Reinforcing obstacles are those man-made obstacles that strengthen existing terrain to achieve a desired effect. Reinforcing obstacles must be planned and emplaced to support the maneuver commander's plan, while not hindering friendly-force mobility. Obstacle plans are developed based on a thorough understanding of the commander's intent and concept of operations, enemy mobility capabilities, and the effects of the natural terrain and existing obstacles. Only then can the true value of integrating obstacles, observation, fires, and maneuver be realized. Reinforcing obstacles on land consists of land mines, networked munitions, and demolition and constructed obstacles. The basic employment principles for reinforcing obstacles are—

- Supporting the maneuver commander's plan.
- Integrating with observation and fires.
- Integrating with other obstacles.
- Employing in-depth.
- Employing for surprise.

Tactical and Protective Obstacles

3-69. Reinforcing obstacles are categorized as tactical and protective. Tactical obstacles help shape enemy maneuver and prevent the enemy from gaining a position of advantage, while protective obstacles protect people, equipment, supplies, and facilities against threats. The primary purposes of tactical obstacles are to shape enemy maneuver and to maximize the effects of fires. Tactical obstacles directly attack the ability of a force to move, mass, and reinforce; therefore, they affect the tempo of operations. Commanders integrate obstacles into the scheme of movement and maneuver to enhance the effects of fires. Preexisting obstacles that a unit reinforces and integrates with observation and fires may become tactical obstacles. The types of tactical obstacles are clearly distinguished by the differences in execution criteria. The three types are—

- *Directed obstacle*, an obstacle directed by a higher commander as a specified task to a subordinate unit (ATP 3-90.8).
- *Situational obstacle*, an obstacle that a unit plans and possibly prepares prior to starting an operation but does not execute unless specific criteria are met (ATP 3-90.8). The commander considers types of obstacles to employ, and the trigger.
- *Reserved obstacle*, obstacles of any type, for which the commander restricts execution authority (ATP 3-90.8).

3-70. Protective obstacles have two roles: defense or security. Infantry units plan and construct their own protective obstacles. For best effect, protective obstacles are tied into existing or tactical reinforcing obstacles. The company can use mines and wire, or it might receive additional materiel from the battalion, for example, classes IV or V.

3-71. In planning protective obstacles, the commander evaluates the potential threat to platoon position, then employs the best system for that threat. Protective obstacles are usually located beyond hand grenade distance (40 to 100 meters) from the Soldier's fighting position and may extend out 300 to 500 meters to tie into tactical obstacles and existing restricted terrain. (As with tactical obstacles, the subordinate leaders should plan protective obstacles in-depth and try to maximize the range of the unit's weapons.) The commander considers preparation time, the burden on the logistical system, the Soldiers' loads, and the risk of loss of surprise.

3-72. The three types of wire obstacles (see figure 3-6) are protective, tactical, and supplementary.

3-73. Protective wire can be a complex obstacle providing all-around protection of a perimeter, for example platoon or squad. It also might be a simple wire obstacle on the likely dismounted avenue of approach into a squad ambush position. Command-detonated M18 Claymore mines (see TC 3-22.23) can be integrated into the protective wire or used separately.

3-74. Tactical wire is positioned to increase the effectiveness of the unit's fires. Usually, it is positioned along the friendly side of the medium machine gun final protective line (FPL). Tactical minefields also may be integrated into these wire obstacles or used separately.

3-75. Supplementary wire obstacles can break up the line of tactical wire. This helps prevent the enemy from locating friendly weapons (particularly the medium machine guns) by following the tactical wire.

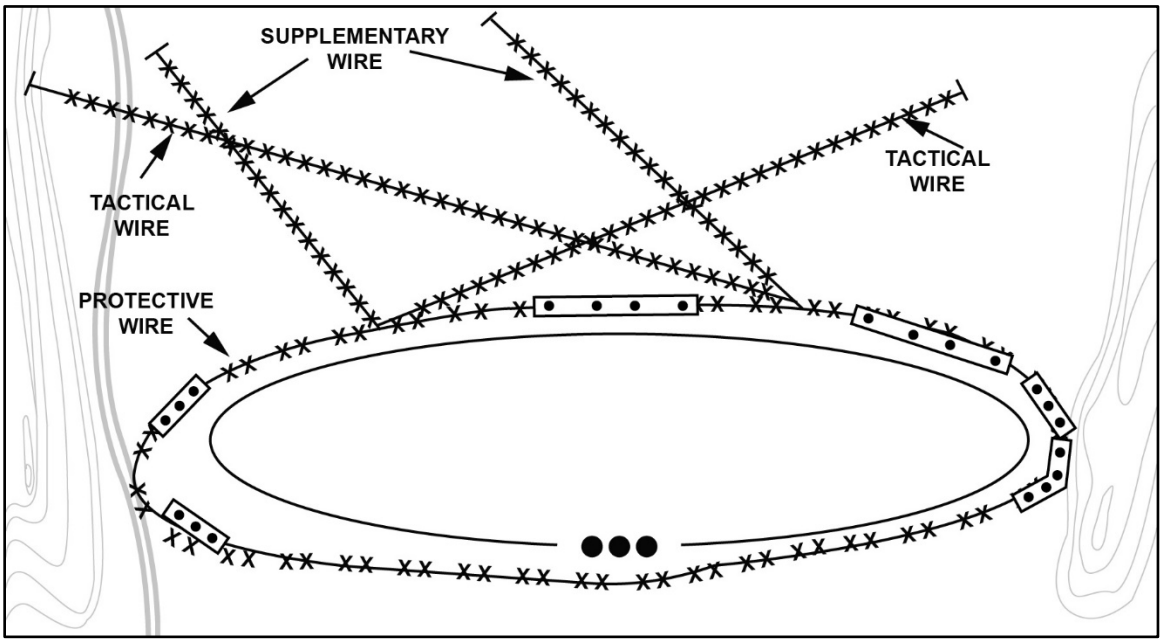


Figure 3-6. Protective, tactical, and supplementary wire obstacles

Obstacle Intent

3-76. Obstacle intent includes the target and desired effect (clear task and purpose) and the relative location of the obstacle group. The purpose influences many aspects of the operation, from selecting and designing obstacle sites to conducting the defense. Normally, the company commander designates the purpose of an obstacle group. When employing obstacles, the platoon leader considers the following principles:

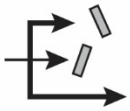
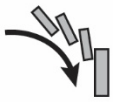
- They support the tactical plan:
  - Ensures obstacles supplement combat power to decrease the mobility of the enemy.
  - Provides security for the platoon.
  - While considering enemy avenues of approach, the platoon leader also considers the platoon's own movement requirements, such as routes for resupply, withdrawal, counterattacks, patrols, and OPs.
- Tie in:
  - Ensures reinforcing obstacles are tied in with existing or natural obstacles.
  - Ensures the fire support plan supports the obstacle plan.
  - Based on estimated enemy's rate of movement and formation, the amount of time it will take the enemy to breach or bypass specific obstacles.
  - How long it will take to process and fire each target.
  - Allows for the creation of effective triggers that quickly synchronize fires and achieve the desired effects against enemy formations.
- Covered by observation and fire:
  - Ensures that all obstacles are covered by observation and fire.
  - Reduces the enemy's ability to remove or breach the obstacles out of contact.
- Constructed in-depth:
  - Emplaces obstacles so that each new obstacle encountered by the enemy attrits the enemy force or equipment and causes a desired and controlled reaction.
  - Ensures proper use of obstacles in-depth wears the enemy down and significantly increases the overall effect.
- Employed for surprise:
  - Avoids an obvious pattern of obstacles that would divulge locations of units and weapons.
  - Avoids readily discernable, repetitive obstacle patterns.

3-77. The company commander assigns obstacle groups and tells the platoon leader and supporting engineers the intent of the obstacles against the enemy and then resources the groups accordingly. Obstacle groups are collections of individual obstacles, such as minefields, antitank ditches, or wire entanglements, that are planned and employed together to achieve a specific tactical effect on an enemy force. These effects are designed to support the overall defensive plan of the commander. Obstacle intent includes the elements of target, effect, and relative location:

- Target identifies the targeted enemy force size, type, echelon, avenues of approach, or any combination of these.
- Effect describes how to affect the enemy's maneuver with obstacles and fires.
  - Tactical obstacles block, turn, fix, or disrupt.
  - Obstacle effect integrates the obstacles with direct and indirect fires.
- Relative location:
  - The placement of the obstacle effect to occur against the targeted enemy force.
  - Initiates an obstacle integration process after identifying where on the terrain the obstacle will most decisively affect the enemy.

3-78. Obstacle effect describes the effect that the commander wants the obstacle(s), combined with fires, to have on the enemy. The obstacle effect drives integration, focuses subordinate fires, focuses obstacle effort, and multiplies firepower effects. It is important to remember, obstacle effects occur because of the combined effects of fires and obstacles, rather than from obstacles alone. Tactical obstacles produce one of the following effects: disrupt, turn, fix, or block. Table 3-1 shows the symbols for each obstacle effect, and it describes the purpose and characteristics of each. Obstacle effect symbols are used as control measures for obstacle groups and as elements of the control measures for obstacle zones and belts. During COA development, obstacle effect symbols are also used in developing and showing the initial obstacle plan that supports each COA.

Table 3-1. Tactical obstacle effects

APPLICATION	DESCRIPTION	PURPOSE	FIRES AND OBSTACLES MUST:	OBSTACLE CHARACTERISTICS
DISRUPT 	• The arrows indicate the direction of enemy advance. • The length of the arrows indicate where the enemy is slowed or allowed to bypass.	• Breakup enemy formations. • Interrupt the enemy's timetable and C2. • Cause premature commitment of breach assets. • Cause the enemy to piecemeal his attack.	• Cause the enemy to deploy early. • Slow part of the enemy formation while allowing part to advance unimpeded.	• Do not require extensive resources. • Difficult to detect at long range.
TURN 	• The heel of the arrow is the anchor point. • The direction of the arrow indicates the desired direction of the turn.	• Force the enemy to move in the direction desired by the the friendly commander.	• Prevent the enemy from bypassing or breaching the obstacle belt. • Maintain pressure on the enemy force throughout the turn. • Mass direct and indirect forces at the anchor point of the turn.	• Tie into impassable terrain at the anchor point. • Consist of obstacles in depth. • Provide a subtle orientation relative to the enemy's approach.
FIX 	• The arrow indicates the direction of enemy advance. • The irregular part of the arrow indicates where enemy advance is slowed by obstacles.	• Slow an attacker within an area so the attacker can be destroyed. • Generate the time necessary for the friendly force to disengage.	• Cause the enemy to deploy into attack formation before encountering the obstacles. •Allow the enemy to advance slowly in an EA or AO. • Make the enemy fight in multiple directions once the enemy is in the EA or AO.	• Arrayed in depth. • Span the entire width of the avenue of approach. • Must not make the terrain appear impenetrable.
BLOCK 	• The vertical line indicates the limit of enemy advance and where the obstacle ties into severely restricted terrain. • The horizontal line shows the depth of the obstacle effort.	• Stop an attacker along a specific avenue of approach. • Prevent an attacker from passing through an AO or EA. • Stop the enemy from using an avenue of approach and force the enemy to use another avenue of approach.	• Prevent the enemy from bypassing or penetrating through the belt. • Stop the enemy's advance. • Destroy all enemy breach efforts.	• Must tie into impassable terrain. • Consistent of complex obstacles. • Defeat the enemy's mounted and dismounted breaching effort.
Direction of enemy attack ⟶				

LEGEND
AO AREA OF OPERATION C2 COMMAND AND CONTROL EA ENGAGEMENT AREA

Mobility

3-79. When planning an area defense, the commander identifies the mobility requirements by analyzing the scheme of maneuver, counterattack options, reserve planning priorities, fire support, protection, and sustainment movement requirements, and adjacent and higher unit mission, movement, and maneuver. The commander with the assistance of attached engineers (if available) integrates analysis into the obstacle plan while avoiding the impediment of friendly maneuver when possible. Because the bulk of the engineer force is committed to countermobility and survivability during preparation, the commander uses clear obstacle restrictions on specific areas within the AO to maintain mobility. Mobility support linkup and coordination is factored into the overall defensive preparation timeline.

3-80. When obstacles must be constructed along a mobility corridor that primarily supports friendly movement, a lane or gap and associated closure procedures are planned and rehearsed. Lanes or gaps may be closed with situational or reserved obstacles. Beyond preparing and marking lanes and gaps through obstacles, engineers normally perform mobility tasks once defensive preparations are complete. Mobility assets may then be positioned to counter templated enemy situational obstacles, or be task-organized to the reserve, counterattack force, or any other unit that must maneuver or move after the execution of the defense. To do this effectively, mobility asset and supported maneuver units integrate, prepare, and rehearse. On occasion the company may require significant mobility support during defensive preparation. For example, route reduction or clearance, road repair or maintenance, and LZ and PZ clearance.

3-81. Although not specifically designed or intended as an obstacle, structures may pose as an obstacle based on existing characteristics or altered characteristics that result from combat operations or a catastrophic event. Structures such as bridges and overpasses present an inherent impediment to mobility based on weight and clearance restrictions. Existing obstacles are shown on the combined obstacle overlay developed as part of the IPOE. As described in ATP 3-34.80, geospatial engineering is critical in accurately predicting the effects that existing obstacles will have on enemy and friendly movement and maneuver.

INTELLIGENCE

3-82. IPOE is a critical part of defensive planning. (See ATP 2-01.3.) IPOE helps the commander determine where to concentrate combat power, where to accept risk, and where to plan the potential main effort. The battalion integrates intelligence from the higher echelon's collection efforts and from units operating forward of the battalion's AO and is then disseminated to company commanders, who then conduct IPOE at the company level. Information collection includes collection from spot reports, organic or tasked echelon-specific UAS (to include firing) platforms, and other higher-level collection assets. Early warning of enemy air attack, airborne or helicopter assault or insertion, and dismounted infiltration are vitally important to provide adequate reaction time to counter these threats as far forward as possible. To aid in the development of a flexible defensive plan, the IPOE presents all feasible enemy COAs. The essential areas of focus are terrain analysis, determination of enemy force size and likely COAs with associated decision points, and determination of enemy vulnerabilities.

3-83. In the defense, key terrain is usually within and behind the defensive area, such as terrain that gives good observation over avenues of approach to and through the defensive position; terrain that permits the defender to cover an obstacle by fire; or areas along lines of communications that affect the use of reserves or sustainment operations. Key terrain may include portions of the population, such as political, tribal, and religious groups or leaders; a localized population; infrastructure; or governmental organizations. Weather conditions can affect visibility, temperature can affect the use of thermal sights, and cloud cover can negate illumination provided by the moon. Precipitation and other obscurants can also have varying effects as well. Low visibility is beneficial to offensive and retrograde operations because it conceals concentration of maneuver forces, thus enhancing the possibility of surprise. Low visibility hinders the defense because cohesion and control become difficult to maintain, reconnaissance operations are impeded, and target acquisition is degraded. The commander's analysis throughout the IPOE focuses on determining the enemy's—

- Main, supporting, and reinforcing efforts.
- Use of reserves.
- Use of special munitions.
- Use of air support.

FIRES

3-84. Supporting the commander's concept of operations during the defense involves attacking and engaging targets throughout the AO with massed or precision fires. The commander and available fire support planners (FSO, fire support NCO, and FIST teams) make maximum use of any preparation time available to plan and coordinate supporting fires. Planners ensure fires complement and support all security forces forward of the MBA as these fires play a key role in disrupting the attacker's tempo and synchronization during the defense. Fire support planning and execution must address flexibility through operations in-depth and support to defensive maneuver. The commander promotes freedom of action within the MBA by using the least restrictive control measures necessary to implement the scheme of maneuver. The commander ensures all key avenues of approach, and obstacles are considered when employing indirect fires, incorporating all available firepower where the enemy will likely attack.

3-85. The company may utilize organic or tasked echelon-specific UAS (to include firing) platforms, robotics, remote sensors, and reconnaissance and security forces to call for fire on the enemy throughout the AO. Quick, violent, and simultaneous action throughout the depth of the defender's AO can degrade, confuse, and paralyze an enemy force just as that enemy force is most exposed and vulnerable. Though the company may receive priority of fires for a specific mission or phase of the defense, the commander must not overly rely on indirect fire assets available from the brigade and battalion. Company mortars may be the primary

indirect fire assets for the company. (See appendix D.) Additional fire support considerations for supporting the commander's concept of operations include—

- Allocating initial priority of fires to security forces forward.
- Creating observation plans.
- Planning targets along enemy reconnaissance mounted and dismounted avenues of approach.
- Engaging approaching enemy formations at vulnerable points along their route of march.
- Planning the transition of fires from the security area to the MBA fight.
- Planning the echelonment of fires (see appendix D).
- Incorporating existing fire support coordination measures and detailed triggers to adjust them.
- Developing clear triggers to initiate fires and adjust priority of fires.
- Ensuring integration of fires in support of obstacle effects.
- Ensuring the integration of fires with the counterattack plan and repositioning contingency plans.
- Identifying and targeting high priority targets.
- Maintaining airspace deconfliction.
- Integrating and positioning of organic mortars.
- Planning FPFs.

SUSTAINMENT

3-86. Sustainment considerations within the Infantry are characterized by constrained organic assets. Planning for sustainment operations throughout the security area is critical to sustaining reconnaissance and security operations to prevent enemy forces from determining friendly force disposition. Forces operating within the security area are configured prior to departure of the MBA with a minimum of 72-hour LOGPAC of Class I (subsistence), Class III (petroleum, oil, and lubricants), and Class V (ammunition). Preconfigured combat loads are positioned in the combat trains to expedite resupply operations. Pre-stocked classes of supply (Classes IV and V) are pre-positioned as required within the defense. Sustainment support to the security area must include planning for both ground and aerial resupply and MEDEVAC of long duration OPs. The commander must select routes to, and the locations of both company trains and CCPs. Both should be positioned (and have covered and concealed routes) as to not be decisively engaged while ensuring accessibility. Non-essential gear should be kept toward the rear of the defense near the company trains, or under watch by company personnel and located in the battalion field trains.

3-87. Enemy actions and the maneuver of combat forces complicate medical operations, as will the depth and dispersion of the defense. Defensive operations must include health service support to medical personnel who have much less time to reach a patient, complete vital emergency medical treatment, and remove the patient from the battle site. With the enemy's initial attack and the battalion's counterattack producing the heaviest patient workload, they are also the most likely times for the enemy's use of artillery and CBRN weapons. These enemy attacks can disrupt ground and air routes and delay evacuation of patients to and from treatment elements.

PROTECTION

3-88. During defensive operations commanders assess threats and hazards and identify survivability measures to avoid and defeat enemy detection, complicate enemy targeting, and withstand enemy effects. Depending on the threat, a unit may need a decontamination plan for the MBA to enable units to continue the defense after encountering a CBRN hazard. Commanders should also ensure that electromagnetic protection (EP) remains constant and consider the possible impact on the behavioral health of personnel in the defense (force health protection). They should also consider integrating, layering, and synchronizing operations and tasks that enable protection effects.

3-89. Because the company defends to conserve combat power for use elsewhere or later, the commander must secure the force. The commander enables security, by means of providing information about the activities and resources of the enemy, through employing reconnaissance forces and surveillance assets within the assigned AO.

3-90. Soldiers must conduct individual preventative measures such as the use of sunglasses, sunscreen, mosquito netting, insect repellent, field sanitation, and personal hygiene. The company must use and properly employ the unit field sanitation team to ensure a healthy and fit fighting force. (See ATP 4-25.12 for more information on field hygiene and sanitation.)

3-91. As discussed in chapter 2, personnel and physical assets have inherent survivability—a quality or capability of military forces which permits them to avoid or withstand hostile actions or environmental conditions while retaining the ability to fulfill their primary mission, which can be enhanced through various means and methods. One way the company can enhance survivability when existing terrain features offer insufficient *cover*, protection from the effects of fires (FM 3-96), and *concealment*, protection from observation or surveillance (FM 3-96), is to alter the physical environment to provide or improve cover and concealment. Similarly, natural or artificial materials may be used as camouflage to confuse, mislead, or evade the enemy. Together, these are called *survivability operations*—those protection activities that alter the physical environment by providing or improving cover, camouflage, and concealment (ATP 3-37.34). Although survivability encompasses capabilities of military forces both while on the move and when stationary, survivability operations focus more on stationary capabilities—constructing fighting and protective positions and hardening facilities.

3-92. As the company conducts survivability operations within the limits of its capabilities, engineer and CBRN assets provide additional capabilities to support survivability operations in support of the company. Engineer support to survivability operations is a major portion of the enhance protection line of engineer support and the integration of survivability priorities for critical systems and units within and supporting the company. (See FM 3-34.) CBRN assets support survivability through protection and contamination mitigation measures. CBRN reconnaissance assets maintain surveillance of CBRN NAIs, key routes, and terrain. Employment of individual and collective protection measures minimize or negate the effects of a CBRN incident. Immediate and operational decontamination techniques allow forces to withstand operations in contaminated environments. (See appendix G.)

3-93. The priority of work tasks established by the commander outline survivability and countermobility instructions for its attached and subordinate units. The commander should instruct subordinates to augment and assist engineering attachments and assets to expedite improvement of the defense. If little to no engineer support is available, the company commander must establish these same priorities early for its subordinate platoons to begin as soon as possible. In some instances, this may require obstacles intended to limit mobility, and survivability locations are fully prepared by organic company elements.

3-94. The commander considers the survivability of individual fighting positions and typically prioritizes work on positions that are most critical and require the most time to prepare (vehicular positions, gun positions, mortar firing position, and CP). If available, the commander allocates engineering assets to assist in subordinate elements in preparation of survivability.

PREPARATION ACTIVITIES AND PRIORITIES OF WORK

3-95. During preparation, the commander assisted by the XO and 1SG directly monitors the preparatory actions and tracks the higher and adjacent unit situations and the enemy situation. The commander establishes priorities of work that may include but is not limited to; security plan, establishing R&S plans, preparing appropriate fighting positions for all weapon systems, emplacing antiarmor assets such as Javelins, conducting EA rehearsals, obstacle employment (mines/wire), and marking TRPs. The priorities of work within the defense are not a finite list and the commander should ensure that all efforts to defend are made prior to the meeting engagement. The following is an example of a priority of work list. The sequence lists priorities, but the tasks on this list may be conducted simultaneously as follows:

- Posting local security.
- Establishing and maintaining communications with higher echelons.
- Establishing OPs and listening posts and assigning subordinate responsibilities.
- Establishing company R&S missions.
- Positioning tube-launched, optically tracked, wire guided/wireless guided (TOWs), Javelins, AT4s, machine guns, and Soldiers and assign sectors of fire.
- Positioning other assets (CPs, mortars, vehicles, company trains).
- Positioning and camouflaging ISVs.

- Designating FPFs and FPLs.
- Clearing fields of fire and preparing DA Form 5517 (*Standard Range Card*) and sector sketches.
- Adjusting indirect-fire FPFs that are clear of friendly forces.
- Preparing fighting positions.
- Emplacing obstacles and mines.
- Marking and improving markings for TRPs and direct fire control measures.
- Improving primary fighting positions (overhead cover).
- Preparing alternate and supplementary positions.
- Reconnoitering movements.
- Consolidating subordinate sector sketches into a company sector sketch.
- Establishing a rest plan.
- Rehearsing engagement and disengagement actions.
- Adjusting positions and control measures as required.
- Stockpiling ammunition, food, and water.
- Digging trenches between positions.
- Conducting route reconnaissance.
- Continuing position improvements.

3-96. As subordinate units position elements and execute defensive preparations, the commander coordinates their activities within the overall situation. The commander monitors the enemy situation through information collection efforts. The commander continually analyzes the situation and provides assessments to determine the effects on preparation time available and any changes to the COA. Company information collection reporting thresholds are updated as the situation changes and as the information collection effort answers information requirements.

3-97. During preparation, the company FSO must assist the commander in planning the indirect fires to support the overall defense and advise the commander on the status of firing units and the ability to employ smoke and illumination. The FSO also coordinates with the battalion FSO, firing units, and platoon FOs to ensure the fires plan is fully synchronized and fully understood. The FSO and fire support NCO ensure that platoon FOs understand the fires plan and rehearse, and that all equipment is fully mission capable. It is essential that all fires personnel understand repositioning criteria and rehearse target and responsibility for targets.

3-98. The mortar section and leaders must choose a tentative firing position and OPs, complete the mortar portion of the fires plan (based upon the company OPORD), take part in leader's reconnaissance, and coordinate and confirm the mortar indirect fires plan with the appropriate company elements. The mortar section leader ensures that the mortar firing position is dug in.

3-99. The commander monitors the status of subordinate rehearsals and conducts company rehearsals and updates the plan as needed based on continuously updated intelligence and the status of preparations. The XO analyzes the status of logistics and maintenance of equipment within the company to determine any required adjustments to the plan or task organization. The commander and attached available engineer assets monitor the progress of all engineer efforts within the AO and continually project the end state of this effort based on the current and projected work rates. The commander, assisted by recommendations from available engineer support, identifies potential shortfalls early and determines how to shift assets to make up for the shortfalls or recommend where to accept risk. As the enemy closes on the company's AO, the company begins final preparations that typically include—

- Final coordinating of battle handover and passage of lines.
- Positioning of situational obstacle employment systems.
- Verifying communications status.
- Evacuating unused Classes IV and V to prevent capture or loss to enemy action.
- Withdrawing engineer forces from forward areas.
- Linking up fire support, protection, and sustainment assets with reserve or other supported combat forces (if not previously accomplished).
- Adjusting R&S patrols to ensure they still meet the commander's PIRs, or potential reconnaissance and security patrol and OPs repositioning.

- Final positioning or repositioning of R&S assets, security forces, and observers.
- Positioning teams to close lanes in obstacles or execute reserved obstacles.
- Executing directed, reserve, or situational obstacles.
- Submitting periodic situation updates and issuing of final guidance to subordinates.
- Registering indirect fire targets with mortars, if not already done.
- Conducting a final radio or even map rehearsal with key leaders.
- Updating targets, resources, and priorities.
- Covering gaps between defensive positions, reinforcing those positions as necessary, and counterattacking to seal penetrations or block enemy attempts at flanking movements.

3-100. Time management is critical. The commander decides what must be accomplished during daylight, enabling platoons and squads to continue defensive preparations into darkness. Because there is never enough time to prepare the defense, the commander must make use of all of it.

3-101. Platoon and squad positions identified and prepared during hours of limited visibility may not be completely effective during daylight. The commander's initial estimate of the time available must include the amount of daylight needed for subordinate leaders to identify primary positions. Using engineer digging assets during hours of limited visibility is difficult and dangerous. Therefore, if daylight hours run short and these assets must still be employed, strict safety precautions must be taken.

3-102. The commander may establish a detailed time schedule for completing key actions and events in the priority of work. This ensures that all units are generally at the same point in the priority of work. This also allows rehearsals to be scheduled effectively for the entire unit. An example of this time schedule might be—

- 1000—Primary fighting positions dug and camouflaged.
- 1500—Company rehearsal for the counterattack.
- 1600—Leader's sand table rehearsal of the indirect fire plan.
- 1900—Primary positions complete, platoons rehearse disengagement and movement to supplementary positions.
- 2200—Limited visibility rehearsal for the counterattack.

EXECUTION

3-103. Throughout the area defense, the commander shapes the OEto regain the initiative by limiting the attacker's options and disrupting the enemy's plan. A defending force within the MBA uses a variety of tactics, techniques, and procedures to accomplish the mission. At one end of the defensive continuum is a static defense oriented on terrain retention. At the other end is a dynamic defense focused on the enemy. The commander combines static actions to control, stop, or canalize the attacking enemy forces and dynamic actions to cover gaps between defensive positions, reinforce those positions as necessary, and counterattack to seal penetrations or to block enemy attempts at flanking movements.

3-104. Throughout the area defense, the commander conducts supporting efforts that are designed to regain the initiative by limiting the attacker's options and disrupting the enemy's plan. These supporting efforts prevent enemy forces from massing and create windows of opportunity for the conduct of decisive engagements, allowing the defending force to defeat the attacking enemy in detail. The mission variables of METT-TC (I) determine how closely the commander synchronizes supporting efforts with the main effort. R&S missions and security operations are components of enabling operations (normally supporting efforts).

FIND THE ENEMY (SECURITY AREA ACTIONS)

3-105. Once security area forces have moved into the security area security area actions predominantly focus on reconnaissance, counterreconnaissance, target acquisition, reporting, destruction, delay of the enemy main body, and battle handover. Security area forces integrate these actions with friendly forces forward of them, maintaining information flow and security while allowing intelligence to drive fires and maneuver. Security area forces may execute battle handover with forward elements then assist them in executing a rearward passage. Throughout security area operations, security forces coordinate and crosstalk with units to their rear. When security forces execute rearward passage of lines and battle handover, they may then move to the flanks of the MBA or occupy a TAA to the rear to plan for future operations. On approaches that the enemy

does not use, the commander may desire to leave elements of the security force forward to preserve observation and access to enemy flanks.

3-106. Information collection within the security area provides the commander with information to support decision making, to provide early warning and reaction time, and to support targeting. Guided by the CCIRs, the four primary tasks conducted as part of information collection (reconnaissance, security operations, surveillance, and intelligence operations) help provide the following information—

- Location, movement, and destruction of enemy reconnaissance and security forces and surveillance assets.
- Speed, direction, composition, and strength of enemy formations.
- Locations of high-payoff targets (for example, indirect fire, bridging, and C2 assets).
- Enemy actions at decision points.
- Enemy flanking actions, breaching operations, and force concentrations.
- Battle damage assessment.
- Movement of follow-on forces.

3-107. As the enemy's attack begins, reconnaissance and security forces identify committed enemy unit positions and capabilities, determine the enemy's intent and direction of attack, and gain time to react. The commander uses the information available, in conjunction with military judgment, to determine the point at which the enemy commits to a COA.

FIX THE ENEMY (SECURITY AREA ENGAGEMENT)

3-108. Within the security area, the commander does everything possible to limit the options available to the enemy. In addition to disrupting the enemy, the commander conducts operations to constrain the enemy into a specific COA, control enemy movements, or fix the enemy in each location. While executing these operations, the commander continues to find, disrupt, delay, and attrit enemy follow-on and reserve forces to keep them from entering the MBA. The commander has several options to help fix an attacking enemy force. The commander can design operations—such as securing the flanks and the point of a penetration to fix the enemy and allow friendly forces to execute decisive maneuvers elsewhere. Combat outposts and strong points can also deny enemy movement to or through a given location. The commander uses obstacles covered by fire to fix, turn, block, or disrupt to limit the enemy's available options. Properly executed obstacles (situational and reserved) are a result of the synthesis of top-down and bottom-up obstacle planning and emplacement. Blocking forces can also affect enemy movement. A blocking force may achieve its mission from a variety of positions depending on the mission variables of METT-TC (I).

3-109. Engagements in the security area are normally limited. Counterreconnaissance forces focus on locating and destroying enemy reconnaissance elements. As the enemy closes into the area, observers initiate indirect fires and the execution of reserved obstacles. The focal points are normally early warning and identification of the enemy's decisive and shaping engagements, strength, and composition of threat forces, and direction of attack, enabling the commander to make decisions and position forces. In the event enemy reconnaissance and security forces and surveillance assets penetrate the security area, forces operating in the security area must be prepared to conduct target handover with MBA forces.

3-110. After fixing the enemy, the commander seeks to disrupt the enemy's plan, the enemy's ability to control forces, and the enemy's combined arms team. Ideally, the results of the commander's supporting efforts should force a disorganized enemy, whose ability to synchronize its elements has been degraded to conduct an MTC against prepared defenses. Once the process of disrupting the attacking enemy begins, it continues throughout the defense of the security area. Forward units call for CAS, Army attack aviation (both manned and unmanned platforms), and precision-guided munitions from artillery and mortars. Forward units also engage organic or tasked echelon-specific UAS (to include firing) platforms, within the security area as engaged within the MBA. Security area engagements can provide the following advantages:

- Depth to the AO.
- More time to prepare in the MBA.
- A weakened enemy.
- Confusion about the location of the friendly defensive positions.
- It forces the enemy to deploy and more clearly indicate their main attack or intentions.

3-111. The commander coordinates the battle handover between security forces and MBA forces as quickly and efficiently as possible to minimize their vulnerability to enemy fire. During the battle handover, the higher commander who established the security force prescribes criteria for the handover and designates the location where the security forces will pass through, routes, contact points, and the BHL. The BHL is normally forward of the FEBA where the direct fires of the forward combat elements can effectively overwatch the elements of the passing unit. The battle handover and the passage of lines should be conducted simultaneously. (See chapter 5.)

FINISH THE ENEMY (MAIN BATTLE AREA ENGAGEMENT)

3-112. In an area defense, the decisive engagement is decided in the MBA (see figure 3-7). The commander shapes the engagement by massing the effects of combat power. Effects are synchronized in time and space and should be rapid and unexpected so that they break the enemy's offensive tempo and disrupt the enemy's attack. Synchronized prior planning and preparation bolster the effects of combat power, increasing the effectiveness of the defense.

3-113. Depending on the defensive scheme of maneuver, the defender may fight primarily from a single series of positions, or it may conduct delay operations capitalizing on movement and repeated attacks to defeat the enemy in-depth. Forward positioned forces, obstacles, and fires are used to break the enemy's momentum, force the enemy to deploy earlier than desired, reduce the enemy's numerical advantage, disrupt enemy formations and tempo, and force the enemy into positions of vulnerability. The defender masses fires and integrates obstacles to disrupt, turn, fix, block, canalize and then destroy attacking enemy forces in EAs throughout the battalion's AO.

3-114. As the operation evolves, the commander knows that there will probably be a requirement to shift the main effort and supporting effort(s) to press the engagement and keep the enemy off balance. The commander integrates information collection tasks to shift the effects of fires and maneuver forces so that they are repeatedly focused and refocused to achieve decisive, destructive, and disruptive effects upon the enemy's attack. IPOE enables information collection to determine likely enemy actions, while security area forces and MBA forces confirm or deny those actions.

3-115. Throughout the area defense, all echelons must maintain a cohesive defense if it is to defeat the enemy. This does not mean, however, that the forces must be massed close together or that companies must have mutually supporting fires. With forces dispersed, companies can maintain cohesion by maintaining the common operational picture, crosstalk among subordinates, and the continual tracking and reporting of the enemy. Subordinate units, and recommendations from the staff provide information allowing the commander to continually assess the enemy's options and movement while identifying means to defeat them. With forces widely dispersed, continual assessment of time and distance variables are essential. To maintain defensive cohesion, subordinate companies keep their movement, positioning, and fires consistent with the defensive scheme of maneuver, and the obstacle plan.

3-116. Unless the higher HQ plan makes other provisions (for example, a higher echelon reserve or counterattack force is responsible), the rifle company is responsible for controlling enemy advances within its AO. When a penetration threatens the defender, commanders may take several actions to counter the situation. In order of priority, the commander may do any or all of the following:

- Allocate priority of all available fires, to include artillery and mortar fires, Army aviation attack (manned and unmanned) and/or organic or assigned echelon specific UAS firing platforms, and CAS, to the threatened unit.
- Direct or reposition adjacent units to engage enemy forces that are attacking the threatened unit.
- Commit the reserve to reinforce the threatened unit.
- Commit the reserve to block, contain, or destroy the penetrating enemy force.
- Accept penetration of insignificant enemy forces and maintain contact with them as they move deeper into the MBA.
- Move forces to alternate, supplementary, or subsequent positions or withdraw forces.
- Commit attached engineers or other elements to assist in containing the penetration or to constitute a new reserve.

3-117. When a penetration occurs, units within the MBA continue to fight, refuse their flanks, and engage the enemy's flanks and rear. The penetrated force must try to minimize the penetration to prevent the area of penetration from widening and to protect adjacent unit flanks. Adjacent units take immediate action to secure their exposed flanks, which may include security missions or the establishment of a blocking position(s). Adjacent units also may need to reposition forces or direction of fire, readjust subordinate AOs and tasks, or commit their reserve. Forces within the MBA try to reestablish contact across the area of penetration when possible.

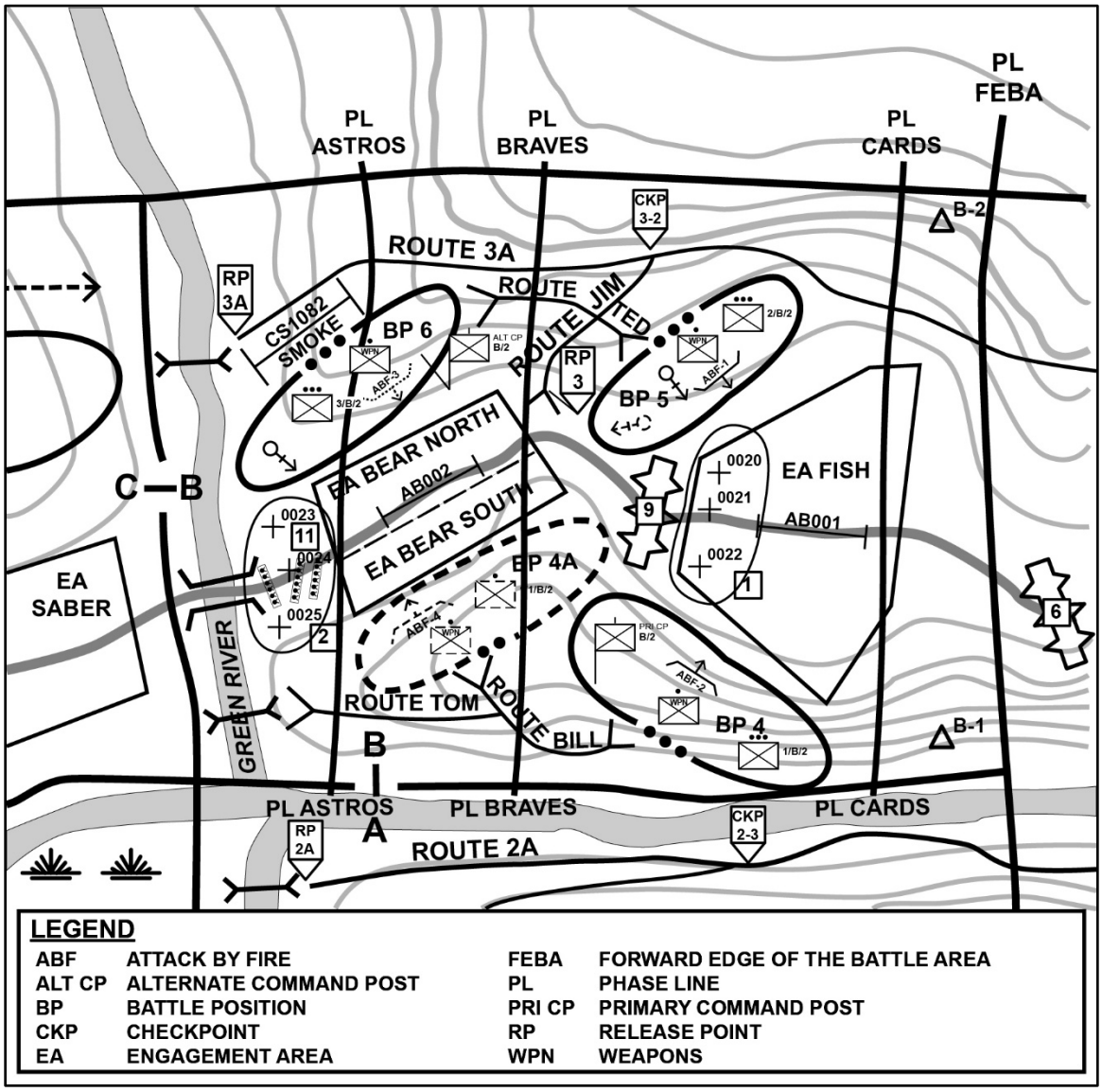


Figure 3-7. Company main battle area (platoon engagements), example

FOLLOW THROUGH

3-118. The rifle company may conduct local counterattacks to restore or preserve defensive integrity. If the unit can organize a counterattack force, this force must have mobility or be pre-positioned in a position of advantage to attack the enemy from an unexpected flank. Within the context of the MBCT's operations, a defending battalion and its companies may execute a counterattack in support of the battalion's defensive posture, as part of a larger force seeking to complete the destruction of the enemy's attack, or as part of a transition to offensive operations. A local counterattack can provide space for establishment or re-establishment of the security area and time for the rest of the organization to consolidate and reorganize.

SECTION III – MOBILE DEFENSE

3-119. The *mobile defense* is a type of defensive operation that concentrates on the destruction or defeat of the enemy through a decisive attack by a striking force (ADP 3-90). A mobile defense orients on the destruction of the attacking enemy force, as opposed to retaining terrain, by permitting the enemy to advance into a position that exposes the enemy to a decisive counterattack. The commander may yield ground in some areas to allow the enemy commander to think the attack has been successful or to entice the enemy force to move toward an EA where the enemy is vulnerable to the striking force's attack. (See FM 3-96 and FM 3-90 for additional information.)

Note. A division is the smallest unit that can conduct, versus participate in, a mobile defense. This is because of its ability to fight multiple engagements throughout the width, depth, and height of the division AO, while simultaneously resourcing fixing, striking, and reserve forces.

FIXING FORCE

3-120. In a mobile defense, an MBCT attached to the division is normally part of the *fixing force*—a force designated to supplement the striking force by preventing the enemy from moving from a specific area for a specific time (ADP 3-90). The fixing force conducts either an area defense or a delay structured to establish the conditions necessary for the successful conduct of the striking force's attack. The division commander takes advantage of the fixing force fighting a mix of static (defensive positions) and dynamic (local counterattacks) actions. Within the mobile defense, fixing forces reposition as necessary and conduct local counterattacks to control the depth and breadth of an enemy penetration and ensure the retention of ground from which the striking force can launch the decisive counterattack. When facing large enemy penetrating forces, division supporting efforts repeatedly isolate portions of the enemy force that are then attacked by the striking force, which defeats the enemy in detail. (See sections II and IV for additional information on the conduct of an area defense or delay, respectively.)

STRIKING FORCE

3-121. The attack by the *striking force*—a dedicated counterattack force in a mobile defense constituted with the bulk of available combat power (ADP 3-90)—in the EA isolates the targeted penetrating enemy force and defeats or destroys that enemy force, if possible. When shaping the commitment of the striking force, the commander may use Infantry to isolate targeted enemy forces through vertical envelopment. This form of maneuver requires local air superiority and the suppression of most enemy air defense systems during the time Infantry units move along air movement corridors to their respective LZs. Once on the ground, air assault forces require direct fire and indirect fire support capable of defeating, when the threat exists, counterattacking enemy armor systems. Fires include a situationally appropriate mixture of dismounted antiarmor systems, Army attack aviation, CAS, and precision-guided munitions delivered by cannon and rocket. (See FM 3-99 for additional information on conducting an air assault.)

SECTION IV – RETROGRADE

3-122. A *retrograde* is a type of defensive operation that involves organized movement away from the enemy (ADP 3-90). The enemy may force these operations, or a commander may execute them voluntarily. In either case, the higher commander of the force executing the operation must approve the retrograde. Retrograde operations are transitional operations; they are not considered in isolation. In a retrograde, companies are usually part of a larger scheme of maneuver designed to regain the initiative and defeat the enemy. The three variations of retrograde are delay, withdraw, or retirement. (See FM 3-96 for additional information.)

GENERAL CONSIDERATIONS FOR THE RETROGRADE

3-123. Delaying actions trade space for time, preserve friendly combat power, and inflict maximum damage on the enemy. Withdrawal actions involve a planned voluntary disengagement from the enemy conducted with or without enemy pressure. Retirement involves an organized movement to the rear by a force that is not in contact with the enemy. In each action, a force moves to the rear, using combinations of movement formations and marches. The commander may use all three actions singularly or in combination with other offensive or defensive operations. The commander executes retrogrades to—

- Transition to other operations.
- Gain time without fighting a decisive engagement.
- Resist, exhaust, and damage an enemy in situations that do not favor a defense.
- Draw the enemy into an unfavorable situation or extend the enemy's lines of communications.
- Preserve the force or avoid combat under undesirable conditions, such as continuing an operation that no longer promises success.
- Reposition forces to more favorable locations or conform to other friendly troops' movements.
- Position the force for use elsewhere in other missions.
- Simplify sustainment of the force by shortening lines of communications.
- Position the force where it can safely conduct reconstitution.
- Adjust the defensive scheme to secure more favorable terrain.
- Deceive the enemy.

DELAY

3-124. A *delay* is when a force under pressure trades space for time by slowing down the enemy's momentum and inflicting maximum damage on enemy forces without becoming decisively engaged (ADP 3-90). When conducting a delay, the Infantry company yields ground to gain time while retaining flexibility and freedom of action. The company may execute a delay when it has insufficient combat power to attack or defend or when the higher unit's plan calls for drawing the enemy into an area for a counterattack, as in a mobile defense. (See ATP 3-21.20 for additional information.)

3-125. The delay is one of the most demanding of all ground combat operations. A delay wears down the enemy so that friendly forces can regain the initiative through offensive action, buy time to establish an effective defense, or determine enemy intentions as part of a security operation. The purpose of the delay is to control the enemy's tempo by forcing the enemy to deploy multiple times and repeatedly concentrate its combat power to defeat the delaying force. Although the company must establish and maintain contact, it should avoid becoming decisively engaged, except when directed to prevent enemy penetration of a PL for a specific duration. It is critical that the commander's intent defines what is more important to the mission: gaining time, inflicting enemy casualties, or protecting the force. In a delay, inflicting enemy casualties is normally secondary to gaining time. The commander establishes risks for each delay but ordinarily maintaining freedom of action and avoiding decisive engagement is of ultimate importance.

ORGANIZATION OF FORCES

3-126. The company's organization of forces depends on how the higher echelon has structured its forces unless the company operates independently. The MBCT normally organizes into a security force, main body, and reserve, though operations extending across large areas may preclude the use of an MBCT-controlled security force and reserve. In this case, the MBCT may direct the battalion to organize its own security, main body, and reserve forces; the same as if the battalion was operating independently. The MBCT commander can designate a battalion or subordinate company as the security or reserve force for the MBCT.

PLANNING CONSIDERATIONS

3-127. Conducting a delay requires the close coordination of forces and a clear understanding by subordinates of the commander's intent, the scheme of maneuver, and detailed mission graphics. The potential for the loss of control is high in delay operations, making crosstalk and coordination between commanders and subordinate leaders extremely important. Subordinate initiative is critical, but it must be in the context of close coordination with others. Plans must be flexible, with control measures throughout the AO allowing forces to maneuver to address all possible enemy options.

Parameters of the Delay

3-128. The commander clearly articulates the parameters of the delay in the order, specifically subordinate missions in terms of space, time, and friendly strength. Through these parameters, normally stated in paragraph 3 of the delay order tasks to subordinate units, the commander provides direction for actions during the delaying operation as planned and when subordinates are unable to meet the initial terms of the delay mission.

3-129. First, within these parameters, the company commander is directed to conduct one of two directed methods to conduct the delay: delay within the assigned area or delay forward of a specified line or terrain feature for a specified time. Time during the conduct of a delay is usually based on another unit completing its activities, such as establishing rearward defensive positions. A mission of delay within an assigned area implies that force integrity is a prime consideration. In this case, the company delays the enemy as long as possible while avoiding decisive engagement. Generally, this force displaces once predetermined criteria have been met, such as when the enemy force reaches a disengagement line—a PL located on identifiable terrain that, when crossed by the enemy, signals to defending elements that it is time to displace to their next positions.

3-130. The second parameter the order must specify is what is considered acceptable risk. Acceptable risk ranges from accepting a decisive engagement by holding terrain for a given period to avoiding decisive engagement in order to maintain the delaying force's integrity. The depth available for the delay, the time needed by the higher HQ, and subsequent missions for the delaying force determine the amount of acceptable risk.

3-131. Third, the order must specify whether the delaying force may use the entire assigned area or whether it must delay from specific BPs. A delay using the entire assigned area is preferable, but a delay from specific positions may be required to coordinate two or more units in the delay. The higher echelon commander will assign the company an area when—

- There is no dominating terrain on the enemy avenues of approach.
- The battalion assigned area is extremely wide.

3-132. The company commander then may assign sectors or initial and subsequent delay positions for subordinate platoons. The commander defends and withdraws by platoons, bounding them to the rear.

3-133. The company is assigned a series of BPs by the higher echelon commander if—

- The battalion is delaying in restrictive terrain where the enemy can be canalized into selected areas.
- There is terrain that dominates the avenues of approach.
- The battalion's assigned area covers a narrow frontage.

3-134. When the company is assigned a series of BPs from which to delay, the company moves from one BP to another as directed. If it coincides with the higher echelon commander's plan, the company commander may choose platoon BPs and fight a delay action between assigned company BPs. The company commander must decide which positions require preparation and allocate time and resources to them.

3-135. There is greater control of the delay when delaying from BPs. However, the company commander has more control when delaying in sector. The higher echelon commander can impose more control of the company's rearward movement by assigning PLs and times for these lines to be crossed, in conjunction with the scheme of maneuver. The company will have the same control by assigning its own triggers for platoons crossing PLs as well.

3-136. If the delay is conducted over a long distance either method may be used. No matter which is used the company commander chooses the platoon positions and the routes to them. If there is terrain that is defendable forward of a battalion-established PL, the commander may consider defending there for the required amount of stated time for that particular PL.

Control Measures

3-137. Control measures are the same for both methods, except that during a delay forward of a specified line for a specified time, the company commander annotates the PL with the specified time. If the delaying force is ordered to hold the enemy forward of a given PL for a specified time, mission accomplishment

outweighs preservation of the force's integrity. Such a mission may require the force to defend a given position until ordered to displace. Control measures, for example BPs, EAs, and attack by fire positions, allow the company commander and subordinate leaders to direct the fight more closely giving subordinates a clearer picture of how the commander envisions fighting the delay.

3-138. The higher echelon commander may dictate specific events to control the company's delay, for example, the enemy penetration of a PL can trigger the initial repositioning of subordinate forces to subsequent positions during the battle. The commander may also use PLs to control the timing and movement of delaying units, though assigning time minimums to delays by PLs can limit subordinate commanders to delaying on or forward of those lines, at least until the specified times. A *delay line* is a phase line over which an enemy is not allowed to cross before a specific date and time or enemy condition (FM 3-90). Contact points, coordination points, restrictive fire lines (RFLs), coordinated fire lines, trigger lines, TRPs, checkpoints, and other control measures are established to avoid fratricide and support subordinate unit coordination.

Delay Techniques

3-139. When conducting a delay, the commanders normally assign subordinate units contiguous assigned areas that are deeper than they are wide. The commanders synchronize the employment of these combined arms teams throughout the depth of each assigned area for the delay. When commanders expect to delay for only a short time or the AO lacks depth, the delaying unit may be forced to fight from a single set of positions. When commanders expect the delay to last for a longer period, or if sufficient depth is available, the delaying unit may delay from either alternate or subsequent positions. In both techniques, delaying units normally reconnoiter delay positions before occupying them and, if possible, post guides on one or two positions. The company commander typically sends a quartering party to conduct the reconnaissance of routes and positions to effectively employ machine guns, mortars, Javelins, AT4s and TOWs (when available). Sending a quartering party to the delay location may also guide arriving units into their positions and pre-position water, ammunition, and other supplies at each position. The quartering party is also able to coordinate with any units to the rear of the company when a passage of lines is required. If the company has thoroughly reconnoitered and rehearsed the delay, the quartering party may not be required.

3-140. In executing both methods of delay, it is critical that the delaying units maintain contact with the enemy between delay positions. Table 3-2 summarizes the comparison of two delay techniques.

Table 3-2. Comparison of two delay techniques

METHOD OF DELAY	*USE WHEN*	*ADVANTAGE*	*DISADVANTAGE*
Delay from alternate positions	Area of operation is narrow. Forces are adequate to split between different positions (in-depth).	Allows positioning in-depth. Harder for the enemy to isolate units. Increases flexibility. Allows more time for maintenance.	Requires continuous coordination. Requires passage of lines, increasing vulnerability and fratricide potential. Engages only part of the force at one time.
Delay from subsequent positions	Area of operation is wide. Forces available are not adequate to position in-depth.	Reduced fratricide risk. Ease of command and control. Repeated rearward passages not required.	Limited depth to the delay positions. Easier to penetrate or isolate units. Less time is available to prepare each position. Less flexibility.

3-141. In a delay from alternate positions (see figure 3-8 on page 104), two or more units in a single AO occupy delaying positions in-depth. As the first unit engages the enemy, the second occupies the next position in-depth and prepares to assume responsibility for the operation. The first force disengages and passes around (preferred method) or through the second force. The force then moves to the next position and prepares to reengage the enemy while the second force takes up the fight. If the AO is narrow, the company employs

platoons in-depth occupying alternate positions. This enables a strong delay, with forces available to counterattack or assist in the disengagement of the forces in contact. Using alternate positions helps maintain pressure on the enemy and helps prevent the company and subordinate platoons from being decisively engaged. A delay from alternate positions is particularly useful on the most dangerous avenues of approach because it offers greater security and depth than a delay from subsequent positions. However, it also poses the highest potential for fratricide and vulnerability as units pass near or through each other.

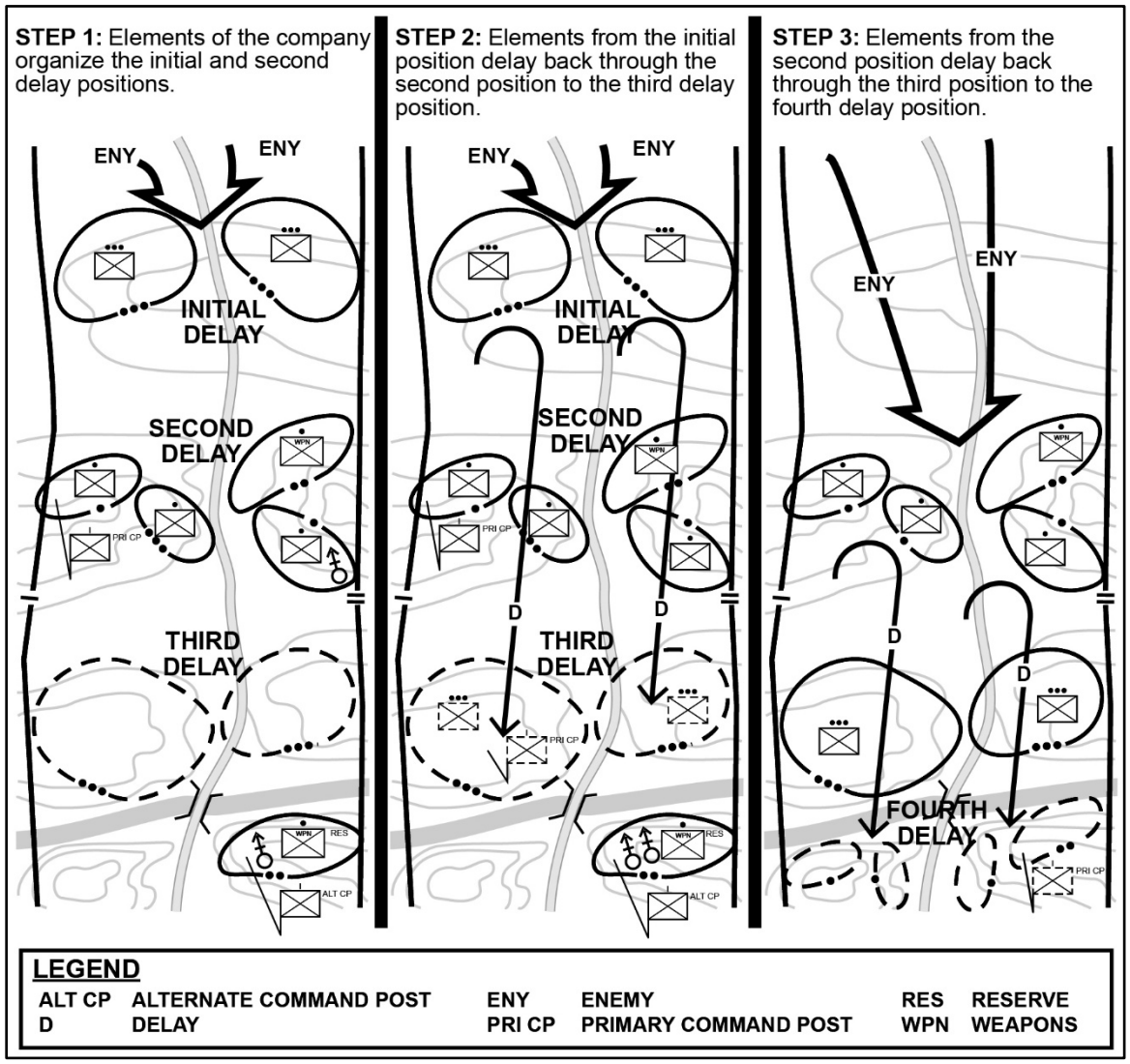


Figure 3-8. Delay from alternate positions

3-142. A delay from subsequent positions is used when the assigned area is so wide that available forces cannot occupy more than a single layer of positions. (See figure 3-9.) In a delay from subsequent positions, most forces are arrayed along the same PL or series of BPs. The forward forces delay the enemy from one PL to the next within their assigned area. This is the least preferred method of delaying since there is a much higher probability of forces becoming isolated or decisively engaged, particularly if the delay must be maintained over more than one or two subsequent positions. The delay force also has limited ability to maintain pressure on the enemy as it disengages and moves to subsequent positions unless it has been allocated additional and adequate indirect fire support.

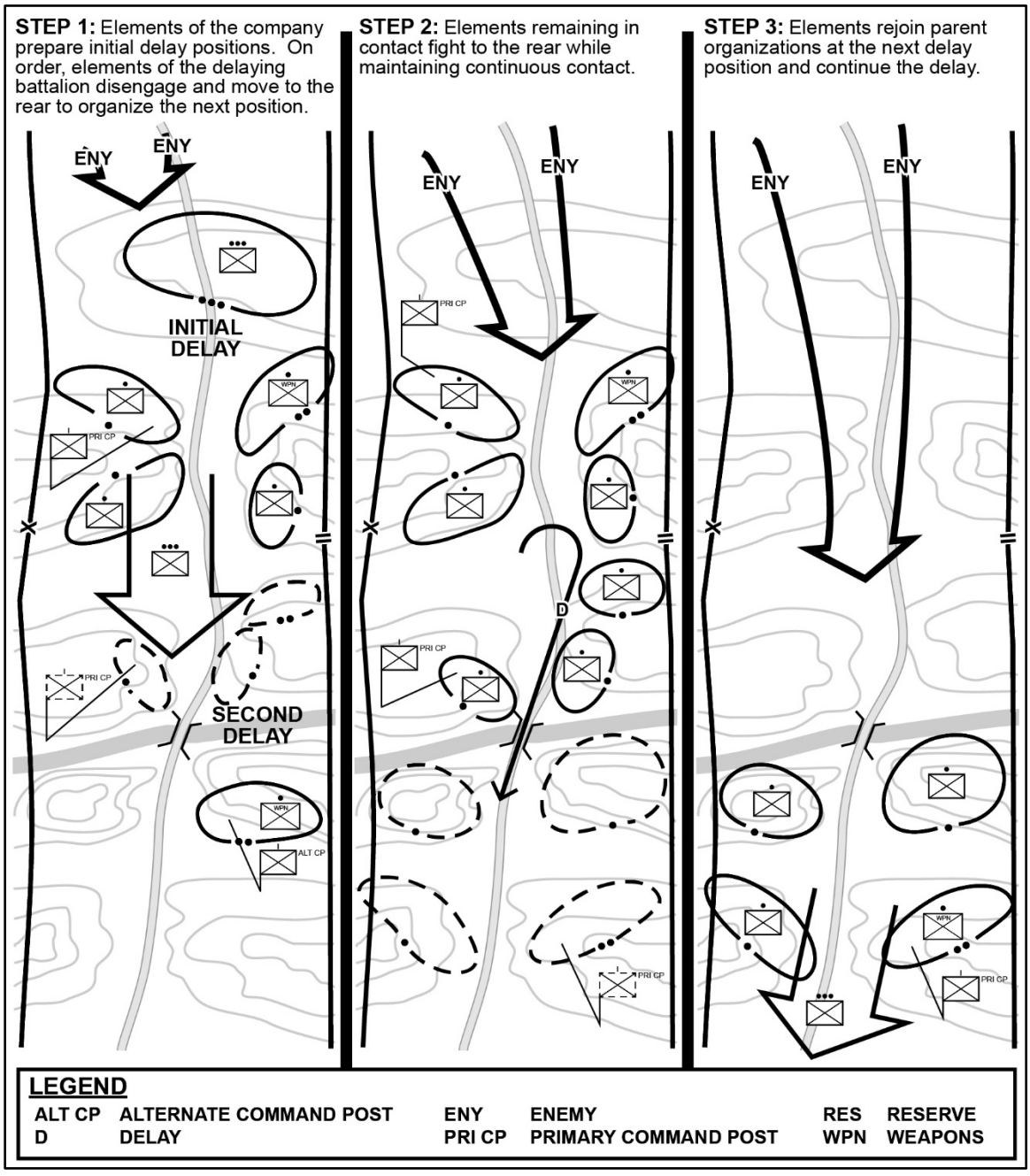


Figure 3-9. Delay from subsequent positions

Preparation (Defensive)

3-143. Defensive preparations for the conduct of an area defense discussed in section II also apply during the conduct of a delay. Resources—including the time available to prepare (specifically regarding not becoming decisively engaged)—determine the extent of preparations. Throughout preparation, the commander assigns high priority to R&S missions and security operations. The preparation of alternate, supplementary, and subsequent positions also receives a higher priority than in either a mobile or an area defense. Understanding that it is not always possible to complete all preparations before starting the delaying operation, delaying units continue to prepare and adapt plans as the situation develops.

Organization of a Battle Position (Delay Positions)

3-144. In the delay, the company prepares BPs in a manner like the area defense. However, when organizing BPs, the commander places more emphasis on width than depth, as well as reconnaissance and preparing routes for displacing. Within each BP most of the available firepower is oriented toward the expected enemy avenue of approach. Flank and rear security units are normally manned with forces internal to the delaying force. The commander plans and reconnoiters withdrawal routes from primary positions to alternate, supplementary, and subsequent positions in accordance with the plan. In preparing a BP, the commander places less emphasis on installing protective obstacles, FPFs, and ammunition stockpiling than would occur in either an area or a mobile defense. BPs within a delaying operation are sometimes referred to as delay positions, alternate positions, and subsequent positions.

EXECUTION

3-145. When the company is part of a larger scheme of maneuver designed to regain the initiative and defeat the enemy, the complex nature of a delay requires maneuver elements within the delaying operation to execute different, complementary, actions. In a single delaying operation, attacks, area defenses, mobile defenses, and other actions may occur in any sequence or simultaneously. When conducting a delay, as in an area defense, the company defends using a variety of tactics, techniques, and procedures to accomplish the mission. Security forces are deployed well forward of the initial delay positions of the main body to buy time, to establish an effective delay, and to give early warning of any enemy approach. Forward security forces detect and report as enemy forces approach to confirm the enemy's probable COA. The company commander should receive the following:

- The initial delay positions.
- The plan for controlling engagements and disengagements and movements.
- Assigned areas and BPs.
- The location of TAAs (if necessary).
- General routes.
- Quartering party instructions (if used).
- Special instructions concerning attachments.
- Priorities and efforts of supporting engineers.

3-146. The platoons' missions are not normally delay tasks and are usually more specific to the tasks the platoons will conduct such as defend, block, destroy, or disrupt. The commander ensures the platoon leaders are given initial BPs to defend from. The commander also clearly states the plan for controlling engagements, the sequence, and criteria for disengagement, movement instructions, and subsequent positions to the rear, general routes, and special instructions for specific weapons systems. The commander, with the assistance of the XO, ensures that the movement of supplies is postured in the correct location. The commander also issues priorities for efforts of the supporting engineers (if attached).

Find the Enemy

3-147. As with the area defense, the commander ensures security plans are in place to employ security and reconnaissance patrols and OPs to identify enemy advances. Once the most forward company forces (or forward positioned forces) make contact with the enemy, they maintain contact. Security forces use covered, concealed, and coordinated routes to avoid enemy and friendly fires.

Fix the Enemy

3-148. Security forces fix, defeat, and destroy the enemy's reconnaissance and security elements without risking decisive engagement. These forces direct fires at the approaching enemy force as far forward of the delay positions as possible to disrupt and fix the enemy. Engaging a moving enemy at long ranges tends to inflict far more casualties on an attacking enemy than the enemy can inflict on the delaying force; it also slows the enemy force's tempo of operations. The more a delaying force can blind an enemy force through the elimination of that force's reconnaissance assets, the more likely the enemy force is to hesitate and move with caution.

3-149. As the enemy closes with security forces, company forces move back through or around the initial positions of the main body to subsequent positions that allow them to observe the main body area and assist in the disengagement and movement of forces to their next positions. This also prevents the enemy from finding gaps between delaying units and attacking the exposed flanks of delaying units. When the company occupies the FLOT, engagements forward of the company's initial delaying positions are normally limited to observed fires to continue the disruption and attrition of the attacking enemy.

Finish the Enemy

3-150. The company maneuvers to force the enemy to deploy multiple times and repeatedly concentrate its combat power to defeat the delaying forces of the company. As delaying operations evolve, the commander closely controls the disposition of security, main body, and reserve forces (if available) to maintain cohesion. When participating in the conduct of the delay the rifle company masses effects and concentrates actions quickly for a short period to inflict the maximum damage on the enemy at the maximum range. To avoid decisive engagement, the company disengages before the enemy can breach obstacles or mass effective fire on delaying forces.

3-151. In determining the disposition of the delaying force, the commander takes advantage of the terrain by selecting terrain that favors friendly actions and hampers enemy actions. The terrain dictates where elements of the company can orient on a moving enemy force and ambush it. During a delay, compartmentalized terrain facilitates shorter displacements initiated at closer range to the enemy. The commander conducts operations in compartmentalized terrain, selects locations that restrict the enemy's movement and prevents the enemy force from fully exploiting its combat superiority. In restricted terrain, positions may be close together, except when conducting a delay using air assault or air movement techniques.

3-152. As delaying forces displace, they move to the flanks of delay positions and do not move through friendly EAs or TRPs, unless the tactical situation makes such movement necessary. Delaying forces ensure their routes do not reveal the locations of other friendly elements to include stay-behind forces and FOs. Delaying forces may move by bounds within the platoon and company to maintain direct fires on the enemy and cover movement. Short, intense engagements, at near maximum range with sustained fires and covering obscurants, are key to forcing the enemy into deploying early and often for a decisive engagement. Observers position to the flanks in-depth to observe and shift fires as forces delay to alternate and subsequent positions.

3-153. As the advancing enemy force approaches, the enemy crosses one or more trigger lines and moves into EAs within the range of the delaying force's antiarmor missiles and heavy and small arms direct fires. The commander holds the delaying force's direct fire, until the enemy is positioned where the fire plan and scheme of maneuver require their use. The commander controls fires from the delaying force in the same manner as in any defense. The more damage the delaying force can inflict on the enemy, the longer the force can stay in position.

3-154. As the enemy force presses its attack and maneuvers against the delaying force, the commander constantly assesses the action to guide the engagements of delaying units. Throughout the delay, the company relies heavily on fires external to the unit (field artillery, and aviation assets [manned and unmanned]) to suppress the enemy so delaying units can disengage, move, and occupy new positions. When a subordinate unit is unable to maintain separation from the enemy, the commander can shift additional combat multipliers and other resources to that AO to counter the enemy's success. As one subordinate unit displaces, the commander may order other subordinate units to change their orientation to cover the move.

3-155. When the company is assigned a mission, or task to conduct delaying operations within an AO, the intent of the operation is to slow and control the enemy tempo and to defeat as much of the enemy as possible without sacrificing the integrity of the delaying force. A delay within an AO is normally assigned when force preservation is of higher priority and there is considerable depth within the assigned area (see figure 3-10 on page 108).

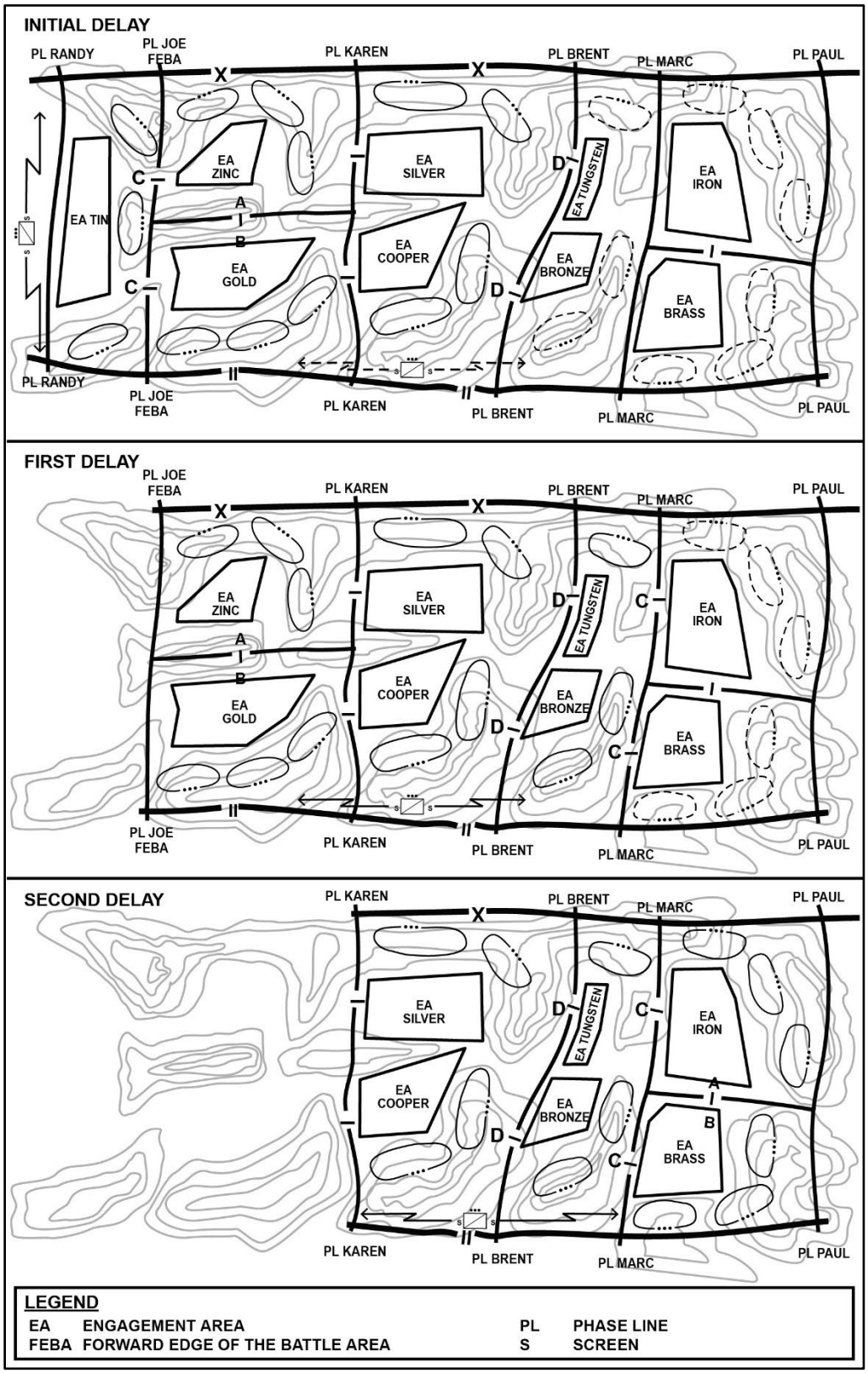


Figure 3-10. Delay within an area of operations

3-156. When the mission is to delay forward of a specific line or terrain feature for a specific period, the company must control the enemy's attack and retain specified line or terrain to achieve some purpose relative to another unit that can include setting the conditions for a counterattack, for completion of defensive preparations, or for the movement of other forces. The timing of the operation is most often controlled graphically by a series of PLs with associated dates and times to define the desired delay-until period. (See figure 3-11.)

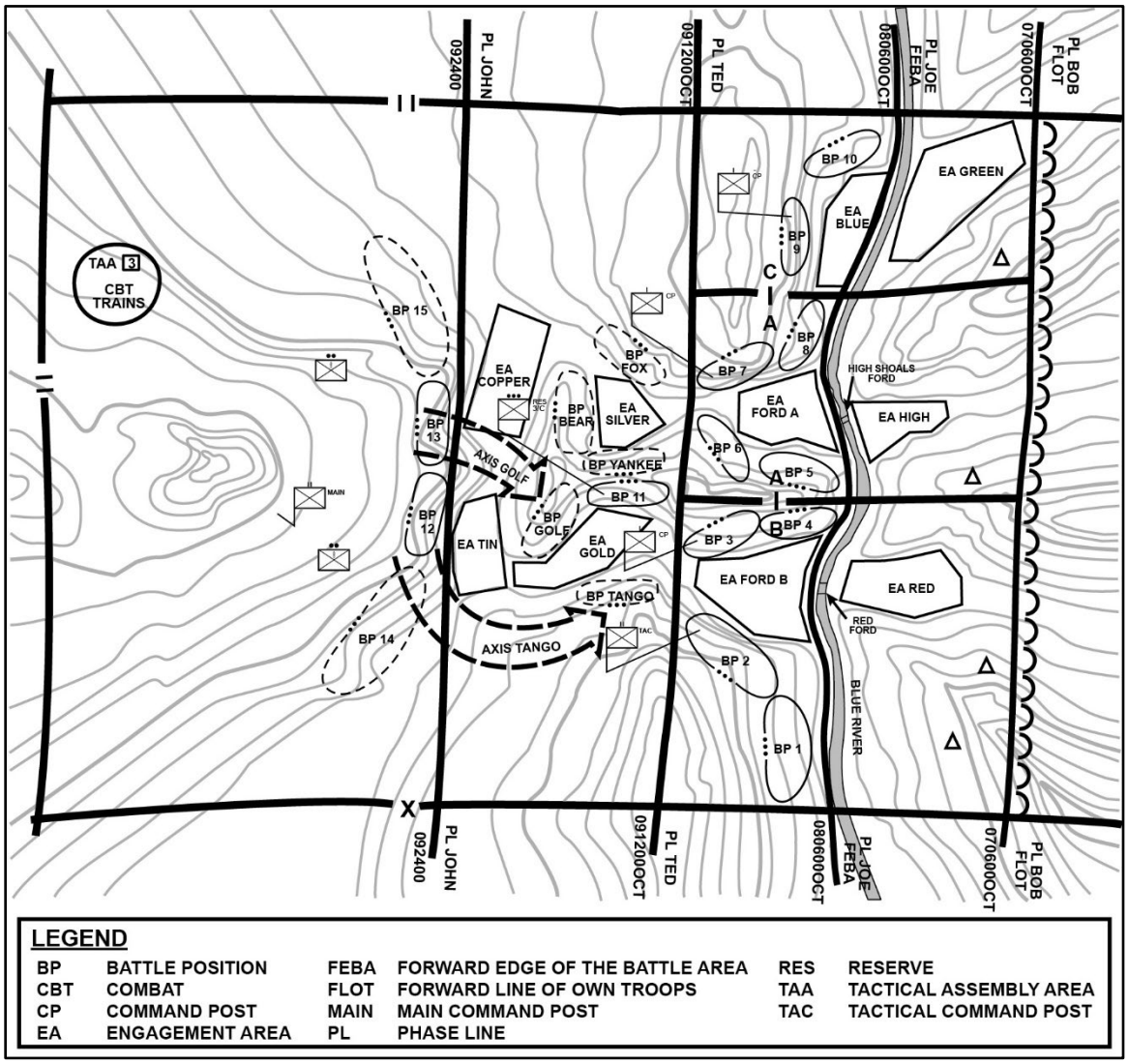


Figure 3-11. Delay forward of a terrain feature for a specified time

Follow Through

3-157. A delaying operation terminates when the delaying force conducts a rearward passage of lines through a defending force, the delaying force reaches defensible terrain and transitions to the defense, the advancing enemy force reaches a culminating point, or the delaying force goes on the offensive once reconstituted. Ideally, a company and its subordinates that have been delaying conduct a rearward passage of lines through the established defense of another friendly force. When the advancing enemy force reaches a culminating point, the delaying force may maintain contact in its current position, withdraw to perform another mission, or transition to the offense. In all cases, the commander plans for the expected outcome of the delay and actions taken after termination of the delay based on the situation and the higher commander's plan.

WITHDRAW

3-158. A *withdraw* is to disengage from an enemy force and move in a direction away from the enemy (ADP 3-90). Withdrawing units, whether all or part of a committed force, voluntarily disengage from the enemy to preserve the force or release it for a new mission. Based on the higher HQ' order and the enemy situation, the company's withdrawal may be assisted or unassisted and may occur with or without enemy pressure.

3-159. Withdrawals are inherently dangerous because they involve moving units to the rear and away from what is usually a stronger enemy force. The heavier the previous fighting and the closer the contact with the enemy, the more difficult the withdrawal. Ideally, the commander avoids withdrawing from action under enemy pressure, though this is not always possible.

ORGANIZATION OF FORCES

3-160. As with the delay, the organization of forces depends on how the higher HQ has structured its forces unless that force is operating independently. The MBCT normally organizes into a security force, main body, and reserve, though operations extending across large areas may preclude the use of an MBCT-controlled security force and reserve. In this case, the MBCT may direct the battalion to organize its own security, main body, and reserve forces; the same as if the battalion was operating independently. The MBCT commander or the Infantry battalion commander organizes a *detachment left in contact*, an element left in contact as part of the previously designated security force while the main body conducts its withdrawal (FM 3-90), and a stay-behind force if the scheme of maneuver requires them. When the battalion operates independently the battalion commander can designate a company as the security or reserve force for the battalion.

3-161. When the battalion operates independently or establishes its own security force within the MBCT's AO, the battalion normally uses the scout platoon and the sniper squad as a screening force when the withdrawal is not under pressure. These forces position to observe the most likely enemy avenues of approach and can initiate fires to slow and weaken the enemy. When the withdrawal is under enemy pressure, these elements can be reinforced with other elements, for example, weapons assault elements from the weapons squads, FOs, and FISTs executing direct and indirect fire targets on a primary enemy avenue of approach. When withdrawing under pressure the commander may make provision to resource a DLIC, normally established with an Infantry rifle company or company combined arms team, to cover the remaining elements of the battalion (main body minus the reserve) as they withdraw. Normally all platoons move to the rear at the same time if a company is dedicated as a detachment left in contact (DLIC). In some instances, the company may dedicate a platoon as a DLIC.

3-162. The battalion's main body consists of all elements remaining after the commander resources a security force and the reserve. The battalion commander retains a reserve, normally a company or company minus, to counter penetrations between positions, reinforce threatened areas, and protect withdrawal routes. When the complete formation withdraws under pressure, the reserve may take limited offensive action, such as spoiling attacks, to disorganize, disrupt, and delay the enemy. Reserves may also extricate encircled or heavily engaged forces. The force tasked with the reserve mission requires the mobility and combat power to accomplish assigned tasks.

PLANNING CONSIDERATIONS

3-163. The commander plans and coordinates a withdrawal in the same manner as a delay, though some mission variables of METT-TC (I) apply differently because of the differences between a delay and a withdrawal. A withdrawal may precede a retirement operation or follow a delaying operation. Control measures used in the withdrawal are the same as those in a delay or an area defense.

3-164. Because a withdrawing force is most vulnerable if the enemy attacks, the commander normally plans for a withdrawal under enemy pressure. The commander then develops contingencies for a withdrawal without pressure. The commander's main considerations include—

- Planning for the next mission following the withdrawal.
- Creating disengagement criteria (time, friendly situation, enemy situation).
- Planning for a deliberate break in contact from the enemy.
- Planning for deception to conceal the withdrawal for as long as possible.

- Planning rapid displacement of the main body, safeguarded from enemy interference.
- Selecting and protecting primary withdrawal routes and alternate withdrawal routes.
- Sitting of obstacles behind the DLIC to complicate the enemy's pursuit.
- Ensuring fire support and sustainment assets remain within distance to support withdrawing units, security forces, and DLICs.

3-165. Planning for a withdrawal normally begins with the preparation of the plan for the next mission. Initial planning includes the development of disengagement criteria, route selection, and displacement timing based on the friendly and enemy situation. The follow-on mission for the company drives the end state of the withdrawal to best position units to accomplish the next mission. The desired end state can include withdrawing to an AA for follow-on missions or the establishment of a new defensive position. Alternatively, subordinate units of the company can withdraw indirectly to either area through one or more intermediate positions. When preparing the new defensive position, the commander balances the need for security with the need to get an early start on the defensive effort.

3-166. The commander's plan for the withdrawal clearly defines how to deceive the enemy as to the execution of the withdrawal; how to disengage from the enemy; and the end state of the operation in terms of time, location, and disposition of friendly and enemy forces. The commander usually confines rearward movement to times and conditions when the advancing enemy force cannot observe the activity and easily detect the withdrawal operation. Helping preserve secrecy and freedom of action, for example, the commander considers visibility conditions and times when the enemy's R&S effort can observe friendly movements.

3-167. When planning for the deliberate break from the enemy the commander has essentially two options: break contact using deception and stealth, or break contact quickly and violently under the cover of supporting fires reinforced by obstacles to delay the enemy's pursuit. In either option, the commander may employ obscuration to assist with breaking contact with the enemy or to deceive the enemy of the company's actual intentions. Terrain that hinders the mobility and surveillance capabilities of enemy combat systems and supporting tactical vehicles can offer concealment and cover for the movement of friendly forces.

Assisted and Unassisted Withdrawal

3-168. When the withdrawal is assisted, the assisting force(s) occupies positions to the rear of withdrawing forces and prepares to accept control of the situation. The assisting force can also assist withdrawing forces with route reconnaissance, route maintenance, fire support, protection, and sustainment. Both forces closely coordinate the withdrawal. After coordination, the withdrawing force delays to a BHL, conducts a passage of lines, and moves to its final destination. In an assisted withdrawal, the withdrawing force generally coordinates the following with the assisting force:

- Rearward passage of lines.
- Reconnaissance of withdrawal routes.
- Forces to secure choke points or key terrain along the withdrawal routes.
- Forces to assist in movement control such as traffic control.
- Required combat, fire support, protection, and sustainment to assist the withdrawing battalion in disengaging from the enemy.

3-169. In an unassisted withdrawal, the withdrawing force establishes its own security and disengagement from the enemy. Subordinate units reconnoiter and secure routes used in its rearward movement while fire support and sustainment echelons support the withdrawal. The commander establishes a security force as the rear guard while the main body withdraws. The commander, if possible, designates a flank security, or a screen as the situation requires. Sustainment and other support forces normally withdraw first, followed by combat forces not tasked with the security or reserve mission. However, as sustainment and other support forces move to the rear, they must continue to maintain the ability to support the withdrawing force. To deceive the enemy as to friendly movement and if withdrawing under enemy pressure, the commander establishes a DLIC. As subordinates withdraw, the DLIC disengages from the enemy and follows the main body to its final destination.

Withdrawal Under and Without Enemy Pressure

3-170. When withdrawing under enemy pressure, all subordinate units withdraw simultaneously when available routes allow, using delaying techniques to fight their way to the rear. In the usual case, when simultaneous withdrawal of all forces is not practical, the commander decides the order of withdrawal. The commander then makes three interrelated key decisions: when to start the movement of selected sustainment and main body elements, when forward elements should start thinning out, and when the security force should start its disengagement operations. The commander avoids premature actions that lead the enemy to believe a withdrawal is being contemplated. The commander anticipates the enemy's means of interference and plans the employment of security forces, field artillery, and Army and joint/coalition aviation assets to counter this interference. Additional factors influencing this decision may include—

- Subsequent missions.
- Availability of transportation assets and routes.
- Disposition of friendly and enemy forces.
- Level and nature of enemy pressure.
- Degree of urgency associated with the withdrawal.

3-171. When withdrawing without enemy pressure, the commander plans when to begin the withdrawal and has the option of taking acceptable risks to increase the displacement capabilities of the withdrawing force. For example, the main body may be ordered to conduct a tactical road march instead of moving in tactical formations. The commander can plan for stay-behind forces as part of the operation.

Detachment Left in Contact

3-172. When the company is part of the battalion's scheme of maneuver, a DLIC is generally a company-sized element that remains behind to deceive the enemy into believing the battalion is still in position while most of the unit withdraws. The detachment simulates—as nearly as possible—the continued presence of the main body until it is too late for the enemy to react to the main body's withdrawal. The battalion commander develops specific instructions about what the detachment is to do when the enemy attacks and when and under what circumstances the detachment continues to delay or conduct withdrawal. When the DLIC disengages from the enemy, the detachment uses the same techniques as in the delay. When required, and if available, the battalion commander provides the detachment with additional recovery, evacuation, and transportation assets to use after disengagement to speed its rearward movement.

3-173. The commander uses two methods to resource the DLIC. The first is for each forward subordinate maneuver element (generally the company) of the battalion to leave a sub-element in place (see figure 3-12). For example, each forward rifle company leaves a task-organized platoon or detachment in contact. This is the least desirable option since it complicates C2 and task organization. The battalion commonly uses this option when the subordinate companies have lost significant portions of their C2 systems. These elements typically fall under a detachment commander designated by the battalion commander.

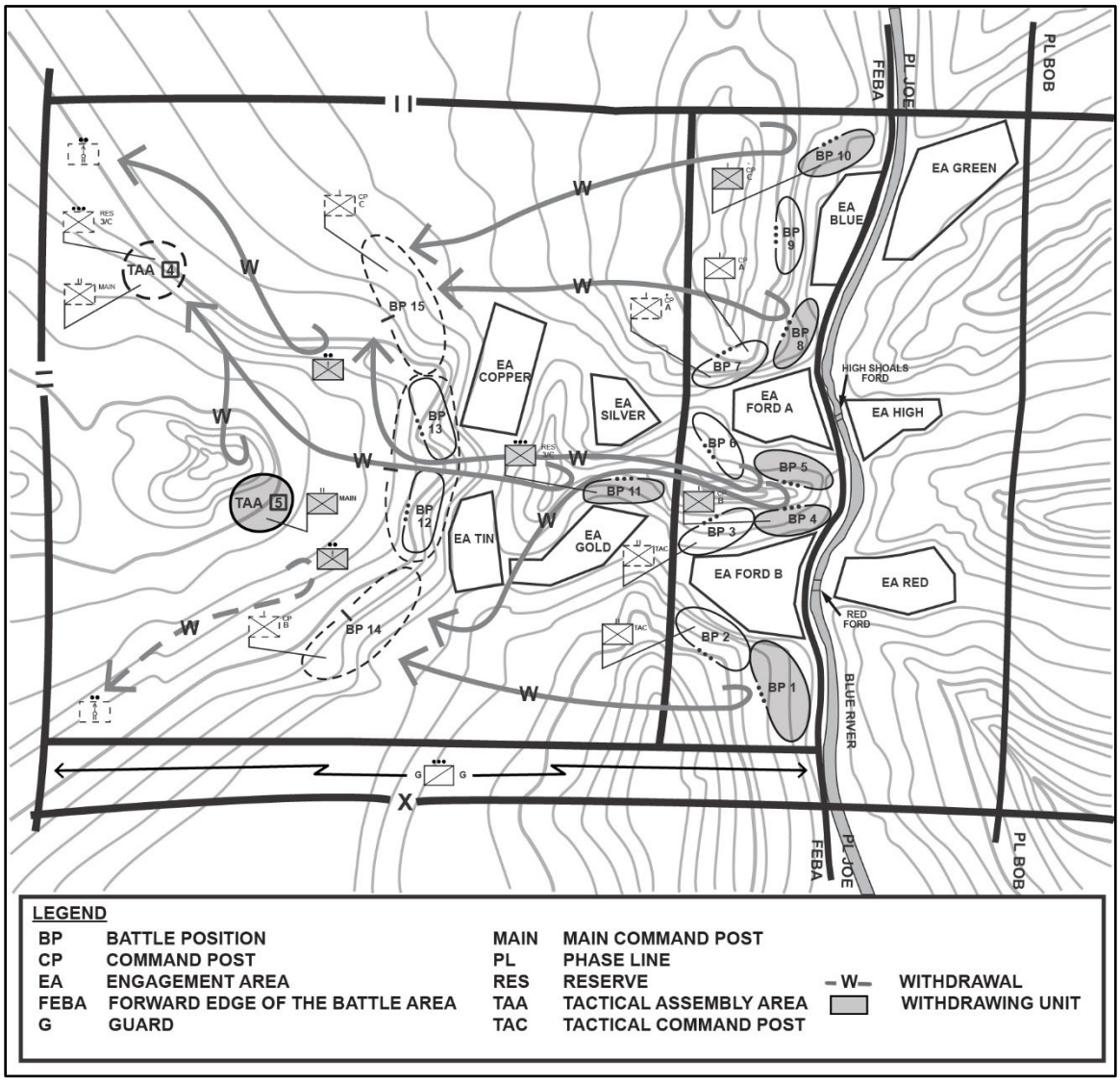


Figure 3-12. Detachment left in contact (multiple sub-elements left in place)

3-174. The second method involves one forward subordinate maneuver element (generally a subordinate company) of the battalion staying behind as the DLIC. For example, a battalion with two or three maneuver companies positioned forward leaves one of the forward positioned companies as the DLIC. (See figure 3-13 on page 114.) The DLIC normally repositions its forces (expanding its security responsibilities) to cover the width of the battalion's AO.

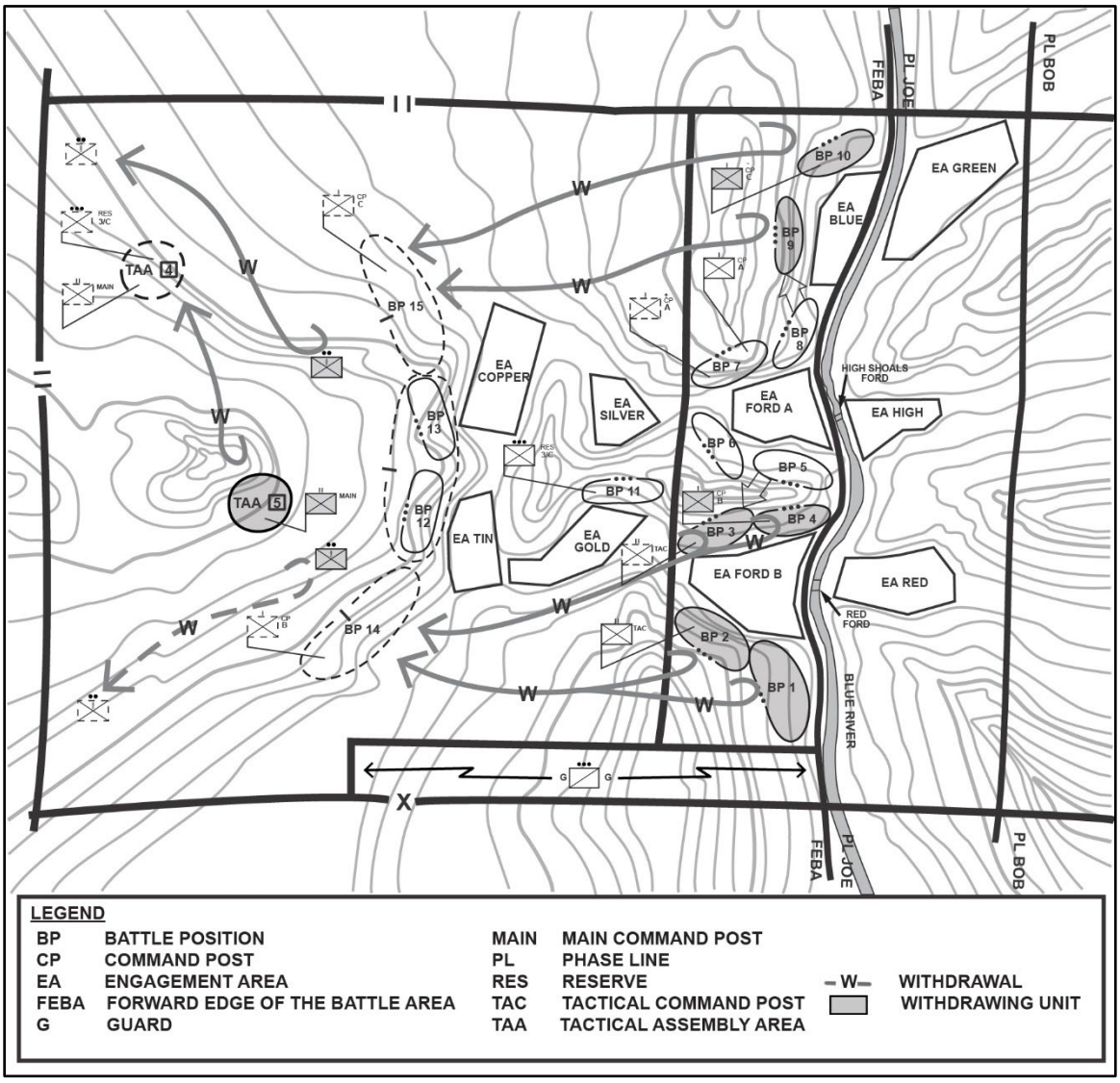


Figure 3-13. Detachment left in contact (one task-organized unit left in place)

3-175. When the company is selected as the battalion DLIC, the commander repositions platoons and weapons systems to cover the battalion's withdrawal. This normally includes repositioning a platoon in each of the other company positions (relief in place) and repositioning weapons to cover the most dangerous avenues of approach into the battalion's AO. The DLIC company is normally task-organized and reinforced by the battalion, for example, attached assault platoon section, mortar section, or another external enabler (if available).

Preparation (Withdrawal)

3-176. Preparation for a withdrawal is conducted the same manner as a delay. Preparation activities ensure subordinate units and Soldiers have a clear understanding of the withdrawal plan and the current enemy situation. To the extent possible, subordinate leaders conduct inspections and rehearse key portions of the plan to ensure maneuver units and Soldiers understand their portion of the plan or role, and that supporting elements and equipment are positioned and ready to execute the withdrawal.

3-177. When preparing for an assisted withdrawal, the commander ensures adequate coordination for battle handover and passage of lines. The focus of the rehearsal for the withdrawal is on actions to maintain security, disengagement from the enemy (when under enemy pressure), and the movement of forces. When possible, key leaders or liaisons from the assisting force attend rehearsals. During rehearsals, control measures are confirmed to include fire support coordination measures. Leaders rehearse the plan against the full range of possible enemy actions. The commander rehearses contingencies for reverting to a delay, commitment of the reserve, and enemy interdiction of movement routes.

3-178. In an unassisted withdrawal, the unit establishes its own security force and reserve and coordinates those actions with the unit's main body. The unit reconnoiters and secures routes to the rear and the support areas it will use during movement to the rear. In both unassisted and assisted withdrawals, the unit rehearses the plan to disengage from the enemy. Because the force is most vulnerable if the enemy attacks, the commander always plans for a withdrawal under pressure, then develops contingencies for a withdrawal without pressure.

3-179. Prior to the withdrawal, subordinate company commanders must have a clear understanding of the mission. During backbriefs the battalion commander reinforces the following points and the following information is then pushed to subordinate platoons to ensure situational understanding:

- When the withdrawal will start.
- Location of battalion TAA (if used), and what each company is to do upon their arrival.
- Location of company TAAs.
- Identification of routes to take from the company TAAs to the battalion TAA or their next position.
- Determination of the size, composition, and mission of the DLIC, and who the commander will be.
- Identification of upcoming battalion and company mission(s).
- Movement of company vehicles to the rear (including times and sequencing).
- Special instructions on the control of TOWs and mortars.
- Deception plan.

EXECUTION

3-180. As the company executes the withdrawal, the designated security force counters the enemy's attempt to disrupt the withdrawal or pursue. If the security force and the reserve cannot prevent the enemy from closing on the main body, the commander commits some or all of the main body to prevent the enemy from interfering further with the withdrawal.

3-181. The main body delays, attacks, or defends as the situation requires. In this event, the withdrawal resumes at the earliest possible time. If the enemy blocks movement to the rear, the battalion must adjust its order of withdrawal march to ensure sustainment and supporting elements are not the primary fighting force to eliminate the threat. Friendly forces shift to alternate routes and bypass the interdicted area. Alternatively, they may attack through the enemy.

Find the Enemy

3-182. When under enemy pressure, the security force typically maintains contact with the enemy until ordered to disengage or until another force takes over the task. When performing the role of a DLIC, the security force simulates the continued presence of the main body, which normally requires the additional allocation of combat multipliers beyond that normally allocated to a force of its size.

Fix the Enemy

3-183. With the most probable threat to a withdrawing force being a pursuing enemy, the commander organizes most of the available combat power to the security force as a rear guard or a DLIC. When an enemy security zone exists between friendly and enemy forces, the existing security force can transition on order to a rear-guard mission. When the withdrawing force is in close contact with the enemy, this security zone does not normally exist. Withdrawal under these conditions require that security forces, performing a rear-guard mission, adopt different techniques. A DLIC provides a way to sequentially break contact with the enemy.

Finish the Enemy

3-184. With security forces positioned forward, the main body moves as rapidly as possible rearward on multiple routes to reconnoiter intermediate or final positions. When not pursued by the enemy, the security force may move in a march column. Once the security force begins moving, it assumes the duties of a rear guard. Security elements balance security and deception with speed as it disengages. Security forces maintain tactical movement and security techniques until they break contact and are clear of the enemy; it then withdraws as rapidly as possible. The main body moves rapidly on multiple routes to designated positions and may occupy a series of intermediate positions before completing the withdrawal.

Follow Through

3-185. Once the company successfully disengages from the enemy, the command has two options. The battalion can rejoin the overall defense under more favorable conditions or transition into a retirement and continue to move away from the enemy and towards its next mission. Once out of contact with the enemy, the battalion and/or subordinate companies, when required, may reconstitute and/or conduct a task organization change.

RETIREMENT

3-186. A *retirement* is when a force out of contact moves away from the enemy (ADP 3-90). Retirements are conducted to reposition forces for future operations or to accommodate the current concept of operation. The company normally conducts a retirement as a tactical road march where security and speed are the most important considerations. When moving to a TAA, the retiring force's ability to defend from the TAA and protect itself during movement are major factors in positioning the TAAs and identifying the retirement route(s). Though interference from enemy ground forces is not anticipated, mobile enemy forces, unconventional forces, air strikes, air assault operations, or long-range fires may attempt to interdict the retiring force. Typically, within this type retrograde another unit's security force covers the movement of the retiring force. (See ATP 3-21.20 for additional information.)

Chapter 4
Sustainment

Sustainment is the provision of logistics, financial management, personnel services, and health service support necessary to maintain operations until successful mission completion (ADP 4-0). Sustainment operations provide support and services to ensure freedom of action, extend operational reach, and prolong endurance. This chapter describes sustainment operations in support of the Infantry rifle company, specifically the roles and responsibilities, functions, tasks, and activities, and unit relationships throughout high operating tempo decentralized operations. This chapter includes discussions on casualty response, specifically the three phases (care under fire, tactical field care, and tactical evacuation care) of TCCC. (See ATP 3-21.20 and FM 3-96 for additional information.)

Note. See ATP 3-21.20 for information on financial management. See ATP 3-21.18 for information on Soldier load.

SECTION I – ROLES AND RESPONSIBILITIES

4-1. The Infantry rifle company commander has the ultimate responsibility for sustainment. The company's basic sustainment responsibilities are to report and request support requirements through the correct channels and to ensure that it efficiently coordinates, deconflicts, and executes sustainment resupply in accordance with the maneuver plan. The XO and the 1SG control these functions with guidance and oversight provided by the commander. They must submit accurate personnel and logistical reports, along with other necessary information and requests.

4-2. Additional sustainment operators include the company supply sergeant, signal support NCO, armorer, and senior combat medic. Maintenance teams from the combat logistics platoon may be included.

EXECUTIVE OFFICER

4-3. The XO is the company's primary sustainment planner and coordinator, reporting directly to the commander. During preparations for the mission, the XO works closely with the 1SG to determine specific support requirements of the tactical plan. The XO ensures that proper arrangements are made to provide those support requirements.

4-4. The XO assists the commander with developing sustainment priorities and guidance and enforces those priorities. The XO leads the Infantry rifle company sustainment rehearsal in cooperation with the company 1SG and ensures that the Infantry rifle company executes sustainment according to the Infantry battalion plan (along with the 1SG).

4-5. The XO determines requirements and conducts close coordination with the battalion S-4 and operations staff officer (S-3) for planning and resourcing company missions. The XO compiles reports from subordinate elements, completes the unit's LOGSTAT, and submits the report to the battalion S-4. Additional XO responsibilities include:

- Determining the location of the company's resupply point based on data developed during planning and the war gaming process.
- Compiling DA Form 5988-E (*Equipment Maintenance and Inspection Worksheet [EGA]*) and DA Form 2404 (*Equipment Inspection and Maintenance Worksheet*) from the platoon leaders, PSGs, or the 1SG.
- Using DA Form 2404 to provide updates to the commander, as required, and manages all company commander property books.

FIRST SERGEANT

4-6. The 1SG is overall responsible for the execution of the sustainment plan. The 1SG executes the plan, relying heavily on company and battalion SOPs. The 1SG directly supervises and controls the company trains. The 1SG leads company sustainment rehearsals with the XO and/or integrates sustainment into the company's maneuver rehearsals. The 1SG coordinates and synchronizes human resources support with the battalion personnel staff officer (S-1). This support includes—

- Personnel accountability reports.
- Casualty reports.
- Replacement operations.
- Personnel readiness management.
- Mail operations.
- Essential personnel services and other administrative or personnel requirements.

4-7. Directs and supervises the collection, initial identification, and evacuation of human remains to the company CCP. Directs and supervises CASEVAC ensuring medical assets remain flexible and responsive to tactical missions.

4-8. Tracks changes in Class I and Class V expenditure rates and gives to the XO for further reporting to battalion S-4 via LOGSTAT report and expenditure reports.

4-9. Establishes and organizes the Infantry rifle company resupply point. Meets the LOGPAC at the LRP; guides it to the Infantry rifle company resupply point; supervises resupply operations there; and if necessary, guides the LOGPAC to its subsequent destination.

4-10. Provides an Infantry rifle company orientation for new personnel and, in consultation with the commander, assigns replacements to the company's subordinate elements. Maintains the Infantry rifle company battle roster and supervises evacuation of EPWs, detainees, and damaged equipment.

SUPPLY SERGEANT

4-11. The supply sergeant is the company's representative in the battalion's field trains (or combat trains when established). The supply sergeant coordinates with the combat logistics company (CLC) for resupply, specifically Classes I and V for the Infantry rifle company. The supply sergeant maintains individual supply and clothing records and requisitions Class II resupply as needed.

4-12. The supply sergeant requisitions Classes III, IV, and VII equipment and supplies, picks up replacement personnel and, as necessary, delivers them to the 1SG. The supply sergeant's additional duties include:

- Transporting, guarding, or transferring EPWs and detainees, as required.
- Guiding the LOGPAC, and damaged vehicles (if applicable), back to the brigade support area.
- Coordinating with the Infantry battalion S-1 section to turn in or pick up mail and personnel action documents.
- Managing the commander's property book and preparing financial liability investigations of property loss.
- Maintaining and providing supplies for company field sanitation activities (see ATP 4-25.12) and collects bagged contaminated soil and transports it to collection points as part of LOGPAC procedures.
- Receiving and evacuating human remains to the military affairs collection point in the brigade support area.

SIGNAL SUPPORT NONCOMMISSIONED OFFICER

4-13. The signal support NCO supervises the maintenance and installation of organic digital, wire, and FM communications. During missions, the signal support NCO usually travels with the company maintenance team when established and/or locates within the battalion field trains or (when established) combat trains, company trains, or positions to conduct movement with a march unit (see chapter 2, section I for additional information on company dismounted and mounted movements) within the main body. The signal support NCO—

- Performs limited troubleshooting of the company's organic communications equipment.

- Provides a link between company and battalion for maintenance of communications equipment.
- Supervises all maintenance activities for the company's communications security equipment.
- Supervises or assists CP operations.

ARMORER

4-14. The armorer is a supply specialist whose duties focus on organizational maintenance and repair of the company's small arms weapons. The armorer normally helps the supply sergeant in the field trains (or combat trains when established) but may operate forward within the company CP to support continuous CP operations.

COMBAT MEDICS

4-15. Combat medics are attached to the medical platoon tasked to support the Infantry battalion. Combat medics are attached to the Infantry companies based on one combat medic per platoon, and one senior combat medic per company. The location of the combat medic is of extreme importance for rapid medical treatment of casualties.

4-16. The Infantry platoon combat medic usually locates with, or near, the most senior NCO of the maneuver element to facilitate combat casualty care and to establish the CCP. When the platoon moves on foot in the platoon column formation, the combat medic positions himself near the element leader. If the platoon is mounted, the combat medic usually rides in the same vehicle as the PSG. The responsibilities of the Infantry platoon combat medics are to:

- Provide training and guidance to the platoon's Soldiers, CLSs, and aid and litter teams in manual and litter CASEVAC techniques.
- Provide training and guidance in first aid training of the company personnel and enhanced first aid procedures of the CLSs.
- Provide training and guidance in establishing a CCP.
- Recommend locations for platoon CCPs during operational planning and execution.
- Advise the platoon leader and PSG on unit field sanitation.
- Perform triage, treatment, monitoring, and packaging of patients at the platoon CCP and prior to evacuation to the company CCP.
- Perform and oversee sick call screening.
- Request and coordinate the evacuation of wounded, ill, and injured personnel to the company CCP, under the platoon leader's direction.
- Keep the platoon leader and PSG informed on the status of casualties and medical resupply requests.
- Advise the platoon leader on the health of the platoon.
- Advise the platoon leader on the effects of the Geneva Conventions on AHS.

4-17. The company senior combat medic collocates with the company trains. When a casualty occurs, the CLS renders first aid, or first aid is provided through self-aid or buddy-aid. The platoon combat medic or the company senior combat medic then goes to the location of the casualty, or the casualty is brought to the combat medic at the CCP. The CCP combat medic makes their assessment; administers initial medical care; initiates a DD Form 1380 (*Tactical Combat Casualty Care [TCCC] Card*) and then requests evacuation or returns the individual to duty. (See chapter 1 for additional responsibilities of Infantry rifle company combat medics.)

SECTION II – SUSTAINMENT CONCEPT OF SUPPORT

4-18. The company commander, with the assistance of the XO and 1SG, fully integrates and synchronizes the battalion's sustainment concept of support within the company's concept of operations. Sustainment planning, generally conducted by the company XO, is a key activity conducted during company TLP. The sustainment plan is continually assessed to determine if the current operation is proceeding according to the commander's intent and if planned future operations are supportable.

4-19. The company XO, under the supervision of the commander and in coordination with the 1SG, develops the sustainment plan by first determining exactly what supplies the company has on hand. Only then can the XO accurately estimate support requirements for the company. The XO formulates the sustainment execution plan and submits support requests in support of the commander's maneuver plan. The sustainment plan should answer a variety of questions, such as—

- What types of support will the Infantry rifle company need based on the nature of the mission and specific tactical factors?
- In what quantities will this support be required?
- Will planned, emergency, or contingency resupply or some combination of delivery technique of resupply be required during the mission?
- Does this mission require a pre-positioned or cache supply point(s)?
- What are the composition, disposition, and capabilities of the expected enemy threat and how will this affect sustainment during the mission?
- Where and when will the expected contact occur?
- What are the company's expected casualties based on the nature and location of expected contact?
- How many CCPs (if any) will the company require and at what echelon will they locate?
- What impact will the enemy's weapons capabilities have on the mission and on expected sustainment requirements?
- How many detainees are expected and where?
- How will terrain and weather affect sustainment operations during the mission?
- What ground will provide optimum security for the company trains?
- What ground will provide optimum security for maintenance and CCPs?
- What are the company's CASEVAC means and routes?
- What impact will the enemy's special weapons capabilities (such as CBRN) have on the battle and on expected sustainment requirements?
- What are the company's "dirty" routes for evacuation of contaminated personnel and equipment?
- When and where will the company need to be resupplied?
- Which sites are the best for the maintenance collection points based on the nature and location of expected contact?
- Which sites are the best for the CCPs based on the nature and location of expected contact?
- Where will the detainee collection points be located and how will they be handled?
- Which LRPs will be active during the mission?
- When will the LRPs be active?
- What are the criteria and triggers for the movement of the combat trains?
- What are the support priorities (by element and type of support):
  - Which platoon has priority for immediate Class III resupply?
  - Which platoon has priority for immediate Class V resupply?
- Will there be lulls in the mission that will permit support elements to conduct resupply operations in relative safety?
- How can the company best minimize the danger to support elements if no lulls are expected?
- Which distribution method (doctrinally known as unit distribution), throughput distribution, and supply point distribution or commonly known as service station, tailgate, or in-position, or any combination, is best to use based on METT-TC (I)?

4-20. Preparations include but are not limited to plan refinement, rehearsals, inspections, and movements. Rehearsals typically involve coordination and procedure drills for transportation support, services, resupply, maintenance and vehicle recovery (when attached), and MEDEVAC and CASEVAC. Sustainment rehearsals validate logistical synchronization with the concept of operations. Rehearsals focus on the supported and supporting unit with respect to sustainment operations across time and space as well as the method of support for specific actions (for example, contingency resupply) during the operation.

Note. Contingency resupply is the on-call delivery of prepackaged supplies during the execution phase of an operation. This type of on-call delivery of a prepackaged resupply is generally used to support an operation of limited duration, such as an airborne or air assault or other limited engagement of short duration. (See ATP 3-21.20 for additional information.)

SECTION III – SUSTAINING THE INFANTRY RIFLE COMPANY

4-21. Sustaining the Infantry rifle company requires a logistics network capable of providing the support and services necessary to ensure freedom of action, extending operational reach, and prolonging endurance. Sustaining the company includes personnel services and health service support, each of which must be integrated and synchronized across all warfighting functions to ensure the appropriate level of support. The elements of logistics include:

- Supply and field services.
- Transportation.
- Supply operations and distribution.
- Human resources support.
- Health service support.
- Maintenance.

SUPPLY AND FIELD SERVICES

4-22. Supply provides the materiel required to accomplish the mission. Supplies such as subsistence items, water, ammunition, and barrier materials are the most common. Field services maintain combat strength of the force by providing for its basic needs and promoting its health, welfare, morale, and endurance. Field services provide life support functions. Common field service capabilities that may be available are aerial delivery, field feeding, shower and laundry, and mortuary affairs. The Infantry rifle company normally deploys with 72 hours of supplies specific to its assigned mission.

TRANSPORTATION

4-23. Infantry companies are mostly comprised of foot-mobile Soldiers and require vehicles or air assets to increase the mobility of its troops. The ISV provides freedom of movement and tactical mobility for the Infantry and their associated equipment, if equipped. The movement of supplies, equipment, and personnel requires careful planning, preparation, and execution. When additional vehicle support is provided to the company, vehicles must be employed to capitalize on their capability to execute the mission requirement, and they must be returned for follow-on company or parent-unit missions.

4-24. Company personnel should be well trained in air movement operations. (See FM 3-99.) Understanding PZ and LZ operations and selection, allowable cargo loads, and resupply aerial delivery is critical when planning company air movements. (See ATP 3-21.20.)

SUPPLY OPERATIONS AND DISTRIBUTION

4-25. Supply operations require continuous and close coordination between the supporting and supported units. The XO, with the assistance of the 1SG, is responsible for synchronizing resupply operations for subordinate platoons and other elements assigned or attached to the company. The XO identifies requirements through daily LOGSTAT reports and sustainment planning conducted during TLP. (See ATP 3-21.20 for additional information on the methods of resupply to sustain the company during operations.)

4-26. Supply distribution encompasses the movement of personnel, materiel, and equipment in support of the platoon. Resupply operations cover all classes of supply, water, mail, and any other items usually requested. Whenever possible, the company conducts resupply on a regular basis, ideally during hours of limited visibility. (See ATP 3-21.20 for additional information.)

LOGISTICS STATUS REPORT

4-27. The LOGSTAT is an internal status report that identifies logistics requirements, provides visibility on critical shortages, and allows commanders to project mission capability. Accurate reporting of the logistics and AHS support status is essential for keeping units combat ready. The 1SG or XO compiles reports from all platoons, to include attachments, and completes the unit's LOGSTAT report. Once completed, reports are forwarded from a unit to its higher HQ and its supporting logistics HQ. LOGSTAT reports should be completed at least daily (based on unit SOP) but may be required more frequently during periods of increased intensity or high operating tempo. (See ATP 4-90 and FM 4-0 for more information.)

4-28. The 1SG controls redistribution of supplies when fuel for the ISVs and ammunition cannot be delivered or when only limited supplies are available. The PSG continually monitors the platoon's supply status through logistical reports and automated situation reports. The PSG notifies the 1SG before a specific vehicle or the platoon is critically short of these major classes of supply.

4-29. In planning for refueling operations, the 1SG and XO should balance the range and fuel capacity of the unit vehicles against the requirements of future operations. The company must top off vehicles (to include attachments) whenever the tactical situation permits. When time is limited, however, the 1SG must choose between topping off vehicles that need the most fuel first or giving limited amounts to each. The PSG must ensure each vehicle operator maintains a stock of oil, grease, and fluid, replenishing these petroleum, oils, and lubricants every time refueling takes place.

METHODS OF DISTRIBUTION

4-30. Infantry company supply distribution is a critical tactical function that ensures the forward line of troops remains equipped to fight. There are three primary methods for resupply: the service station method, the tailgate method, and in-position/cache methods. The chosen method depends on METT-TC (I).

Service Station Resupply

4-31. With the service station method, vehicles move individually or in small groups to a centrally located resupply point. Depending on the tactical situation, one team or squad (one element within the squad or platoon may be utilized to pick up the resupply for the whole unit to save time), or even an entire platoon moves out of its position, conducts resupply operations, and then moves back into position. When using this method, Soldiers enter the resupply point following a one-way flow; only requiring an immediate maintenance stop at the maintenance holding area. This process continues until the entire Infantry rifle company has been resupplied (see figure 4-1).

4-32. When mounted, ISVs move through each supply location, while Soldiers rotate individually to eat, pick up mail and sundries, and refill or exchange water cans. When all platoon vehicles have completed resupply, they move to a holding area, where, time permitting, the platoon leader and PSG conduct a PCI. Whether mounted or dismounted, the company command group (rifle company commander, XO, and 1SG) can take this opportunity to conduct PCIs of each platoon as they pass through the resupply point.

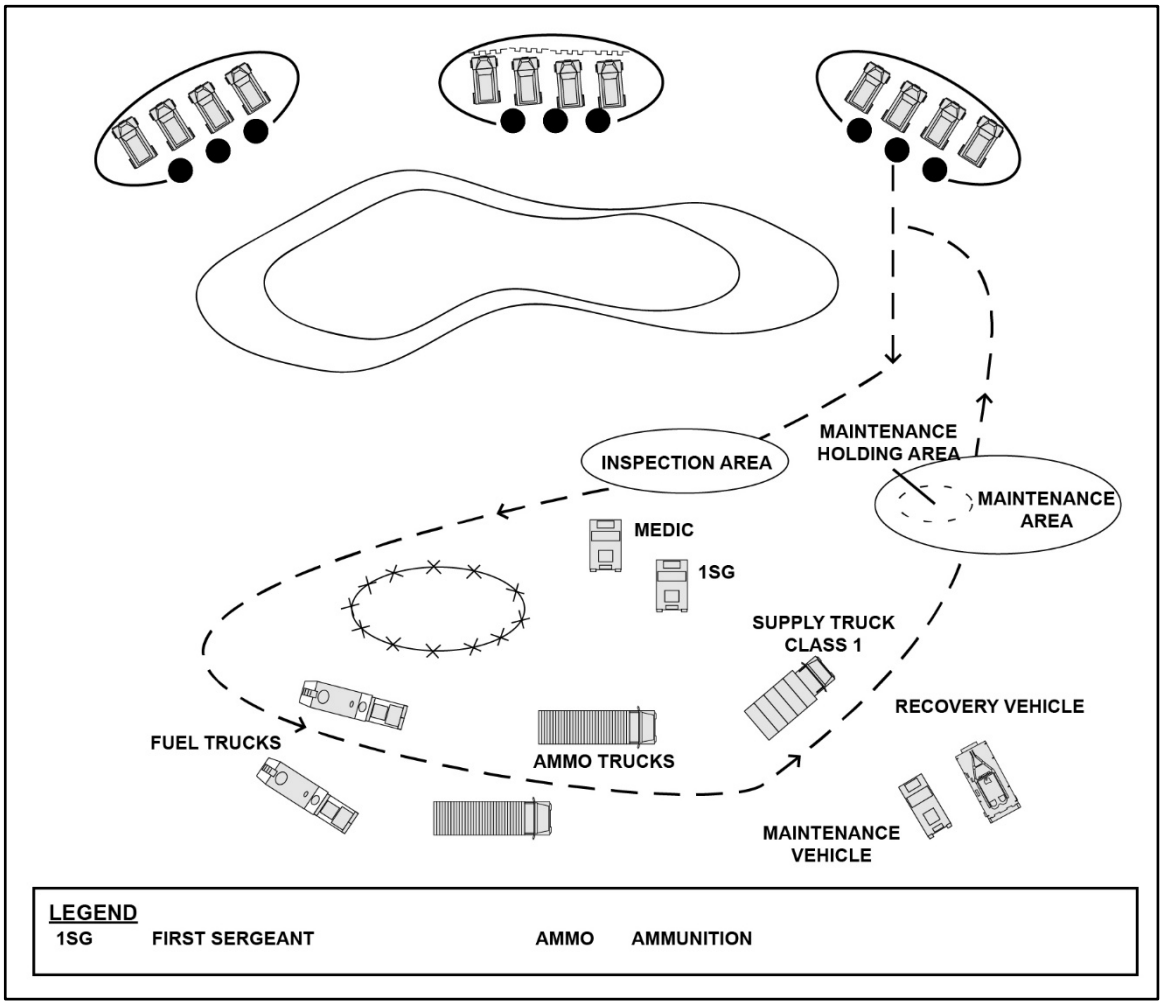


Figure 4-1. Service station method

Tailgate Resupply

4-33. Tailgate resupply usually requires significantly more time than service station operations. Usually, units use the tailgate method only when the tactical situation allows or dictates. ISVs remain in their vehicle positions or back out a short distance to allow trucks carrying Class III and Class V supplies to reach them. Soldiers rotate through the feeding area, pick up mail and sundries, and fill or exchange water containers. Any EPWs and detainees are centralized and guarded. Soldiers killed in action and their personal effects are brought to the holding area, where the 1SG takes charge of them (see figure 4-2 on page 124).

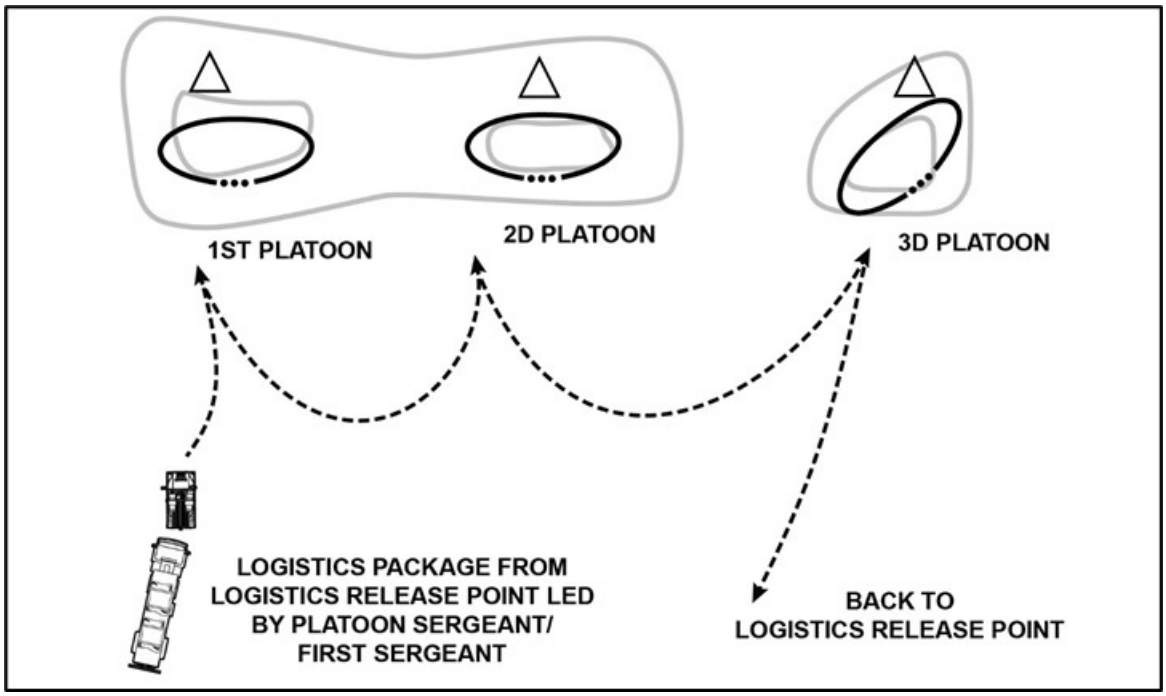


Figure 4-2. Tailgate resupply method

Combination of Service Station and Tailgate Resupply

4-34. The company may select to employ the tailgate resupply method, but selected platoons may have to use the service station resupply method. Selected platoon(s) may use the service station resupply method while some sections may have to use the tailgate resupply method.

METHODS OF RESUPPLY

4-35. The two methods of resupply are planned resupply and emergency resupply. Planned resupply is the preferred method of resupply. At the platoon level, the company sustainment concept of support and LOGSTAT reports by the PSG normally establish the requirement, timing, and frequency for planned resupply. A planned resupply may occur during an operation. Emergency resupply (sometimes referred to as immediate or urgent resupply) is the least preferred method of supply. While instances of emergency resupply may be required, especially when combat losses or a change in the enemy situation occurs, requests for it may indicate a breakdown in coordination and collaboration between supported and supporting units.

Emergency Resupply

4-36. Requests for emergency resupply not related to combat loss indicate a breakdown in coordination and collaboration between sustaining and operating forces. Emergency resupply that extends beyond the battalion's echelons of support capabilities requires emergency intervention of the light support battalion or next higher sustainment echelon capable of executing the support mission. When a unit has an emergency need for resupply that cannot wait for a routine LOGPAC, an emergency resupply may involve Class III (petroleum, oils, and lubricants), Class V (ammunition), and Class VIII (medical), and, on occasion, Class I (commonly water). An emergency resupply, by aerial delivery is dependent upon the availability of aviation assets. The fastest and most appropriate means of delivery is normally used, although procedures may have to be adjusted when in contact with the enemy.

Planned Resupply

4-37. Whenever possible, planned resupply (sometimes called routine resupply) by LOGPAC is conducted on a regular basis and is the preferred method for the distribution of supplies. Planned resupply, conducted ideally during hours of limited visibility, through LOGPAC covers all classes of supply, mail, and any other items usually requested. The LOGPAC, a grouping of multiple classes of supply and supply vehicles under the control of a single ground convoy commander (see ATP 4-01.45) or through aerial delivery under certain situations (see ATP 4-48), is an efficient method to accomplish planned resupply operations. The key feature is a centrally organized resupply operation carrying all the items needed to sustain the force for a specific period, usually 24 hours or until the next scheduled LOGPAC.

TECHNIQUES FOR PLANNED RESUPPLY

4-38. Logisticians and supported units can use several techniques for resupply during planned and emergency resupply operations. See ATP 3-21.20 for additional information on the following delivery techniques for resupply. There are multiple techniques for the resupply of supplies, personnel, and equipment. The following are examples of techniques for planned resupply:

- LOGPAC.
- Aerial resupply.
- LRP.
- Pre-positioned supplies.
- Cache.

Logistics Package

4-39. A *logistics package* is a grouping of multiple classes of supply and supply vehicles under the control of a single convoy commander (FM 3-90). It is a simple and efficient way to accomplish planned (routine) resupply. The key feature is a centrally organized resupply convoy originating at the Infantry battalion trains. It carries all the items needed to sustain the Infantry rifle company for a specific period, usually 24 hours or until the next scheduled LOGPAC. Company SOPs specify the exact composition and march order of the LOGPAC.

4-40. The company supply sergeant first compiles and coordinates all the company's supply requests. Based on the requests, the supply sergeant then assembles the LOGPAC. Example LOGPAC for the company may include the following:

- Class I, Class III (bulk and packaged products), and Class V supplies from the CLC. This usually entails employment of fuel trucks and cargo trucks.
- Class II, Class IV (basic load resupply only), Class VI (personal demand items), and Class VII supplies from field trains.
- Routine Class IX supplies and maintenance documents (as required) from the prescribed load list/shop stock section in the field trains.
- Replacement personnel and Soldiers returning from a medical treatment facility (MTF).
- Weapons and equipment returning to the rifle company area from maintenance.
- Mail and personnel action documents (including awards and finance and legal documents) from the battalion S-1 section and servicing legal office.

4-41. The CLC distribution platoon leader oversees LOGPAC operations and manages the distribution of supplies within the CLC to individual company LRPs. When LOGPAC preparations are completed, the supply sergeant initiates tactical movement to the LRP under the supervision of the distribution platoon leader. The supply sergeant and LOGPAC link up with the 1SG at the LRP.

4-42. When the 1SG, XO, or a representative arrives at the LRP to pick up the company LOGPAC, they update all personnel and logistical reports and are briefed by the field trains officer in charge of any changes to the tactical or support situation. They then escort the convoy to the company resupply point, providing security during movement from the LRP.

Aerial Delivery

4-43. Aerial delivery, by airland, airdrop, and sling-load operations, provides additional capability to resupply the Infantry rifle company when the terrain or enemy situation limits access by ground transportation. Aerial delivery of routine (resupply by LOGPAC), emergency resupply (often called immediate or urgent resupply), and contingency resupply, provides an effective means to bypass enemy activities and reduces the need for route clearance of ground lines of communications. When planning aerial delivery operations, the commander considers the enemy's ability to locate the delivery and receiving unit by observing the delivery aircraft. Drop zones and LZs are located away from the main unit in an area that can be defended for a short time unless the resupply is conducted in an area under friendly control and away from direct enemy observation. When delivered, supplies are immediately transported away from the drop zone or LZ. Six aerial delivery means, common to company resupply operations, include internal and external (sling) loading, speedball, kicker box, container delivery system, low-cost low altitude, and joint precision airdrop system. (See ATP 3-21.20 for additional information.)

Note. For aerial delivery to be effective, friendly forces must control the airspace along the aerial delivery route and neutralize any enemy air or ground-based air defenses that can affect the aerial delivery route. FM 3-99 addresses planning considerations for the suppression of enemy air defenses along aerial routes and guidance for selecting LZs and drop zones. ATP 4-48 describes the planning, preparation, and execution process for aerial delivery along with identifying the responsibilities for aerial delivery.

Logistics Release Point

4-44. The company's most commonly executed supply point distribution is by means of an LRP. This location is any place on the ground where unit distribution vehicles take supplies to be met by the company's representative (for example, the 1SG). Once contact is made the company representative takes the supplies forward to subordinate platoons for subsequent distribution.

Pre-positioned Supplies

4-45. Pre-positioning of supplies must be carefully planned and executed at every level when utilized. All leaders must know the exact locations of pre-positioned sites, which they verify during reconnaissance and rehearsals. The commander takes measures to ensure survivability. These measures may include digging in pre-positioned supplies and selecting covered and concealed positions. The commander must also have a plan to remove or destroy pre-positioned supplies, if required.

Cache

4-46. A cache is a pre-positioned and concealed supply point. Caches are an excellent tool for reducing the Soldier's load and can be set up for a specific mission or as a contingency measure. Cache sites have the same characteristics as an ORP or patrol base, with the supplies concealed above or below ground. An above ground cache is easier to get to but is more likely to be discovered by the enemy, civilians, or animals. A security risk always exists when returning to a cache. A cache site should be observed for signs of enemy presence and secured before being used as it may have been booby-trapped and may be under enemy observation.

HUMAN RESOURCES SUPPORT

4-47. Human resources support all functions that affect the Soldier's status, readiness, and welfare. It includes essential personnel services such as evaluations, leaves and passes, awards and decorations, rest and recuperation, postal, personnel accountability, casualty operations, strength reporting, retention operations, and personnel information management.

POSTAL SERVICES

4-48. The battalion mail clerk receives and distributes Soldier mail to the company mail clerk, usually the supply sergeant, who delivers it to the 1SG, PSG, or to the Soldier. All outgoing and returned mail is given

to the supply sergeant or 1SG during resupply and is turned over to the S-1 section when the LOGPAC returns to the field trains.

PERSONNEL MANAGEMENT AND STRENGTH REPORTING

4-49. Personnel accounting is the process of recording by-name, data on Soldiers when they arrive, depart, change duty location, or change duty status. Strength reporting is the numerical result of the by-name accounting process. 1SGs are critical participants in this process. They must be very sensitive to the accuracy and timeliness of all personnel accounting reports. They should pay special attention to Soldiers who have changed status in the medical treatment process and task organization changes when they submit their reports.

CASUALTY OPERATIONS

4-50. Casualty operations include production, dissemination, coordination, validation, and synchronization of information regarding each casualty. This information includes casualty reporting, casualty notification, casualty assistance, line-of-duty determination, disposition of remains, and disposition of personal effects, military burial honors, and casualty mail coordination.

Casualty Reporting

4-51. As casualties occur, the nearest leader to observer, or the observer, informs the company 1SG via the most expedient method available (for example, face-to-face, free text, or FM voice). The 1SG submits a personnel status report to the Infantry battalion S-1 section. This report documents duty status changes on all casualties. Casualties are stabilized at the platoon CCP and then taken to the company CCP for classification of injury type (routine, urgent, return to duty), evacuation, and integration into the AHS.

4-52. Commanders and their 1SGs must establish procedures to ensure that the Soldier's next of kin are notified properly and according to procedure. The potential for unofficial communications that exist with killed in action operations also exists in casualty operations. That is, the use of cell phones and computers in proximity to the AO enables many Soldiers to contact their home station regarding the casualty. Such communication is unofficial and unacceptable. The next of kin for Soldiers wounded or killed in action should not receive notification through unofficial means. There is usually a communication blackout until the next of kin is notified. No internet or phone calls home are permitted.

Medical Accounting of Personnel

4-53. When a Soldier becomes wounded, ill, or injured, a combat medic records any medical treatment provided on a DD Form 1380. When evacuated to the battalion aid station (BAS), Role 1 medical personnel will use the Soldier's DD Form 1380 when providing further treatment. Per the unit's tactical SOPs, the BAS should send a daily patient disposition log (report) to the battalion S-1. This report prompts the battalion S-1 to update the Soldier's patient tracking status. In turn, this report should be forwarded to the company. In this manner, a Soldier's location can be determined and properly accounted for by the company.

HEALTH SERVICE SUPPORT

4-54. *Health service support* is support and services performed, provided, and arranged by the Army Medicine to promote, improve, conserve, or restore the behavioral and physical well-being of personnel by providing direct patient care that include medical treatment (organic and area support) and hospitalization, medical evacuation to include medical regulating, and medical logistics to include blood management (FM 4-02). MEDEVAC and the provision of en route medical care ensures an uninterrupted continuum of care is maintained while Soldiers are moved through the roles of medical care to the MTFs best suited to treat the patient's specific injuries. See FM 3-96 and ATP 3-21.20, respectively, for information on the levels of medical care in support of the Infantry rifle company. (See ATP 3-21.8 for a detailed discussion of casualty response, specifically the three phases [care under fire, tactical field care, and tactical evacuation care] of TCCC for the Infantry rifle platoon and squad.)

4-55.

ROLES OF MEDICAL CARE

4-56. A basic characteristic of organizing modern AHS support is the distribution of medical resources and capabilities to facilities at various levels of command, diverse locations, and progressive capabilities, which are referred to as roles of care. As a rule, no role of care is bypassed except on grounds of medical urgency, efficiency, or expediency. The rationale for this rule is to ensure the stabilization/survivability of the patient through TCCC. (See figure 4-3 for a brief description of the roles of care.) The company is primarily concerned with the first three en route care capabilities. They include casualty response (nonmedical personnel), Role 1, and Role 2 care.

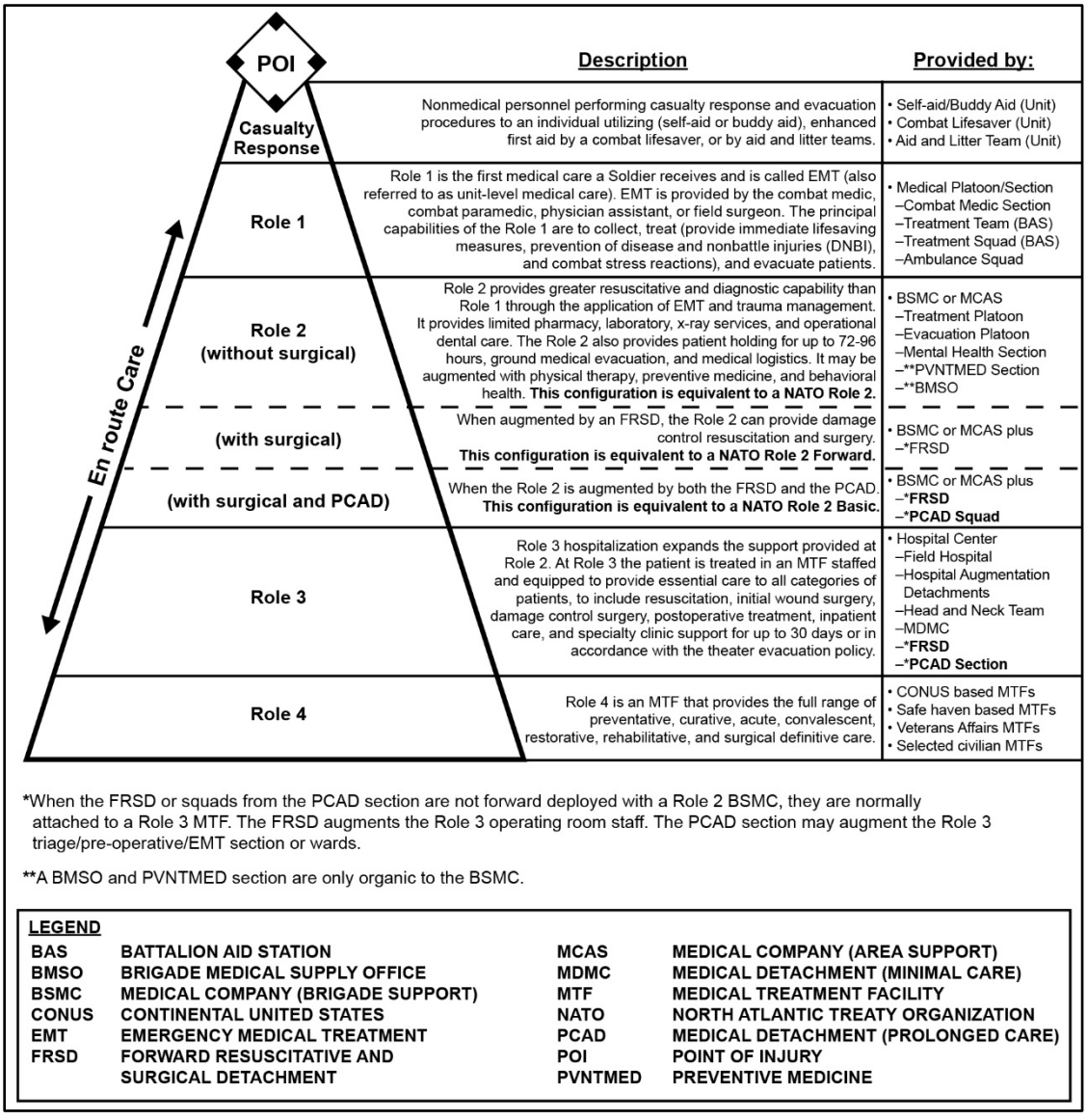


Figure 4-3. Army Health System roles of care

Casualty Response (Nonmedical Personnel)

4-57. Nonmedical personnel performing first aid procedures assist the combat medics in their duties. First aid is administered by an individual (self-aid or buddy-aid) and enhanced first aid is provided by CLSs. A

CLS is a nonmedical Soldier of a unit trained to provide enhanced first aid as a secondary mission. (See ATP 3-21.8 for additional information.)

4-58. The CLS is a nonmedical Soldier selected by the unit commander for additional training beyond basic first aid procedures. A minimum of one individual per squad, team, or equivalent-sized unit should be trained. The primary duty of this individual does not change. The primary duty of the CLS is to provide enhanced first aid for injuries, based on their training, before the combat medic arrives. CLS training is normally provided by medical personnel during direct support of the unit. The training program is managed by the senior medic and designated by the commander.

Casualty Collection Point

4-59. A *casualty collection point* is a location that may or may not be staffed, where casualties are assembled for evacuation to a medical treatment facility (ATP 4-02.2). The establishment of a CCP enables the company to facilitate triage, provide initial treatment, and evacuate casualties to the next role of care. Company leaders play an important role in recovery of combat casualties and coordinating for medical treatment and their expedient evacuation to where medical treatment is available. Selecting a site for the CCP should be addressed during TLP. The company 1SG and the company senior medic designates the location for the company CCP and ensures the location is on appropriate overlays. The PSG and combat medic designate the location for the platoon CCP, if needed, and ensure that its location is communicated to the company 1SG and company senior medic. All platoons and attachments must be informed and provided locations of the company CCP. However, METT-TC (I) becomes a factor as operations commence. The tactical location for a CCP is determined by several important factors, such as—

- Proximity to the fight.
- Near templated areas of expected high casualties.
- Cover and concealment.
- Access to evacuation routes (foot, vehicle, and aircraft).
- Avoid natural or enemy choke points.
- Area allowing passive security (inside the perimeter).
- Good drainage.
- Trafficable to evacuation assets.
- Expandable if the casualty load increases.
- In buildings or on hardstand that is easily identifiable to limit confusion.
- Adjacent to objective choke points (breaches, building, helicopter landing zones).

4-60. At the collection point, the senior combat medic conducts triage of all casualties, takes the necessary steps to stabilize their condition, and initiates the process of moving them to the next level of medical care (for example, Role 1 BAS). CASEVAC or MEDEVAC requests are initiated using the established format, communications plan, and followed up by digital report, if possible.

Note. During ground MEDEVACs, Role 1 treatment is provided by the ambulance aide/driver.

Role 1 Care

4-61. The first medical care a Soldier receives is provided at a Role 1 BAS (also referred to as unit-level medical care). This role of care includes:

- Immediate lifesaving measures.
- Disease and nonbattle injury prevention.
- Combat and operational stress preventive measures.
- Patient location and acquisition (collection).
- MEDEVAC from supported units (point of injury or wounding, company aid posts, or CCP) to supporting Role 2 medical company, brigade support (within the brigade support medical company [BSMC]).
- Treatment provided by designated combat medics or treatment squads.

Note. Major emphasis is placed on those measures necessary for the patients to return to duty or to stabilize them and allow for their evacuation to the next role of care.

4-62. Role 1 medical treatment is provided by the combat medic or by the physician, the physician assistant, or the health care specialist in the BAS. *Emergency medical treatment* is the immediate application of medical procedures to the wounded, injured, or sick by specially trained medical personnel (FM 4-02).

4-63. The Infantry battalion's organic medical resources within its HQ and HQ company include a medical platoon staffed with a field surgeon, physician assistant, and numerous combat medics. The mission of the battalion medical platoon is to provide Role 1 AHS support to the Infantry battalion Soldiers. Role 1 (also referred to as unit-level medical care) is the first medical care a Soldier receives. The Infantry battalion's medical platoon is configured with a HQ section, medical treatment squad, ambulance squad (ground), and combat medic section. The treatment squad consists of two teams (treatment team alpha and team bravo). The treatment squad operates the BAS and provides Role 1 medical care and treatment (including disease and nonbattle injury prevention, sick call, emergency medical treatment [including TCCC], and patient decontamination). Medical platoon ambulances provide MEDEVAC and en route care from the Soldiers' point of injury, the CCP, or an ambulance exchange point to the BAS. The ambulance squad consists of four teams of two ambulances to be used to MEDEVAC patients to the Role 1 BAS. (See ATP 4-02.4 for additional information on the medical platoon.)

4-64. TCCC (immediate far forward care) consists of those lifesaving steps that do not require the knowledge and skills of a physician. At the Role 1 BAS, the physician and the physician assistant are trained and equipped to provide TCCC to the patient. This element also conducts routine sick call when the operational situation permits.

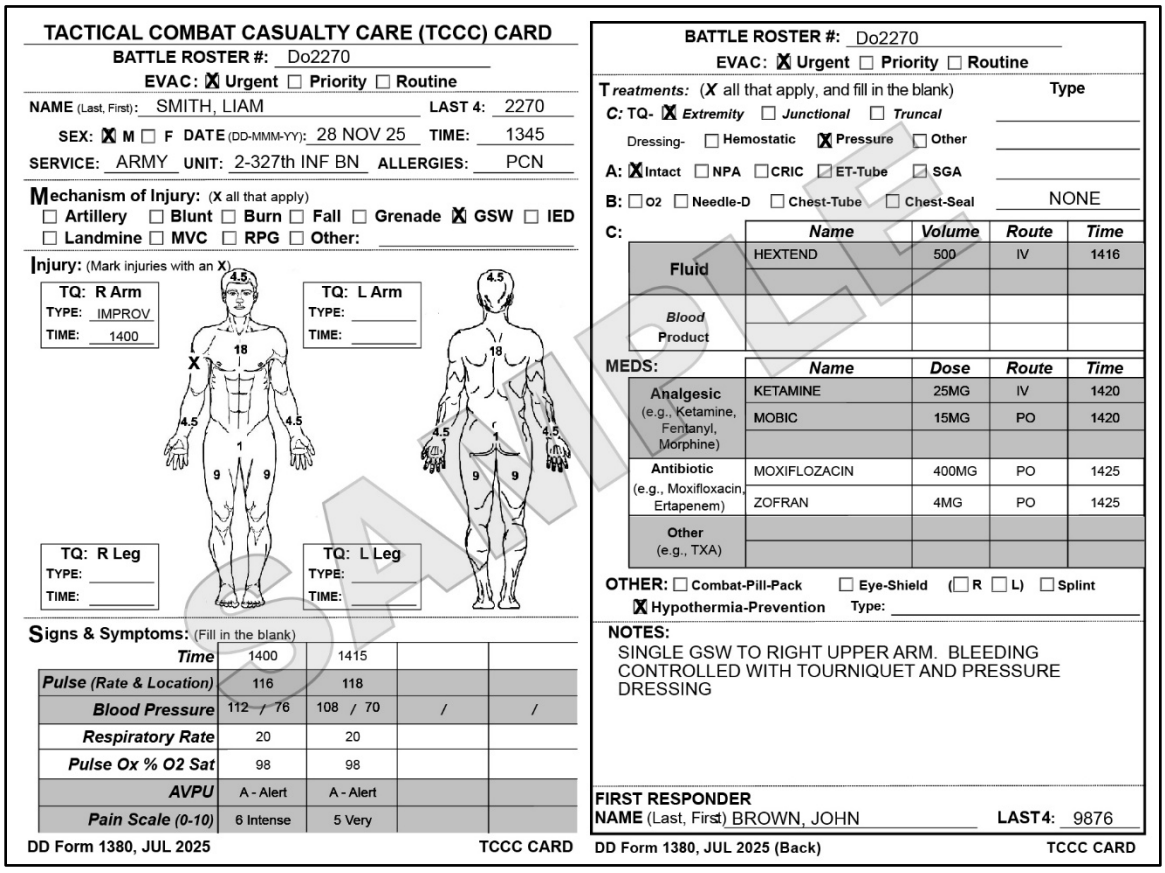
Note. The combat medic is the first individual in the medical chain that makes medically substantiated decisions based on medical military occupational specialty-specific training.

Role 2 Care

4-65. The Role 2 medical company provides MEDEVAC from a Role 1 BAS and a greater capability to resuscitate trauma patients than is available at a Role 1 BAS. The BSMC, medical company area support, and medical company light support battalion MTF are Role 2 MTFs responsible for providing direct AHS support to assigned or attached personnel and units without organic medical assets. Role 2 provides limited pharmacy, laboratory, x-ray services, and operational dental care, ground MEDEVAC, medical logistics and may be augmented with physical therapy, preventative medicine, and behavioral health. Those patients that can return to duty within 72 hours are held for treatment.

Casualty Flow

4-66. All platoon CLSs and the combat medic carry multiple blank versions and use (they complete all entries as fully as possible) DD Form 1380 (see figure 4-4) to document pre-MTF care at the point of injury. Such care relates to both battle and nonbattle injuries. Once completed, DD Form 1380 is visibly attached to the patient when transferred to the CCP and/or to a Role 1 or Role 2 MTF. All entries on the DD Form 1380 will be made using a non-smearing pen or marker and should be printed clearly, including the first responder's name.


TACTICAL COMBAT CASUALTY CARE (TCCC) CARD
BATTLE ROSTER #: Do2270
EVAC: [X] Urgent [ ] Priority [ ] Routine
NAME (Last, First): SMITH, LIAM LAST 4: 2270
SEX: [X] M [ ] F DATE (DD-MMM-YY): 28 NOV 25 TIME: 1345
SERVICE: ARMY UNIT: 2-327th INF BN ALLERGIES: PCN
Mechanism of Injury: (X all that apply)
[ ] Artillery [ ] Blunt [ ] Burn [ ] Fall [ ] Grenade [X] GSW [ ] IED
[ ] Landmine [ ] MVC [ ] RPG [ ] Other:
Injury: (Mark injuries with an X)
TQ: R Arm TYPE: IMPROV TIME: 1400
TQ: L Arm TYPE: TIME:
TQ: R Leg TYPE: TIME:
TQ: L Leg TYPE: TIME:
Signs & Symptoms: (Fill in the blank)

	Time	1400	1415		
Pulse (Rate & Location)		116	118		
Blood Pressure		112 / 76	108 / 70	/	/
Respiratory Rate		20	20		
Pulse Ox % O2 Sat		98	98		
AVPU		A - Alert	A - Alert		
Pain Scale (0-10)		6 Intense	5 Very		

DD Form 1380, JUL 2025 TCCC CARD

BATTLE ROSTER #: Do2270
EVAC: [X] Urgent [ ] Priority [ ] Routine
Treatments: (X all that apply, and fill in the blank) Type
C: TQ- [X] Extremity [ ] Junctional [ ] Truncal
Dressing- [ ] Hemostatic [X] Pressure [ ] Other
A: [X] Intact [ ] NPA [ ] CRIC [ ] ET-Tube [ ] SGA
B: [ ] O2 [ ] Needle-D [ ] Chest-Tube [ ] Chest-Seal NONE
C:

	Name	Volume	Route	Time
Fluid	HEXTEND	500	IV	1416
Blood Product				

MEDS:

	Name	Dose	Route	Time
Analgesic (e.g., Ketamine, Fentanyl, Morphine)	KETAMINE	25MG	IV	1420
	MOBIC	15MG	PO	1420
Antibiotic (e.g., Moxifloxacin, Ertapenem)	MOXIFLOZACIN	400MG	PO	1425
	ZOFRAN	4MG	PO	1425
Other (e.g., TXA)				

OTHER: [ ] Combat-Pill-Pack [ ] Eye-Shield ([ ] R [ ] L) [ ] Splint
[X] Hypothermia-Prevention Type:
NOTES:
SINGLE GSW TO RIGHT UPPER ARM. BLEEDING CONTROLLED WITH TOURNIQUET AND PRESSURE DRESSING
FIRST RESPONDER
NAME (Last, First) BROWN, JOHN LAST 4: 9876
DD Form 1380, JUL 2025 (Back) TCCC CARD
SAMPLE

Figure 4-4. DD Form 1380 (Tactical Combat Casualty Care [TCCC] Card)

4-67. During the fight, casualties should remain under cover where they received initial treatment (self- or buddy-aid). (See collective tasks 07-SQD-9033 and 07-PLT-9033.) As soon as the situation allows, casualties are moved to the platoon CCP (when established). Once the casualties are collected, evaluated, and treated, they are prioritized for evacuation back to the company CCP. Unit SOPs address these activities, including the marking of casualties in limited visibility operations. Small, standard, or IR chemical lights work well for this purpose. An effective technique, particularly during an attack, is to task-organize a logistics team under the 1SG. This team evacuates casualties to either the company or the battalion CCP. The commander determines the size of the team during mission analysis.

4-68. When the platoons are widely dispersed, casualties might be evacuated directly from the platoon CCP by nonmedical vehicles and personnel. However, casualties are usually moved to the company CCP before evacuation. If the capacity of the battalion's organic ambulances is exceeded, unit leaders may reassign supply or other nonmedical vehicles to backhaul or otherwise transport non-urgent casualties to the BAS. In other cases, the PSG may direct platoon aid and litter teams to carry the casualties to the rear. Leaders minimize the number of Soldiers required to evacuate casualties.

4-69. Unless the threat environment is highly permissive, helicopter evacuation is unlikely to occur farther forward on the battlefield than the battalion's ambulance exchange points between the BAS (Role 1) and the brigade's medical company (Role 2) in the brigade support area.

4-70. Unit SOPs and OPORDs address casualty treatment and evacuation in detail. They cover the duties and responsibilities of key personnel, the evacuation of chemically contaminated casualties (on separate routes from noncontaminated casualties), and the priority for operating key weapons and positions. SOPs specify preferred and alternate methods of evacuation and make provisions for retrieving and safeguarding the weapons, ammunition, and equipment of casualties. MEDEVAC and CASEVAC are rehearsed like any other critical part of an operation.

4-71. As casualties occur, the nearest observer informs the PSG who then informs the 1SG via the most expedient method available (for example, radio voice). The 1SG then submits a personnel status report to the S-1 section. This report documents duty status changes on all casualties. A casualty report is filled out when a casualty occurs, or as soon as the tactical situation permits. This is usually done by the Soldier's squad leader and turned into the PSG, who forwards it to the 1SG. A brief description of how the casualty occurred (including the place, time, and activity being performed) and who or what inflicted the wound is included. If the squad leader does not have personal knowledge of how the casualty occurred, the squad leader gets this information from Soldiers who have the knowledge.

4-72. Before casualties are evacuated to the CCP or beyond, leaders remove all key operational or sensitive items and equipment, including communications security devices or signal operating instructions, maps, and position location devices. Every unit should establish an SOP for handling the weapons and ammunition of its wounded or killed in action. Protective masks and other protective equipment must stay with the individual.

4-73. Casualties are taken to CCP for classification based on their medical condition, assigned evacuation precedence (urgent, priority, routine, and convenience), and availability of MEDEVAC platforms. Within a CCP, the combat medic triages patients, takes the necessary steps to stabilize their conditions, and initiates the process of evacuating them to the rear for further treatment. The combat medic helps the 1SG arrange evacuation via ground or air ambulance, or by nonstandard means. (See FM 4-02 and ATP 4-02.2 for additional information on evacuation precedence for Army operations at Role 1 and Role 2 MTFs.)

4-74. When possible, the battalion medical platoon ambulances provide evacuation and en route care from the Soldier's point of injury or the CCP to the BAS. The ambulance team supporting the company or platoon works in coordination with the combat medic supporting the company or platoon. In mass casualty situations, nonmedical vehicles can be used to assist in CASEVAC as directed by the platoon leader or company commander. Plans to use nonmedical vehicles to perform CASEVAC should be included in the unit SOP. Ground ambulances from the BSMC or other supporting ambulances evacuate patients from the BAS back to the BSMC MTF located in the brigade support area.

TACTICAL COMBAT CASUALTY CARE

4-75. TCCC is divided into the three phases—care under fire, tactical field care, and tactical evacuation care. TCCC occurs during a combat mission and is the military counterpart to prehospital emergency medical treatment. (See FM 4-02 for additional information.)

Care Under Fire

4-76. In the care under fire phase, combat medical personnel and their units are under effective hostile fire and are very limited in the care they can provide. During this phase of care, the first responder should remain engaged with the threat; only life-threatening external bleeding (extremity pulsatile hemorrhage) will be addressed. In essence, only those lifesaving interventions that must be performed immediately are undertaken during this phase. Casualty care under fire has a positive impact on the morale of a unit. Casualties are cared for at the point of injury (or under nearby cover and concealment) and receive self- or buddy-aid, enhanced first aid from the CLS, and/or emergency medical treatment from the platoon or company combat medics.

Tactical Field Care

4-77. During the tactical field care phase, medical personnel and their patients are no longer under effective hostile fire and medical personnel can provide more extensive patient care. This is the phase of TCCC that is provided at a platoon or company CCP. In this phase, interventions directed at other life-threatening conditions, as well as resuscitation and other measures to increase the patient's comfort may be performed. During tactical field care, personnel must be prepared to transition back to care under fire, or to prepare the casualty for tactical evacuation, as the tactical situation dictates. (See ATP 4-02.1 for additional information on tactical field care.)

Tactical Evacuation

4-78. During tactical evacuation, casualties are transported from the battlefield to MTFs. MTFs provide medical treatment and include the Role 1 facility (BAS), Role 2 facility (BSMC of the brigade support battalion), dispensaries, clinics, and hospital. Evacuation can be by either MEDEVAC (dedicated platforms [ground or air] manned with dedicated medical providers) or CASEVAC (ranging from nondedicated, but tasked, platforms [ground or air] augmented with medical equipment and providers to platforms of opportunity without medical equipment or providers).

Note. For the purposes of this discussion, CASEVAC means that which is done when moving casualties from the point of injury to the platoon CCP or company CCP. Ideally, casualties are transferred from a CCP to an MTF by a MEDEVAC asset. When this is not possible, the casualty is moved from the CCP aboard a nonmedical vehicle or aircraft to an ambulance exchange point or an MTF.

4-79. *Casualty evacuation* is the movement of casualties aboard nonmedical vehicles or aircraft without en route medical care (FM 4-02). CASEVAC encompasses a wide spectrum of potential capability—depending on the mix of transport platform, medical equipment, and medical providers allocated to the mission. At the upper end of the spectrum, nondedicated platforms can be outfitted with the requisite medical equipment and MEDEVAC assets. At the lower end of the spectrum, CASEVAC can be no more than the transport of casualties using platforms of opportunity with no medical equipment or medical providers (in using such assets, the risk of not moving the casualty must outweigh the risk of evacuating the casualty in such a manner). Effective CASEVAC complements MEDEVAC by providing additional evacuation capacity when the number of casualties (workload) or reaction time exceeds the capabilities of MEDEVAC assets. CASEVAC requires detailed assessment and planning to achieve an effective integration of MEDEVAC and CASEVAC capabilities. (See FM 4-02 and ATP 4-02.13 for additional information on CASEVAC.)

4-80. *Medical evacuation* is the timely and effective movement of the wounded, injured, or ill to and between medical treatment facilities on dedicated and properly marked medical platforms with en route care provided by medical personnel (ATP 4-02.2). MEDEVAC is the key factor to ensuring the continuity of care provided to Soldiers by providing en route medical care during evacuation and facilitating the transfer of patients between MTFs to receive the appropriate specialty care. This ensures that scarce medical resources (personnel, equipment, and supplies [to include blood]) can be rapidly transported to areas of critical need on the battlefield.

Note. The Army MEDEVAC system is comprised of dedicated, standardized MEDEVAC platforms (ground and air ambulances). These ambulances have been designed, staffed, and equipped to provide en route medical care to patients being evacuated and are used exclusively to support the medical mission, in accordance with the law of land warfare and the Geneva Conventions (see FM 6-27 for additional information). Dedicated air MEDEVAC aircraft include specifically trained medical personnel to provide en route care. The 9-line *MEDEVAC Request Card* (GTA 08-01-004) is the standard method to request air ambulance MEDEVAC.

MAINTENANCE

4-81. The maintenance of vehicles, weapons, and equipment within the Infantry rifle company is continuous. Every Soldier must know how to maintain their assigned vehicle, weapon and equipment according to the related technical manual. This section addresses the Army's tiered two-level maintenance system and company-level maintenance considerations and requirements.

TWO-LEVEL MAINTENANCE SYSTEM

4-82. The Army utilizes a two-level maintenance system comprised of field maintenance and sustainment maintenance to preserve combat power and to enable mission accomplishment. Field maintenance is on-system maintenance, repair and return to the user, including maintenance actions performed by vehicle operators.

4-83. Company commanders ensure that vehicle and equipment operators perform preventive maintenance checks and services. To provide quick turnaround of maintenance problems, each company has a field maintenance team from the supporting CLC dedicated to support them. These field maintenance teams have forward repair systems and mechanics trained in the company's equipment. The company 1SG usually positions the field maintenance team in the company trains.

4-84. Sustainment maintenance is performed by U.S. Army Materiel Command elements normally comprised of civilians and contractors who return equipment to a national standard, after which the equipment is placed back into the supply system. (See ATP 4-33 for additional information.)

COMPANY-LEVEL MAINTENANCE CONSIDERATIONS AND REQUIREMENTS

4-85. Proper maintenance is the key to keeping weapons, equipment, vehicles, and other materials in serviceable condition. This continuous process starts when operators of each piece of equipment or vehicle take preventive measures and continue through repair and recovery of the equipment. Proper maintenance also includes inspecting, testing, servicing, repairing, requisitioning, recovering, and evacuating equipment.

4-86. Maintenance functions begin with daily preventative maintenance checks and services for each piece of equipment to include inspection and maintenance forms DA Form 2404 or DA Form 5988-E when required. These forms are the primary means through which the company obtains maintenance support or repair parts. The forms follow a pathway from individual and crew level to the higher level of maintenance and back. Per unit SOP, the company XO or 1SG supervises the flow of these critical maintenance documents and parts.

4-87. The unit SOP should detail when maintenance is performed (at least once a day in the field), to what standards, and who inspects it. The squad leader is often the one who inspects maintenance work whereas the PSG, platoon leader, 1SG, XO, and commander conduct spot-checks. A technique is for the 1SG or XO to spot-check equipment at the company's routine resupply time to ensure equipment is clean and the proper maintenance forms are complete before receiving Class I. These instructions must be integrated into the SOP for patrol bases, assembly areas, defenses, and reorganization. They help ensure that Soldiers make a habit of maintenance and that they perform it without jeopardizing unit security. In addition to operator maintenance, selected Soldiers are trained to perform limited maintenance on damaged weapons and battle damage assessment and repair.

4-88. Inoperative equipment is fixed as far forward as possible. When a piece of equipment is damaged, it is inspected to see if it can be repaired on the spot. The company armorer keeps a small-arms repair kit in the company trains or on a company vehicle. If equipment cannot be repaired forward, it is evacuated immediately or returned on the next available means of transportation. Even if the item cannot be evacuated at once, the sustainment system is alerted to prepare for repair or replacement. If a replacement is available for inoperative equipment, it is sent forward. If not, the leader works around it by prioritizing the use of remaining equipment, for example, they might use a squad radio for the company FM voice command net if the platoon radio is broken.

4-89. As maintenance applies to all equipment, items such as magazines, ammunition, and batteries are also maintained and inspected. While test firing in an assembly area, mark the magazines of weapons that have stoppages. If a magazine is marked more than twice, the magazine might be causing the stoppages. Inspect the ammunition belts for crew-served weapons along with the weapons. Dirty or corroded ammunition may also cause weapon malfunctions.

4-90. When a vehicle or piece of equipment cannot be recovered or is damaged beyond repair, the platoon reports the situation to the company commander. The commander, in coordination with higher echelons, gives permission for destruction of the materiel if that is the only way to prevent enemy capture. Operators remove all salvageable equipment and parts and take all classified materials or paperwork that could be of intelligence value to the enemy. The platoon then destroys the vehicle or equipment in accordance with established procedures.

SECTION IV – ECHELONED SUSTAINMENT

4-91. How the Infantry battalion, including external and attached organizations and the brigade support battalion, array in echelon varies widely based upon the mission variables of METT-TC (I). The CLC, in support of the battalion's sustainment concept of support, plans and synchronizes *echeloned sustainment*—an array of capabilities placed at critical locations to link and facilitate support between echelons in an area of operation (ATP 4-90).

4-92. The CLC facilitates echeloned sustainment. Echeloned sustainment at the lowest level of area support is executed at the battalion and company echelons. (See ATP 3-21.20 and FM 3-96 for additional information.)

BATTALION UNIT AND ECHELONED TRAINS

4-93. The CLC performs the logistics function within the battalion's echeloned sustainment, referred to as unit trains in one location, or echeloned trains within an AO. Unit trains at the battalion level are appropriate when the unit is consolidated in an assembly area, during reconstitution, major movements, or when terrain or distances restrict movement causing the unit to depend on aerial resupply and evacuation for support. The battalion normally operates in echeloned trains (field trains and combat trains) where trains employ into multiple area support locations. Figure 4-5 on page 136 illustrates a notional sustainment concept of support, echeloned sustainment. (See ATP 3-21.20 for a detailed discussion on battalion unit, field, and combat trains.)

COMPANY TRAINS

4-94. Company trains provide sustainment for a company during combat missions. Company trains (when established) usually include the 1SG, supply sergeant, and the armorer, while MEDEVAC teams may be collocated in the company trains. The supply sergeant can collocate in the battalion combat trains if it facilitates LOGPAC operations. The 1SG usually directs the movement and employment of the company trains to ensure its operational responsiveness and survivability, although the company commander may assign the responsibility to the company XO. The distance of the company trains from the company's combat mission is METT-TC (I) dependent. By placing at least one terrain feature between it and the enemy, the company trains will be out of the enemy's direct fire weapons.

Note. METT-TC (I) ultimately dictates the actual distance at which the trains operate. In some instances, the company trains can be collocated with the battalion combat trains or even the field trains.

4-95. Because the security of sustainment elements is critical to the success of the Infantry rifle company, company leaders develop plans for continuous security. Where feasible, they plan and execute a perimeter defense. The trains may lack the personnel and combat power to conduct a major security effort. In such situations, they implement passive security measures to provide protection from enemy forces.

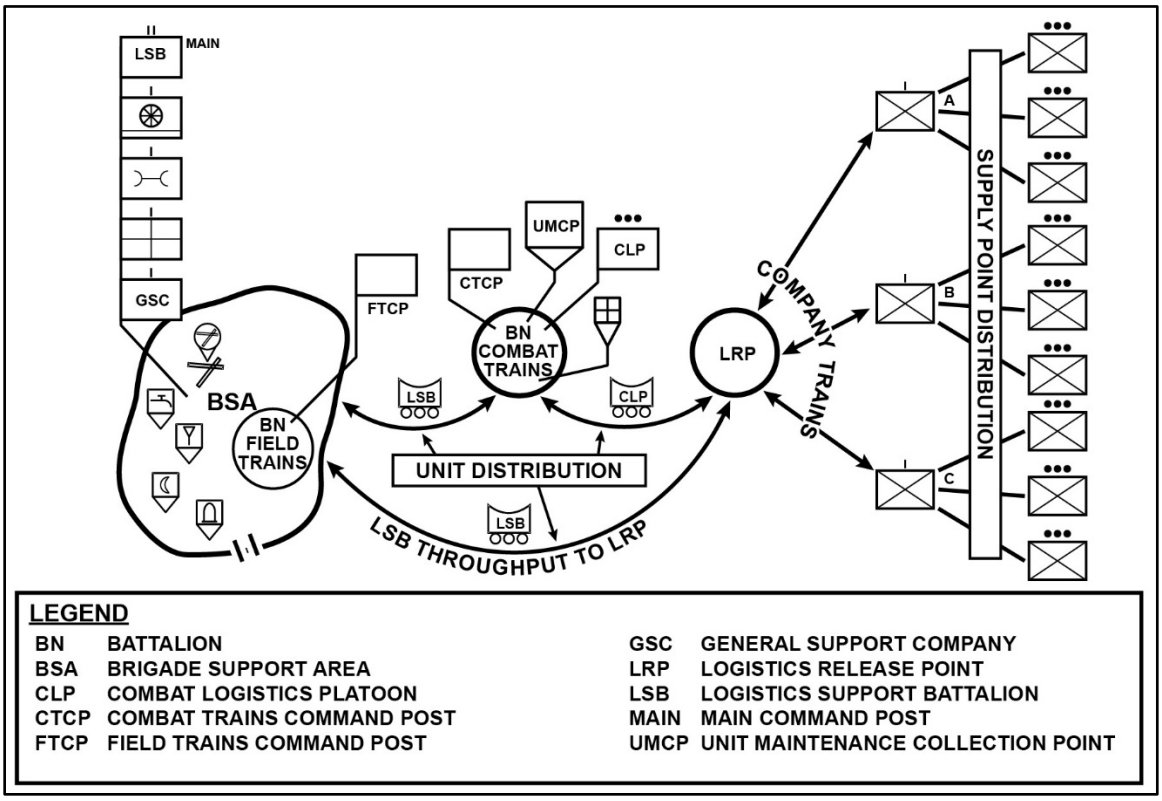


Figure 4-5. Sustainment concept of support (echeloned sustainment, example)

Chapter 5

Enabling Operations and Activities

Enabling tasks are specialized missions that units plan and conduct to seize or retain a tactical advantage. Units execute these operations as part of the offense, and defense. The fluid nature of the modern battlefield increases the frequency with which the Infantry rifle company conducts these enabling operations. This chapter establishes techniques and procedures that the company can apply to these specialized missions. This chapter discusses reconnaissance, security, troop movement, relief in place, passage of lines, linkup operations, and assembly area procedures.

SECTION I – RECONNAISSANCE

5-1. *Reconnaissance* is a mission undertaken to obtain information about the activities and resources of an enemy or adversary, or to secure data concerning the meteorological, hydrographic, geographic or other characteristics of a particular area, by visual observation or other detection methods (JP 2-0). Reconnaissance primarily relies on the human dynamic rather than technical means. (See FM 3-90 for more information.)

5-2. Reconnaissance identifies terrain characteristics, enemy and friendly obstacles to movement, and the disposition of enemy forces and civilian population so the commander can maneuver forces freely and rapidly. Reconnaissance also answers the CCIRs. *Commander's critical information requirement* is specific information identified by the commander as being essential to facilitate timely decision making (JP 3-0). Reconnaissance before unit movements and occupation of assembly areas is critical to protecting the force and preserving combat power. It keeps the force free from contact if possible so that it can concentrate on its mission.

RECONNAISSANCE FUNDAMENTALS

5-3. 5-4.5-3. Reconnaissance is a fundamental operation focused on gathering timely and accurate information about the enemy and the operational environment to support a commander's decision-making process and enable successful combat operations with minimal losses. The seven fundamentals of successful reconnaissance operations are as follows:

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

5-4. Effective reconnaissance is continuous. The company conducts reconnaissance before, during, and after all operations. Before an operation, reconnaissance focuses on filling gaps in information about the enemy and terrain. During an operation, reconnaissance focuses on providing the commander with updated information that verifies the enemy's composition, dispositions, and intentions as the battle progresses. After an operation, reconnaissance focuses on maintaining contact with the enemy to determine their next move and collecting information necessary for planning subsequent operations.

5-5. Reconnaissance assets are never kept in reserve. When committed, reconnaissance assets use all resources to accomplish the mission to include unmanned sensors and UASs. This does not mean that all assets are committed all the time. The commander uses reconnaissance assets based on the capabilities and mission variables to achieve the maximum coverage needed to answer the CCIR.

5-6. Reconnaissance assets must retain battlefield mobility to complete the missions successfully. If these assets are decisively engaged, reconnaissance stops and a battle for survival begins. Reconnaissance assets must have clear engagement criteria that support the commander's intent.

5-7. Once a unit conducting reconnaissance gains contact with the enemy, it maintains that contact unless the commander directing the reconnaissance orders otherwise or the survival of the unit is at risk. This does not mean that individual reconnaissance teams cannot break contact with the enemy. The commander of the unit conducting reconnaissance is responsible for maintaining contact using all available resources. The nine forms of contact are:

- Direct—interactions from ground-based, line of sight weapons systems (including small arms, tank main guns, and AT missiles).
- Indirect—interactions from non-line of sight weapons systems (including cannon artillery, mortars, and rockets).
- Non-hostile—neutral interactions that may degrade military operations (including civilians on the battlefield, nongovernmental organizations, or neutral forces).
- Obstacle—interactions from natural and manmade obstacles (including rivers and minefields).
- CBRN—interactions from friendly, enemy, and civilian CBRN effects (including chemical attacks, nuclear attacks, industrial accidents, and toxic or hazardous).
- Aerial—interactions from air-based combat platforms (including attack helicopters, armed UASs, and fixed-wing aircraft).
- Visual—interaction from acquisition via the human eye, optical, or electro-optical systems (including ground reconnaissance, telescopic, thermal, and IR sights on weapons and sensor platforms such as UASs and satellites).
- Electromagnetic—interactions via systems used to acquire, degrade, or destroy using select portions of the electromagnetic spectrum (including radar systems, jamming, cyberspace, and electromagnetic pulse).
- Influence—interactions through the information dimension intended to shape the perceptions, behaviors, and decision making of people relative to a policy or military objective (including through social media, telecommunications, human interaction, and other forms of communication and contact).

5-8. When a reconnaissance asset encounters an enemy force or an obstacle, it must quickly determine the threat it faces. For an enemy force, it must determine the enemy's composition, dispositions, activities, and movements and assess the implications of that information. For an obstacle, it must determine the type and extent of the obstacle and whether it is covered by fire. Obstacles can provide the attacker with information concerning the location of enemy forces, weapon capabilities, and organization of fires. In most cases, the reconnaissance unit developing the situation uses actions on contact.

FORMS OF RECONNAISSANCE

5-9. The four forms of reconnaissance that apply to the company team are—

- Route.
- Zone.
- Area.
- Reconnaissance in force.

ROUTE RECONNAISSANCE

5-10. Route reconnaissance focuses on a specific line of communication, such as a road, railway, or cross-country mobility corridor. A *route reconnaissance* is a form of reconnaissance operation to obtain detailed information of a specified route and all terrain from which the enemy could influence movement along that route (FM 3-90). It is oriented on a specific area of movement, such as a road or trail, or on a more general area, like an axis of advance. A route reconnaissance is usually conducted when the commander wants to use the route in question. Route reconnaissance tasks are the following:

- Find, report, and clear all enemy forces that can influence movement along the route in accordance with engagement criteria.
- Determine the trafficability of the route; can it support friendly forces?

- Reconnoiter all terrain that the enemy can use to dominate movement along the route, such as choke points, ambush sites, PZs, LZs, and drop zones.
- Reconnoiter all built-up areas, contaminated areas, and lateral routes along the route.
- Evaluate and classify all bridges, defiles, overpasses and underpasses, and culverts along the route.
- Locate any fords, crossing sites, or bypasses for existing and reinforcing obstacles (including built-up areas) along the route.
- Locate all obstacles and create lanes as specified in execution orders.
- Report the route information to the HQ initiating the route reconnaissance mission, to include providing a sketch map or a route overlay.
- Answer CCIRs.

ZONE RECONNAISSANCE

5-11. *Zone reconnaissance* is a form of reconnaissance operation that involves a directed effort to obtain detailed information on all routes, obstacles, terrain, and enemy forces within a zone defined by boundaries (FM 3-90). Teams usually conduct zone reconnaissance when the enemy situation is vague or when information concerning cross-country trafficability is required. Like route reconnaissance, mission variables and the commander's intent dictate the company team's actions during a zone reconnaissance. Zone reconnaissance tasks are the following:

- Find and report all enemy forces within the zone.
- Clear all enemy forces, based on engagement criteria, in the designated AO within the capability of the unit conducting reconnaissance.
- Determine the trafficability of all terrain within the zone, including built-up areas.
- Locate and determine the extent of all contaminated areas in the zone.
- Evaluate and classify all bridges, defiles, overpasses, underpasses, and culverts in the zone.
- Locate any fords, crossing sites, or bypasses for existing and reinforcing obstacles (including built-up areas) in the zone.
- Locate all obstacles and create lanes as specified in execution orders.
- Report information to the commander directing the zone reconnaissance, to include providing a sketch map or overlay.
- Answer CCIRs.

AREA RECONNAISSANCE

5-12. *Area reconnaissance* is a form of reconnaissance operation that focuses on obtaining detailed information about the terrain or enemy activity within a prescribed area (FM 3-90). The area can be any location that is critical to the unit's operations. Examples include easily identifiable areas covering a large space (such as towns or military installations), terrain features (ridgelines, wood lines, choke points), or a single point (like a bridge or building). The tasks of an area reconnaissance are the same as those for a zone reconnaissance. Area reconnaissance differs from zone reconnaissance in that the unit moves to the assigned area by the most direct route. Once in the area, the tasked unit reconnoiters in detail using zone reconnaissance techniques.

TASK ORGANIZATION

5-13. Although not optimally organized for reconnaissance, the company can conduct route, zone, or area reconnaissance. The company may conduct a reconnaissance operation during preparation for another operation of its own (for example, performing zone reconnaissance before initiating a stationary guard operation); or it can conduct the reconnaissance to gain information for a higher HQ. The company is usually task-organized with additional combat or sustainment assets as needed to meet the requirements of the reconnaissance operation.

PLANNING CONSIDERATIONS

5-14. Commanders provide clear reconnaissance guidance that offers freedom of action to develop the situation and adequate direction. Reconnaissance planning starts with the commander identifying the CCIR. This process may be conducted while the unit is planning or preparing for an operation; in many cases, it

continues throughout the operation. (See FM 3-98 for more information.) The commander's guidance consists of four elements:

- Reconnaissance focus.
- Reconnaissance tempo.
- Engagement criteria both lethal and nonlethal.
- Disengagement criteria.

5-15. The commander considers mission variables when planning for mounted (ISV), dismounted, aerial, or reconnaissance by fire. Conditions that lead to a decision about the type of reconnaissance include—

- Time constraints.
- Required detail level of reconnaissance.
- Availability of air units to perform coordinated reconnaissance with ground assets.
- Information and products resulting from the IPOE process.
- Avenues of approach that support friendly movement and exploit enemy weaknesses.
- Key positions, especially flanks that can be exploited.
- Information from OPs.
- Type of terrain.
- Environmental conditions, such as deep snow and muddy terrain that greatly hinder mounted reconnaissance.

5-16. The commander considers employing UASs for reconnaissance. UAS platforms provide the commander with flexible choices to conduct reconnaissance options to determine essential terrain and enemy information. Most UASs can operate in daylight or limited visibility but may be vulnerable to enemy air defense if present.

SECTION II – SECURITY

5-17. Security operations are operations to provide early and accurate warning of enemy operations, to provide the force being protected with time and maneuver space within which to react to the enemy, and to develop the situation to allow commanders to effectively use their force. Security operations include reconnaissance aimed at reducing terrain and enemy unknowns; gaining and maintaining contact with the enemy to ensure continuous information; and providing early and accurate reporting of combat information to the protected force. Security forces orient in any direction from a stationary or moving force. (See ADP 3-90 for more information.)

FUNDAMENTALS OF SECURITY OPERATIONS

5-18. Security operations shield the main force from disruption and surprise, thereby preserving combat power and freedom of action. The five fundamentals of security operations are—

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

PROVIDE EARLY AND ACCURATE WARNING

5-19. The security force provides early, accurate warning by detecting the threat force quickly and reporting information accurately to the commander. Early warning of threat activity provides the commander with the time, space, and information needed to retain the tactical initiative and to choose the time and place to concentrate against the threat. At a minimum, the security force should operate far enough from the main body to prevent enemy ground forces from observing or engaging the main body with direct fire. Position maneuver forces, sensors, and tactical UAS to provide long-range observation of expected threat avenues of approach.

PROVIDE REACTION TIME AND MANEUVER SPACE

5-20. The security force operates as far from the protected force as possible within supporting range, consistent with the factors of METT-TC (I). More distance usually yields greater reaction time and maneuver space for the protected force commander if communications are maintained. The security force fights as necessary to gain and retain adequate time and space for the protected force commander, allowing the commander to maneuver and concentrate forces to counter the threat.

ORIENT ON THE PROTECTED FORCE, AREA, OR FACILITY TO BE SECURED

5-21. The security force focuses all actions to protect the secured force, area, or facility and provide maximum early warning of threat activity. It operates between the main body and known or suspected enemy units. The security force must move as the main body moves and orient on its movement. The security commander must know the main body's scheme of maneuver to maneuver forces so it remains between the main body and the enemy.

PERFORM CONTINUOUS RECONNAISSANCE

5-22. Security comes in large part from knowing as much as possible about the threat and terrain within the assigned AO. This detailed knowledge results from ongoing, focused reconnaissance that aggressively and continuously reconnoiters key terrain; seeks the location, composition, and disposition of the threat; and determines the threat's COA early so that the company team can counter it. Stationary security forces use combinations of OPs, UASs, patrols, and other information collection assets to perform continuous reconnaissance. Moving security forces accomplish this fundamental by performing area, zone, or route reconnaissance in conjunction with temporary OPs and BPs.

MAINTAIN ENEMY CONTACT

5-23. Unless otherwise directed, contact, once gained, is not broken. The individual or sensor that first makes contact does not have to maintain it; however, the security force, collectively, must maintain contact. The security force must continuously gather information on the threat's activities and prevent the threat from surprising the main body or endangering adjacent friendly forces. The fundamentals of maintaining enemy contact require—

- Continuous contact (visual, electronic, sensor, or a combination).
- Capability to use direct and indirect fires.
- Freedom to maneuver.
- Depth (of observers in time and space).

SECURITY OPERATIONS TASKS

5-24. *Security operations* are those operations performed by commanders to provide early and accurate warning of enemy operations, to provide the forces being protected with time and maneuver space within which to react to the enemy, and to develop the situation to allow commanders to effectively use their protected forces (ADP 3-90). Security operations encompass four tasks—screen, guard, cover, and area security.

- *Screen* is a type of security operation that primarily provides early warning to the protected force (ADP 3-90).
- *Guard* is a type of security operation done to protect the main body by fighting to gain time while preventing enemy ground observation of and direct fire against the main body (ADP 3-90).
- *Cover* is a type of security operation done independent of the main body to protect them by fighting to gain time while preventing enemy ground observation of and direct fire against the main body (ADP 3-90).
- *Area security* is a type of security operation conducted to protect friendly forces, lines of communications, installation routes and actions within a specific area (FM 3-90).

5-25. Screen, guard, and cover, respectively, contain increasing levels of combat power and provide increasing levels of security for the main body. However, more combat power in the security force means less for the main body. Area security preserves the commander's freedom to position fire support means, provide for C2, and conduct sustaining operations. Local security provides immediate protection for the forces.

5-26. The company can conduct screen operations without external augmentation. Companies performing a guard cannot operate independently. They rely upon support across multiple warfighting functions of the main body. The company can only participate in covering force operations as part of a larger element. The company can conduct area security operations on its own but will usually participate as part of an Infantry battalion area security force. All forces, including the company, must provide their own local security. Local security includes OPs, security patrols, perimeter security, and other close-in measures.

AREA SECURITY

5-27. Area security operations may be offensive or defensive in nature. Operations in noncontiguous assigned areas require units to emphasize area security. During offensive and retrograde operations, the speed at which the main body moves provides some measure of security. Area security operations ensure the continual conduct of sustainment operations that generate and maintain combat power to maintain tempo and extend operational reach. Common area security variations are:

- Site security-protect locations such as tactical assembly areas, critical assets, and port areas.
- Line of communication and route security.
- Convoy security.

5-28. The company may be involved in conducting area security operations in an economy-of-force role to protect lines of communications, convoys, or critical fixed sites and radars. The commander synchronizes and integrates security efforts, focusing on protected forces, installations, routes, and actions within the company's assigned area. Protected ground lines of communication include the route network to support the numbers, sizes, and weights of tactical and sustainment area movement within the company's AO. Actions range from securing key points (bridges and defiles) and terrain features (ridgelines and hills) and their adjacent areas.

Note. Offensive area security activities include subordinate tasks of MTC and combat patrols (see ATP 3-21.8), when required, designed to ambush detected enemy forces and/or to conduct raids within the company's assigned area.

5-29. An assigned area defines the location where subordinate units conduct their operation. One technique breaks the company assigned area into many-named smaller assigned areas. Units remain in their designated assigned area as they conduct their missions. Higher echelon's reconnaissance assets might be used to observe an assigned area not assigned to a subordinate unit, while platoons or companies provide their own reconnaissance in their assigned area. This technique, along with TRPs, help avoid fratricide in noncontiguous operations. Using a TRP facilitates the responsiveness of fixing and finishing elements once a reconnaissance element detects the enemy. Objectives and checkpoints guide subordinates' movement and help leaders control their organizations. Contact points help coordination among the unit operating in adjacent areas.

SECTION III – TROOP MOVEMENT

5-30. *Troop movement* is the movement of Soldiers and units from one place to another by any available means (FM 3-90). Inherent in all military operations, successful movement places Soldiers and equipment at their destination at the proper time, ready for combat. The Infantry company performs troop movements using different methods such as dismounted and mounted movement. The method employed depends on the situation, the size and composition of the moving unit, the distance the unit must cover, the urgency of execution, and the condition of the troops.

TYPES OF TROOP MOVEMENT

5-31. The ability of commanders to posture their units in the right starting location to conduct operations depends on their ability to move their forces. The essence of battlefield agility is the capability to conduct rapid and orderly troop movement to concentrate combat power at decisive points and times. Units can expect the enemy to attempt to deny freedom of movement throughout their assigned area. The two types of troop movement are nontactical and tactical movement.

NONTACTICAL MOVEMENT

5-32. *Nontactical movement* is a movement in which troops and vehicles are arranged to expedite their movement and conserve time and energy when no enemy ground interference is anticipated (FM 3-90). Units only conduct nontactical movements in secure areas. Examples of nontactical movements include rail and highway movement in the continental United States. Once units deploy into a theater of operations, they do not normally conduct nontactical movements.

TACTICAL MOVEMENT

5-33. A *tactical movement* is a movement in which troops and vehicles are arranged to protect combat forces during movement when a threat of enemy interference is possible (FM 3-90). Units maintain security against enemy attacks from both the air and ground and prepare to take immediate action against enemy ambushes, although they do not expect contact with significant enemy ground forces. During movement, the moving force employs security measures, even when contact with enemy ground forces is not expected. During a tactical movement, units are always prepared to take immediate action. There are three variations of a tactical movement that units of all types can conduct: approach march, forced march, or tactical road march.

Approach March

5-34. An *approach march* is the advance of a combat unit when direct contact with the enemy is intended (FM 3-90). Units employ an approach march when they know the approximate location of enemy forces. The approach march terminates in a march objective—such as an attack position, assembly area, and assault position—or it can be used to transition to an attack, for example, when the unit is no longer conducting an MTC. During approach marches, units use movement formations and movement techniques to balance security and speed throughout the operation.

Forced March

5-35. A *forced march* is a march longer or faster than usual or in adverse conditions (FM 3-90). Forced marches require speed, exertion, and an increase in the number of hours marched each day beyond normal standards. Soldiers cannot sustain forced marches for more than a short period. In a forced march, the company may not halt as often or for as long as recommended for maintenance, rest, and feeding, or when vehicles are attached, fuel. The commander must understand that immediately following a long and fast march, Soldiers experience a temporary deterioration in their physical condition. The combat effectiveness and cohesion of the unit also temporarily decrease, and the plan must accommodate stragglers. (See ATP 3-21.18 for additional information on forced marches.)

Tactical Road March

5-36. A *tactical road march* is a rapid movement used to relocate units within an assigned area to prepare for combat operations (FM 3-90). The primary consideration of the tactical road march is rapid movement. Infantry units typically execute a tactical road march using the dismounted method of troop movement. Based on METT-TC (I) a unit can execute a mounted method of troop movement. In both methods, the moving force employs security measures, even when contact with enemy ground forces is not expected. During a tactical road march, the commander is always prepared to take immediate action if the enemy attacks.

Tactical Road March Fundamentals

5-37. A tactical road march is a rapid movement used to relocate units within an AO to prepare for combat operations. Though the primary consideration of the tactical road march is rapid movement, the moving force maintains *security*—measures taken by a military unit, activity, or installation to protect itself against all acts designed to, or which may, impair its effectiveness (JP 3-10). Even when contact with enemy ground forces is not expected, the moving force is prepared to act upon enemy contact. When contact is expected, the commander uses a mix of movement formations and movement techniques.

Tactical March Techniques

5-38. When conducting a tactical road march, the Infantry rifle company employs three tactical march techniques—open column, close column, and infiltration. The mission variables of METT-TC (I) require adjustments in the standard distances between dismounted Soldiers and/or vehicles during the conduct of a tactical road march.

Open Column

5-39. In an open column, the commander increases the distance between dismounted Soldiers and vehicles for greater dispersion. The distance between dismounted Soldiers varies from two to five meters to allow for dispersion. Any distance that exceeds five meters between dismounted Soldiers increases the length of the column and hinders control. The *vehicle distance*—the clearance between vehicles in a column, which is measured from the rear of one vehicle to the front of the following vehicle (ATP 3-21.20)—varies from 50 to 100 meters and may be greater if required. The open column technique, normally used during daylight, may also be used at night with IR lights, blackout lights, or passive night vision equipment. Using an open column roughly doubles the column's length and thereby doubles the time it takes to clear a point when compared to a close column moving at the same speed. The open column is the most common movement technique because it offers the most security while still providing the commander with a reasonable degree of control. In an open column, a single Infantry company, with intervals between its platoons, occupies roughly a kilometer of road or trail with vehicle density varying from 15 to 20 vehicles per kilometer.

Close Column

5-40. In a close column, the dismounted equivalent is a limited visibility march. The distance between individual Soldiers is reduced to 1 to 3 meters to help maintain contact and facilitate control. Limited visibility marches are characterized by close formations, reconnaissance, a slow rate of march, and good concealment from enemy observation and air attack. When mounted in a close column, the commander spaces vehicles about 20 to 25 meters apart. At night, vehicles are spaced so each driver can see the two lights in the blackout marker of the vehicle ahead. The commander normally employs a close column for marches during darkness under blackout driving conditions or for marches in restricted terrain. This method of marching takes maximum advantage of the traffic capacity of a route but provides little dispersion. Normally, vehicle density is from 40 to 50 vehicles per kilometer along the route in a close column.

Infiltration

5-41. During troop movement by infiltration, the commander dispatches Soldiers and/or vehicles in small groups, or at irregular intervals, at a rate that keeps the traffic density down and prevents undue massing of vehicles during a move by infiltration. Infiltration provides the best possible passive defense against enemy observation and attack. It is suited to tactical road marches when there is enough time and road space and when the commander desires the maximum security, military deception, and dispersion. The disadvantages of an infiltration are that more time is required to complete the move, column control is nearly impossible, and recovery of broken-down vehicles by the trail party is more protracted when compared to vehicle recovery in close and open columns. Unit integrity is also not restored until the last group of Soldiers and/or vehicles arrive at the destination, thus complicating the unit's onward deployment to some degree.

Note. Infiltration during troop movement should not be confused with infiltration as a form of maneuver—in which an attacking force conducts undetected movement through or into an area occupied by enemy forces—as discussed in section I.

Extended Tactical Road March

5-42. During an extended tactical road march, halts are necessary to rest Soldiers, service vehicles, and adjust movement schedules. The march order or unit SOPs regulate when to take halts. When units halt, they establish security and take other measures to protect the force. Once a unit stops moving, there is a natural tendency for Soldiers to let their guard down and relax their vigilance. The commander addresses this by defining in SOPs unit actions for various types of halts, such as maintenance halts, security halts, and unexpected halts. Unit leaders promptly notify commanders of the time and approximate length of unscheduled halts. In mounted movement, the commander schedules short halts for every 2 to 3 hours of movement and halts may last up to an hour. Long halts occur on marches that exceed 24 hours and last no more than 2 hours. Long halts are not scheduled at night, which allows maximum time for night movement. During halts, each unit normally clears the march route and moves to a previously selected assembly area to prevent route congestion and avoid being a lucrative target.

METHODS OF TROOP MOVEMENT

5-43. There are five methods of troop movements that units can execute. Generally, units can execute these methods in combination. For example, a unit can initially execute a mounted movement and then transition to a dismounted movement. Additionally, each method can be applied to non-tactical or tactical movement. These methods are—dismounted movement, mounted movement, air movement, rail movement (see ATP 4-14 for additional information on rail movement), and water movement (see TC 3-21.76 for additional information on waterborne operations).

DISMOUNTED MOVEMENT

5-44. A *dismounted movement* is a movement of troops and equipment mainly by foot, with limited support by vehicles (FM 3-90). Dismounted movement is also called foot marches. Foot marches are characterized by combat readiness (because all Soldiers can immediately respond to enemy attack without the need to dismount), ease of control, adaptability to terrain, slow rate of movement, and increased Soldier fatigue. Foot marches do not depend on the existence of roads. (See ATP 3-21.18 for additional information on dismounted movement.)

MOUNTED MOVEMENT

5-45. A *mounted movement* is the movement of troops and equipment by combat and tactical vehicles (FM 3-90). The speed of the march and the increased supplies that can accompany the unit characterize this mounted movement). Infantry maneuver units without organic truck assets (ISV) cannot move themselves and require assistance from transportation elements to conduct mounted movement.

AIR MOVEMENT

5-46. *Air movement* is air transport of units, personnel, supplies, and equipment including airdrops and air landings (JP 3-36). Planning for air movements is like other missions.

5-47. In addition to the normal planning process, air movement planning must cover specific requirements for air infiltration and exfiltration. This means coordinating with the supporting aviation units to include planning and rehearsing with the supporting aviation unit before the mission, if possible. If an armed escort accompanies the operation, the company commander, as well as the assault or general support aviation unit, should ensure aircrews are included in the planning and rehearsals. Gather as much information as possible, such as the enemy situation, in preparation of the mission.

5-48. Planned extraction points and emergency extraction rally points require communications to verify the preplanned pickup time or coordinate an emergency pickup time window. Planning must include details for extraction when communications between the higher HQ and unit are lost. The lost communications extraction point involves infiltration teams moving to the emergency extraction point after two consecutive missed communications windows and waiting up to 24 hours for pickup. (See FM 3-99 for additional information concerning air movement.)

WATER MOVEMENT

5-49. Use of inland and coastal waterways may add flexibility, surprise, and speed to tactical movements. Use of these waterways also increases the load-carrying capability of dismounted Infantry rifle units. See TC 3-21.76, chapter 12 for a detailed discussion on tactical movement by watercraft (specifically, the combat rubber raiding craft).

Note. During tactical movement by watercraft and crossing water obstacles, leaders identify weak or non-swimmers and pair them with good swimmers in their squads.

5-50. When companies (or platoons or squads) must move by, into, through, or out of rivers, lakes, streams, or other bodies of water they treat the water obstacle as a danger area. While on the water, the company is exposed and vulnerable. (See TC 3-21.76 for information on waterborne operations.) Common techniques during the employment of waterborne operations include the following:

- Offsetting the detection challenges, the platoon—
  - Moves during limited visibility.
  - Disperses.
  - Moves near the shore to reduce the chances of detection.
- When moving in more than one boat, the platoon—
  - Maintains tactical integrity and self-sufficiency.
  - Cross-loads essential Soldiers and equipment.
  - Ensures the radio is with the leader.
- If boats are not available, several other techniques can be used such as—
  - Swimming.
  - Poncho rafts.
  - Air mattresses.
  - Waterproof bags.
  - A 7/16-inch rope is used as a semisubmersible, one-rope bridge, or safety line.
  - Water wings (made from a set of trousers).

SECTION IV – RELIEF IN PLACE

5-51. A relief in place is an operation in which, by direction of higher authority, all or part of a unit is replaced in an area by the incoming unit and the responsibilities of the replaced elements for the mission and the assigned zone of operations are transferred to the incoming unit. Normally, the Infantry rifle company conducts a relief in place as part of a larger operation, primarily to maintain the combat effectiveness of committed forces. The higher HQ directs when and where to conduct the relief and establishes the appropriate control measures. Normally, the unit relieved is defending. However, a relief may set the stage for resuming offensive operations.

5-52. Responsibility for the area transfers, as directed by the higher-level commander, normally when the incoming unit has a majority of the fighting force in place and all C2 systems are operating. Units involved in a relief in place should be of similar type—such as mounted or dismounted—and task-organized to help maintain operations security. The relieving unit usually assumes as closely as possible the same task organization as the unit being relieved and assigns responsibilities and deploys in a configuration like the relieved unit. As support elements of the unit being relieved displace, they leave the relieving unit supply stocks according to previously coordinated arrangements. (See ATP 3-21.20 for additional information.)

CONSIDERATIONS FOR RELIEF IN PLACE

5-53. Upon receipt of the order to conduct the relief, relief commanders establish liaison personnel to exchange information pertinent to the relief operation. For example, relieving platoon leaders partnered with the relieved platoon leader when possible. Commanders emphasize communications, intelligence handover, and transfer of command. If possible, the incoming company CP collocates with the current company's CP to facilitate continuous information exchanges relative to the occupation plan, fire support plan, and intelligence updates that include past, present, and probable enemy activities.

5-54. Face-to-face coordination reduces any potential misunderstandings related to relief preparation or the forthcoming operations. The relieving unit can establish advance parties to conduct detailed face-to-face coordination and preparations for the operation, down to the platoon level. Depending on the situation, advance parties infiltrate forward to avoid detection. An advance party normally includes the relieving echelon's CP, which collocates with the CP of the unit being relieved.

PLANNING A RELIEF IN PLACE

5-55. Once ordered to conduct a relief in place, the commander of the relieving unit contacts the commander of the unit to be relieved. The collocation of unit CPs helps achieve the level of coordination required. If the relieved unit's forward elements can defend the AO, the relieving unit executes the relief in place from the rear to the front. This facilitates movement and terrain management. When planning for a relief in place, the company commander takes the following actions:

- Issues an order immediately.
- Sends an advance party of key leaders to conduct detailed reconnaissance and coordination.
- Ensures the relieving unit adopts the outgoing unit's normal pattern of activity as much as possible.
- Ensures the relieving unit determines when the company team assumes responsibility for the outgoing unit's position.
- Collocates team HQ, as the relieving unit, with the relieved unit's HQ.
- Maximizes operations security to prevent the enemy from detecting the relief operation.
- Plans for relief of sustainment elements after combat elements are relieved.
- Plans, as the unit being relieved, for transfer of excess ammunition, wire, petroleum, oils, lubricants, and other material of tactical value to the incoming unit.
- Controls movement by reconnoitering, designating, and marking routes, and providing guides.

CONDUCTING THE RELIEF IN PLACE

5-56. Incoming and outgoing commanders meet to exchange tactical information, conduct a joint reconnaissance of the area, and complete other required coordination. The two commanders carefully address passage of command and jointly develop contingency actions to deal with enemy contact during the relief. This process usually includes coordination of the following information:

- Location of vehicle (ISV) and individual positions to include—
  - Hide.
  - Alternate.
  - Supplementary positions.
  - Leaders should verify positions using conventional maps and digital C2 systems.
- The enemy situation.
- The outgoing unit's tactical plan, including graphics, company and platoon fire plans, and sector sketches.
- Fire support coordination, including indirect fire plans and the time of relief for supporting artillery and mortar units.
- Types of weapons systems being replaced.
- Time, sequence, and method of relief.
- Location and disposition of obstacles, and the time when commanders transfer responsibility.
- Supplies and equipment to be transferred.

- Movement control, route priority, and placement of guides.
- Command and signal information.
- Maintenance and logistical support for disabled vehicles.
- Visibility considerations.

5-57. When conducting the relief, the outgoing commander retains responsibility for the AO and the mission. The outgoing commander exercises operational control over all subordinate elements of the incoming unit that have completed their portion of the relief. Responsibility passes to the incoming commander when all elements of the outgoing unit are relieved and adequate communications are established.

5-58. The three variations for conducting a relief are sequential, simultaneous, and staggered. These three relief variations can occur regardless of the operational theme in which the unit is participating. Sequential or staggered reliefs can take place over a significant amount of time. Simultaneous relief in place takes the least time to execute but is easily detected by the enemy. The variations of reliefs are defined as follows:

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

5-59. A relief can be characterized as either deliberate or hasty, depending on the amount of planning and preparations associated with the relief. The major differences are the depth and detail of planning and, potentially, the execution time. Detailed planning generally facilitates shorter execution time by determining exactly what the commander believes needs to be done and the resources needed to accomplish the mission. Deliberate planning allows the commander and staff to identify, develop, and coordinate solutions to most potential problems before they occur and to ensure the availability of resources when and where they are needed.

SEQUENTIAL

5-60. A sequential relief occurs when each element in the relieved unit is relieved in succession, from right to left or left to right, depending on how it is deployed. This variation is the most deliberate and time consuming; however, it minimizes confusion and maintains the best C2 and readiness posture. A sequential relief involves sequentially relieving maneuver companies (or platoons) one at a time. Separate routes to the rear of the relieved companies' (or platoons') location are planned for each maneuver company (or platoon) and placed on the operations overlay. Routes are labeled sequentially and correspond to the order in which the company executes them during the relief. When the lead company reaches its release point, platoons are guided into the positions they are occupying. Crews exchange Standard Range Card and fire support information. Once the relief occurs, relieved units move to the rear to occupy their next location. When the lead company is in position, the next company moves along its designated route(s) to relieve its counterpart: thereby repeating the relief process. This process repeats until each company has been relieved. When transfer of supplies from the relieved unit is directed, battalion S-4s coordinate a transfer point to execute the exchange.

SIMULTANEOUS

5-61. A simultaneous relief occurs when all elements are relieved at the same time. Simultaneous relief takes the least time to execute but is more difficult to control and more easily detected by the enemy. A simultaneous relief involves simultaneously relieving maneuver companies of the battalion at the same time. Separate routes to the rear of the relieved companies' locations are planned and labeled for each maneuver company and placed on the operations overlay. When relieving companies reach their release points, platoons are guided to the positions they are occupying. Crews exchange Standard Range Card and fire support information, and the relieved unit then moves to the rear to its next location. When transfer of supplies from the relieved unit is directed, battalion S-4s coordinate a transfer point to execute the exchange.

STAGGERED

5-62. A staggered relief occurs when the commander relieves each element in a sequence determined by the tactical situation, not its geographical orientation. As with a sequential relief, staggered reliefs can occur over a significant amount of time. Separate routes to the rear of the relieved companies' locations are planned and labeled for each maneuver company and placed on the operations overlay. When relieving companies reach their release points, platoons are guided to the positions they are occupying. Information exchanges and transfers of supplies are the same as in the other two variations. Once the relief occurs, relieved units move to the rear to occupy their next location. When the first company to move is in position, the next company is identified to move along its designated route(s) to relieve its counterpart: thereby repeating the relief process. This process repeats until each company has been relieved.

SECTION V – PASSAGE OF LINES

5-63. A *passage of lines* is an operation in which a force moves forward or rearward through another force's combat positions with the intention of moving into or out of contact with the enemy (JP 3-18). The primary purpose of a passage of lines is to transfer responsibility for an area from one unit to another. A commander conducts a passage of lines to continue an attack or conduct a counterattack, passing through security or main battle forces anytime one unit cannot bypass another unit's position. The company or its subordinate units may execute a forward or rearward passage of lines. A passage of lines may involve engagement with the enemy shortly before or after the completion of the task and usually involves a battle handover.

PLANNING CONSIDERATIONS

5-64. A passage of lines is a complex operation requiring close supervision and detailed planning, coordination, and synchronization between the commander of the unit conducting the passage and the unit being passed. The HQ ordering the passage of lines is responsible for planning and coordination; however, specific coordination tasks are normally delegated to subordinate commanders. Terrain management is critical to successful completion of a passage of lines. At least two units are occupying and concentrated on the same terrain. Terrain is controlled through the sharing of a common operational picture and overlays that contain—

- Primary and alternate routes.
- Checkpoint data.
- Friendly and enemy unit locations and statuses.
- Passage points and lanes.
- Fire support coordination measures.
- Friendly and enemy obstacle types and locations.
- Sustainment locations and descriptions.
- Contact points.

5-65. A passage of lines may require either the reduction of some obstacles or the opening and closing of lanes through friendly obstacles. The passing commander should task the attached engineer officer, if available, to coordinate with the stationary unit engineer or stationary commander. At a minimum, this coordination must address the following:

- Location and status of friendly and enemy tactical obstacles.
- Routes and locations of lanes and bypasses through friendly and enemy obstacles.
- Transfer of obstacle and passage lane responsibilities.

5-66. The company FSO of the passing unit reviews the fire support plan of the stationary unit and conducts direct coordination when possible, ensuring that a clear understanding exists between the passed and passing units on the established fire support coordination measures. In some situations, the company FSO requires assistance from the battalion FSO to attain such information. When possible, the FSO does so through the transfer of digital fire support overlays between the two FISTs via the Advanced Field Artillery Tactical Data System. Procedures to establish fire support battle handover or transfer of control are also identified and approved by the passing and passed commanders. Terrain and route management for fire support assets and their support assets are especially important due to potential terrain limitations. Sufficient fire support assets must be positioned to support the passage if enemy contact is possible during the operation.

5-67. During the conduct of a passage of lines, units participating in the operation present a lucrative target for air attack. The passing commander coordinates air defense protection with the stationary force commander during the passage of lines. This method allows the passing force supporting air defense assets to conduct a move at the same time. If the passing force requires static air defense, then it coordinates the terrain with the stationary commander.

5-68. During rehearsals for a passage of lines, the commander ensures that subordinate elements know when and where to move as well as how to execute the required coordination. Rehearsal items include—

- Fire support observation plan, target execution, communication linkages, and mutual support.
- Confirming fire support coordination measures.
- Reviewing routes and positioning.
- Locations and descriptions of obstacles, lanes, bypasses, and markings.
- Locations of any stockpiles, especially engineer supply stockpiles.
- Responsibility for closing passage lanes after the passage of lines is complete.
- Air defense weapons locations, early warning communications, air threat, and weapons control status (WCS).
- Passage point(s) recognition procedures.
- Route management, contact points, checkpoints, and use of guides.
- Locations for and movement of sustainment units.
- Locations of aid stations, ambulance exchange points, and CASEVAC procedures.

FORWARD PASSAGE OF LINES

5-69. A *forward passage of lines* occurs when a unit passes through another unit's positions while moving toward the enemy (ADP 3-90). In a forward passage of lines, conducted as part of an attack, both the stationary and passing commanders must be aware of the passing company's objective. This awareness is especially important if the stationary battalion must provide supporting fires.

5-70. On receipt of an order, the passing company commander begins preparing the passage of lines plan by conducting a reconnaissance while concurrently updating the information received from the stationary unit. For example, the passing company receives information from the stationary unit that delineates routes to the contact points as well as the location of the actual linkup site.

5-71. Detailed reconnaissance and coordination are critical in a passage of lines, both in its complex planning factors and to ensure that the passage goes quickly and smoothly. The company commander normally reconnoiters and coordinates the passage. At times, the company commander may designate the XO, 1SG, or a platoon leader to coordinate the following:

- Unit designation and composition.
- Type and number of personnel.
- Passing unit's arrival time(s).
- Location(s) of attack positions or TAAs.
- Current enemy situation.
- Stationary unit's mission and plan to include OPs, patrol, and obstacle locations.
- Locations of routes, contact points, passage points, and passage lanes.
- Guide requirements.
- Order of march.
- Anticipated actions on enemy contact.
- Requirements for supporting direct and indirect fires, with location of RFLs.
- CBRN operations (assessing, protecting against, and mitigating CBRN threats and hazards).
- Available combat support assets and their locations.
- Communications information, to include frequencies and near and far recognition signals.
- Criteria for battle handover and location of the BHL.
- Additional procedures for the passage.

5-72. In a forward passage (see figure 5-1), the passing unit first moves to a TAA or attack position to the rear of the stationary unit. Designated 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. The company conducts a forward passage by employing tactical movement. It moves quickly, using appropriate dispersal and formations whenever possible, and keeping radio traffic to a minimum.

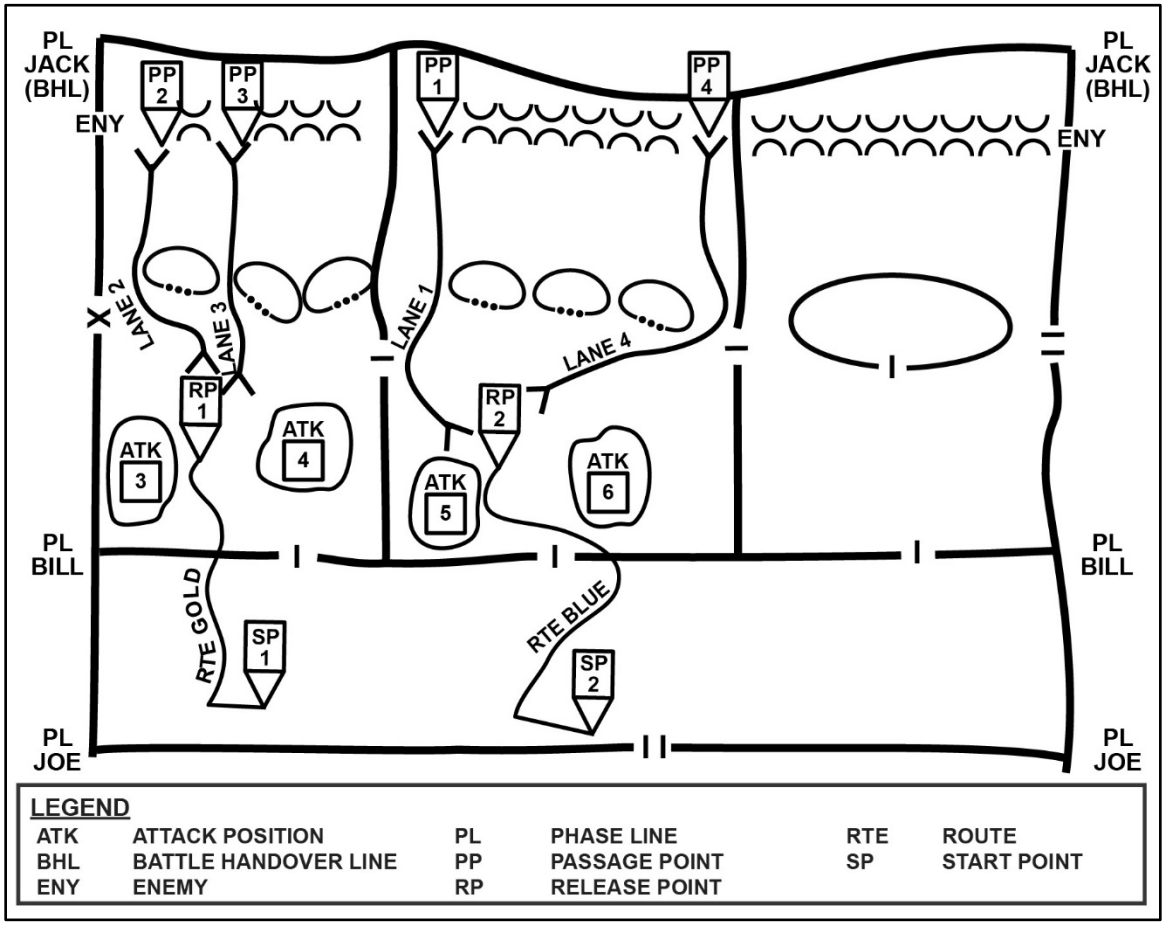


Figure 5-1. Forward passage of lines

REARWARD PASSAGE OF LINES

5-73. A *rearward passage of lines* occurs when a unit passes through another unit's positions while moving away from the enemy (ADP 3-90). A rearward passage of lines typically occurs within a defensive framework in which elements of the security force operate forward of the MBA. The MBA forces are the stationary unit in a rearward passage of lines. Security forces withdraw through MBA forces handing off control of the fight at the BHL.

5-74. To facilitate a rearward passage of lines, the stationary force commander designates—

- The BHL.
- Contact points forward of the BHL.
- Passage points along the FEBA.
- Lanes through the MBA.

5-75. Once the overlay is prepared, the stationary commander provides it and any amplifying information to the passing force commander. The stationary and passing commanders determine the best method of exercising C2 to avoid slowing the operation's tempo and fratricide.

5-76. Due to the increased chance of fratricide during a rearward passage, coordination of recognition signals and fire control measures are critical. While it is still beyond direct fire range, the passing unit contacts the stationary unit and then coordinates as previously discussed. Coordination measures emphasize near recognition signals and location of the BHL. Additional fire control measures, such as RFLs, might be used to reduce the risk of fratricide. After coordination, the passing unit continues tactical movement toward the

passage lane. The passing unit is responsible for its own security until it passes the BHL. If the stationary unit provides guides, the guide meets the lead element of the passing unit and, without stopping, guides the unit to a designated location behind the stationary unit. If a guide is not provided, the passing unit moves on its own to a designated area without stopping. (See figure 5-2.)

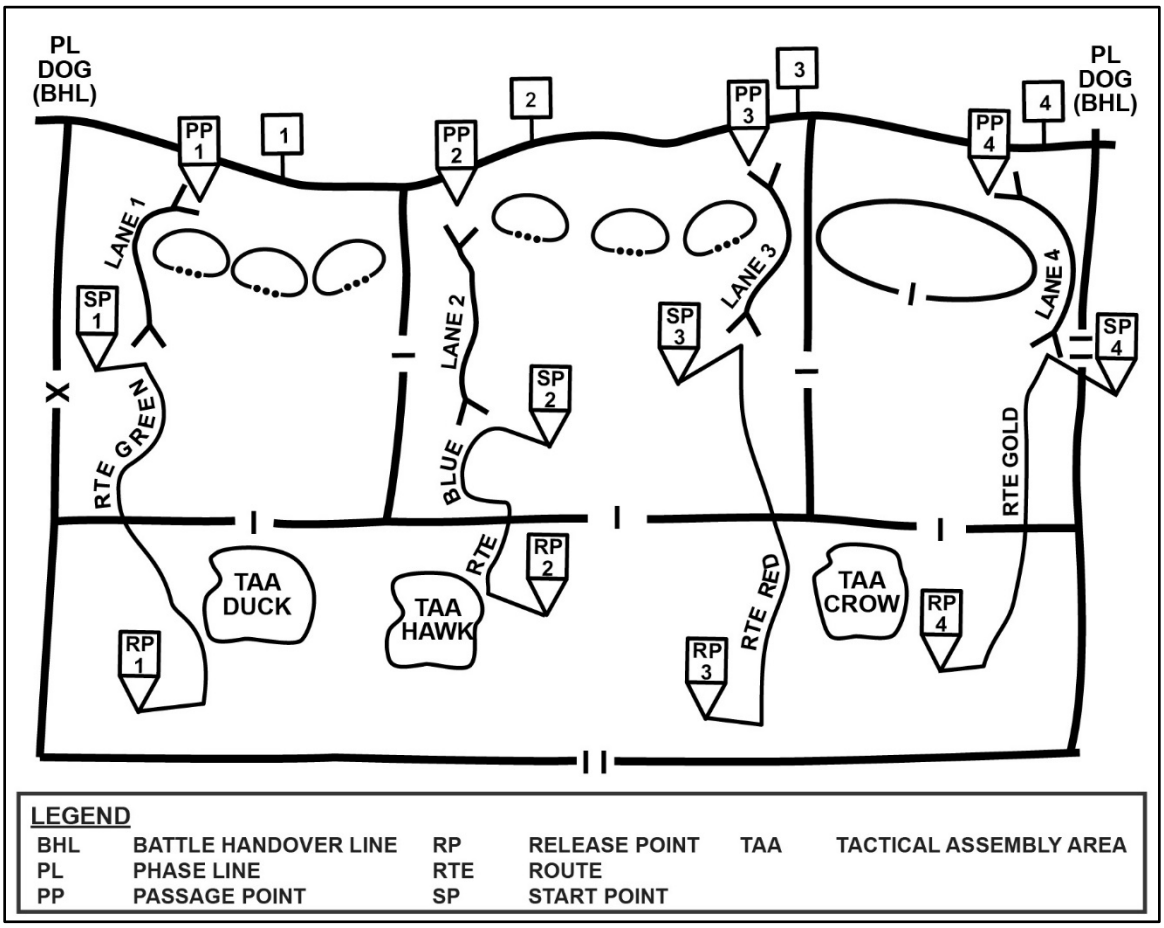


Figure 5-2. Rearward passage of lines

BATTLE HANDOVER

5-77. A *battle handover* is a coordinated mission between two units that transfers responsibility for fighting an enemy force from one unit to another (FM 3-90). A *battle handover line* is a designated phase line where responsibility transitions from the stationary force to the moving force and vice versa (ADP 3-90). The common higher commander of the two forces establishes the BHL after consulting both commanders. The stationary commander determines the exact location of the line.

5-78. The BHL is forward of the FEBA in the defense or the FLOT in the offense. The commander draws it where elements of the passing unit can be supported effectively by the direct fires of the forward combat elements of the stationary unit until passage of lines is complete. The area between the BHL and the stationary force belongs to the stationary force commander. The stationary force commander may employ security forces, obstacles, and fires in the area.

5-79. During the defense, the battle handover is normally planned and coordinated in advance to facilitate execution and usually involves a rearward passage of lines. Battle handover during the offense can also be planned, such as when a unit seizes an objective and follow-on forces pass through to continue the attack.

5-80. Physical handover normally occurs at the BHL. Events may dictate that a force break contact forward of or behind the BHL, such as when a gap exists between echelons of the attacking enemy force. Close

coordination, physically or with FM voice, between the units involved in the handover allows them to coordinate and execute this process at the small unit level.

5-81. Battle handover begins on order of the higher HQ' commander from either unit, or when a given set of conditions occurs. Defensive handover normally is complete when the passing unit is completely clear, and the stationary unit is ready to engage the enemy. These actions may occur at the same time. Offensive handover is normally complete when the passing unit combat elements completely cross the BHL. The BHL may be considered the LD for an attacking unit. Until the handover is complete and acknowledged by the commanders, the company commander in contact is responsible for the fight.

5-82. Coordination for battle handover flows from the commander out of contact to the commander in contact. The coordination for a battle handover overlaps with the coordination for a passage of lines; the coordination for both is accomplished at the same time. SOPs within an organization should outline these coordination requirements to facilitate rapid accomplishment.

5-83. Each unit transmits or delivers a complete copy of their OPORD or fragmentary order (FRAGORD) and overlays. Any changes made after initial distribution are updated immediately. The coordination effected between the two commanders includes—

- Establishing FM voice and digital communications.
- Providing updates of both friendly and enemy situations (voice and graphic).
- Coordinating passage points and routes and ensuring these are displayed on operational overlays.
- Collocating C2 and exchanging liaison personnel (if required).
- Coordinating fires, direct, and fire support coordination measures, and ensuring these are displayed on operational overlays and the common operational picture.
- Determining the need for and dispatching contact point representatives.
- Establishing and coordinating recognition signals.
- Exchanging locations of obstacles and related covering fires.
- Exchanging route information to include waypoints when using GPSs.
- Determining fire support, protection, and sustainment requirements.

SECTION VI – LINKUP

5-84. A *linkup* is a type of enabling operation that involves the meeting of friendly ground forces, which occurs in a variety of circumstances (FM 3-90). Linkup may occur in, but is not limited to, the following situations:

- Advancing forces reaching an objective area previously secured by air assault, Airborne, or infiltrating forces.
- Units coordinating a relief in place.
- Cross attached units moving to join their new organization.
- A unit moving forward with a fixing force during a follow and support mission.
- A unit moving to assist an encircled force, or when a unit exfiltrates towards.
- Units converging on the same objective during the attack.
- Units conducting both rearward and forward passage of lines.

5-85. The HQ ordering the linkup establishes the following:

- Common operational picture.
- Command relationship and responsibilities of each force before, during, and after linkup.
- Coordination of fire support before, during, and after linkup, including control measures.
- Linkup method.
- Recognition signals and communication procedures to use including pyrotechnics, arm bands, vehicle markings, gun-tube orientation, panels, colored smoke, lights, and challenge and passwords.
- Operations to conduct following linkup.

LINKUP METHODS

5-86. There are two linkup methods. The preferred method is when the moving force has an assigned LOA near the other force and conducts the linkup at predetermined contact points. Units then coordinate further operations.

5-87. The least preferred method of linkup a commander can use during highly mobile, or fluid operations is when the enemy force escapes from a potential encirclement or when one of the linkup forces is at risk and requires immediate reinforcement. In this method, the moving force continues to move and conduct long-range recognition via radio or other measures, stopping only when it makes physical contact with the other force.

PHASES OF LINKUP

5-88. The company team conducts linkup activities independently or as part of a larger force. Within a larger unit, the team may lead the linkup force. The linkup consists of three phases. The following actions are critical to the execution of a successful linkup operation.

PHASE 1—FAR RECOGNITION SIGNAL

5-89. The forces conducting a linkup establish FM radio and digital communications before reaching direct fire range. The lead element of each linkup force should monitor the radio frequency and the digital C2 system messages of the other friendly force.

PHASE 2—COORDINATION

5-90. Before initiating movement to the linkup point, the forces must coordinate necessary tactical information that includes the following:

- Known enemy situation.
- Number and type of friendly units or personnel.
- Disposition of stationary forces if either unit is stationary.
- Routes to linkup and rally points, if used.
- Fire control measures.
- Near recognition signal(s).
- Combat support coverage.
- Sustainment responsibilities and procedures.
- Final location of the linkup point and rally point, if used.
- Any special coordination such as maneuver instructions or requests for medical support.

PHASE 3—MOVEMENT TO LINKUP AND LINKUP

5-91. All units or elements involved in the linkup enforce strict fire control measures to help prevent fratricide. Linkup points and RFLs must be easily recognizable by moving and converging forces. Linkup elements take the following actions:

- Conduct far recognition by radio or digital means.
- Conduct short-range (near) recognition using designated signal(s).
- Complete movement to the linkup point.
- Establish local security at the linkup point.
- Conduct additional coordination and linkup activities as needed.

SECTION VII – ASSEMBLY AREA

5-92. An *assembly area* is an area a unit occupies to prepare for an operation (FM 3-90). Units move with as much secrecy as possible, normally at night and along routes that prevent or degrade the enemy's capabilities to observe or detect during the occupation of an assembly area. Units receive and issue orders, service and repair vehicles and equipment, receive and issue supplies, and feed and rest Soldiers in the assembly area. Units avoid congesting in assembly areas and occupy them for the minimum possible time. While in the

assembly area, each unit is responsible for its own protection activities, such as local security. Designation and occupation of an assembly area may be directed by a higher HQ or by the unit commander.

TACTICAL ASSEMBLY AREA FUNDAMENTALS

5-93. A *tactical assembly area* is an area that is generally out of the reach of light artillery and the location where units make final preparations (precombat checks and inspections) and rest, prior to moving to the line of departure (JP 3-35). TAAs are areas occupied by forces where enemy contact is likely and commitment of the unit directly from the TAA to combat is possible or anticipated. Units likely to occupy TAAs include units designated as tactical reserves, units completing a rearward passage of lines, units preparing to move forward to execute a forward passage of lines, units performing tactical movements, and units conducting reconstitution. A TAA should provide—

- Concealment from air and ground observation.
- Adequate entrances, exits, and internal routes.
- Space for dispersion; with enough distance from other TAAs to preclude mutual interference.
- Cover from direct fire.
- Good drainage and soil conditions that can sustain unit vehicles and individual Soldier movements.
- Terrain masking of electromagnetic signatures.
- Terrain allowing observation of ground and air avenues into the TAA.
- Beyond the range of enemy medium-range artillery fires.
- Sufficient space for sustainment operations.

ORGANIZATION

5-94. TAAs may be organized using one of three methods: as part of a larger unit's TAA, occupying a TAA on its own, or assigning subordinate units their separate assembly areas. Both battalions and companies are similar in how they organize TAAs, although a platoon being assigned their own TAA is typically referred to as a patrol base (see ATP 3-21.8).

OCCUPY A PORTION OF A TACTICAL ASSEMBLY AREA

5-95. The Infantry rifle company may occupy a portion of the perimeter of a TAA as part of a larger force. The company occupies its AO assigned by the higher-level commander and by arraying its platoons generally on a line oriented on avenues of approach into the TAA. Leftmost and rightmost units tie in their fires and areas of observation with adjacent units. Centrally located in the TAA; the main CP provides C2, and the mortar platoon provides fire support. The scout platoon screens and establishes an OP along the most likely or most dangerous avenues of approach into the TAA.

OCCUPY A SEPARATE TACTICAL ASSEMBLY AREA

5-96. When the company occupies a separate TAA, the company commander plans for a TAA in the same way the commander plans for the perimeter defense (see chapter 3). The commander organizes the TAA into a perimeter and assigns each platoon a sector of that perimeter (see figure 5-3 on page 157). The commander also assigns positions to the attachments and the mortar section, and selects the company CP location, which is typically located near the center of the TAA. The commander and the FSO plan indirect fire in and around the TAA. Once in position, the platoons establish local security (including establishing OPs and conducting patrols to secure the area). The platoon leaders then plan the defense for their area of the perimeter. Machine gunners, CCMS or MAAWS, and attachments such as TOW missile crews prepare DA Form 5517. Fighting positions are prepared according to available time (see ATP 3-21.8 for a detailed discussion on establishing a fighting position). Other defensive measures are taken as appropriate (see chapter 3).

PLATOONS ASSIGNED TO SEPARATE TACTICAL ASSEMBLY AREAS

5-97. The company may assign separate individual TAAs to subordinate platoons, which establish their own perimeter defense. Areas between platoons are secured through surveillance and patrolling and is usually under the control of the company. Company CP, company trains, and the mortar section generally establish their positions with one of the rifle platoons. When they locate central to outlying platoons, their position likely requires a security element be attached.

Note. When assigning separate TAAs, platoons normally establish a perimeter defense in the form of a patrol base. (See ATP 3-21.8 for information on patrol bases.)

QUARTERING PARTY

5-98. A quartering party is a group of unit representatives dispatched to a new site of operations to secure, reconnoiter, and organize an area before the main body's arrival and occupation. A company tactical SOP should establish the general composition of the quartering party and its transportation, security, communications equipment, and specific duties. Quartering parties typically reconnoiter, including CBRN reconnaissance, and confirm the route and tentative locations previously selected from map reconnaissance. Quartering parties also serve as a liaison between their parent HQ and the quartering party of their higher HQ to change unit locations in the TAA based on their reconnaissance.

5-99. The quartering party may move with another unit's quartering party, depending on the likelihood of enemy contact. Ideally, the quartering party moves over the routes to be used by the subordinate company and executes a route reconnaissance and time-distance check.

5-100. The quartering party is made up of company representatives selected by the commander and is normally under the control of the company XO. The company quartering party is responsible for its own security. When the company's quartering party reaches the next position, its members reconnoiter and, as appropriate, pick positions, areas, routes, CPs and OPs for the company. When the company arrives, the guides sent forward meet with their respective platoon, section, or squad to guide the unit into position.

5-101. The quartering party leader briefs the quartering party after the plan is completed. The briefing follows the standard five-paragraph field order format. In it, the quartering party leader emphasizes actions on contact, at halts and critical areas, actions of the quartering party in the TAA, contingency plans, and procedures to request and receive fire support, protection, and sustainment. The leader covers and rehearses in detail MEDEVAC procedures, actions on contact, and actions to take if separated from the quartering party. Rehearsal and backbrief times are scheduled.

5-102. Prior to and after rehearsals and during final preparations, the commander ensures the quartering party leader is aware of any changes to the current enemy situation, probable enemy COAs, the weather forecast, and the terrain and vegetation likely en route to and in the TAA. The quartering party leader coordinates with the commander to determine any mission changes, for example, whether the quartering party is to remain in the TAA and await the remainder of the company or change to the route and movement restrictions to be used by the quartering party.

5-103. During rehearsals, the quartering party leader ensures subordinate unit quartering parties know where and when the company quartering party is located in the TAA. The commander determines whether it is required to send engineer personnel, if available, with the quartering party after final reconnaissance and evaluations of routes, bridges, and cross-country mobility.

5-104. Air defense units, when available, may move with the quartering party en route to and within the new TAA. If air defense assets move with the quartering party, the air defense unit leader ensures both the current and projected WCS and air defense warning are known. (See ATP 3-01.8.) If a CBRN threat is known or suspected, CBRN reconnaissance is conducted in conjunction with the route reconnaissance. The route avoids CBRN contamination whenever possible, and guides may be required to keep the main column on the uncontaminated route.

5-105. The quartering party navigates to the TAA, generally along one route. If the quartering party moves along a route to be used by the main body and the main body has not yet sent a reconnaissance element forward, the quartering party conducts a route reconnaissance during its movement. The quartering party also may execute a time distance check of the designated route. The quartering party reports these times and distances to the main CP after moving through the release point.

5-106. Upon arrival in the TAA, the quartering party moves to its assigned positions and executes the required reconnaissance. The quartering party also has the following responsibilities at the TAA:

- Determining that the area is free of contamination.
- Determining locations for units.
- Identifying unit's left and right limits of fire, recording this information, and sending updates to the unit's commander.
- Determining the location for the CP, which may include establishing communications equipment, laying wires, and so forth.
- Verifying subordinate unit locations and sectors of fire to ensure there are no gaps in coverage.
- Transmitting changes or updates to the main CP to alert the main body to changes in the route and TAA.

5-107. If the proposed location for the TAA is unsuitable, the quartering party leader attempts to adjust the assigned areas. If adjustment is not possible, the leader immediately notifies the commander. If air defense assets have accompanied the quartering party, they occupy firing positions oriented on air avenues of approach. Representatives organize their respective areas by selecting and marking positions for vehicles (when required) and support facilities.

5-108. If the quartering party is not going to remain in the TAA, it does not depart the TAA until all units are quartered. The quartering party provides the results of their reconnaissance and identifies requested changes to their tentative locations. Guides move to the release point(s) to meet and guide their units. Guides are especially needed during periods of limited visibility. Sustainment assets may accompany the quartering party. Sustainment elements generally conduct resupply operations for the quartering party at scheduled halts or in the new TAA.

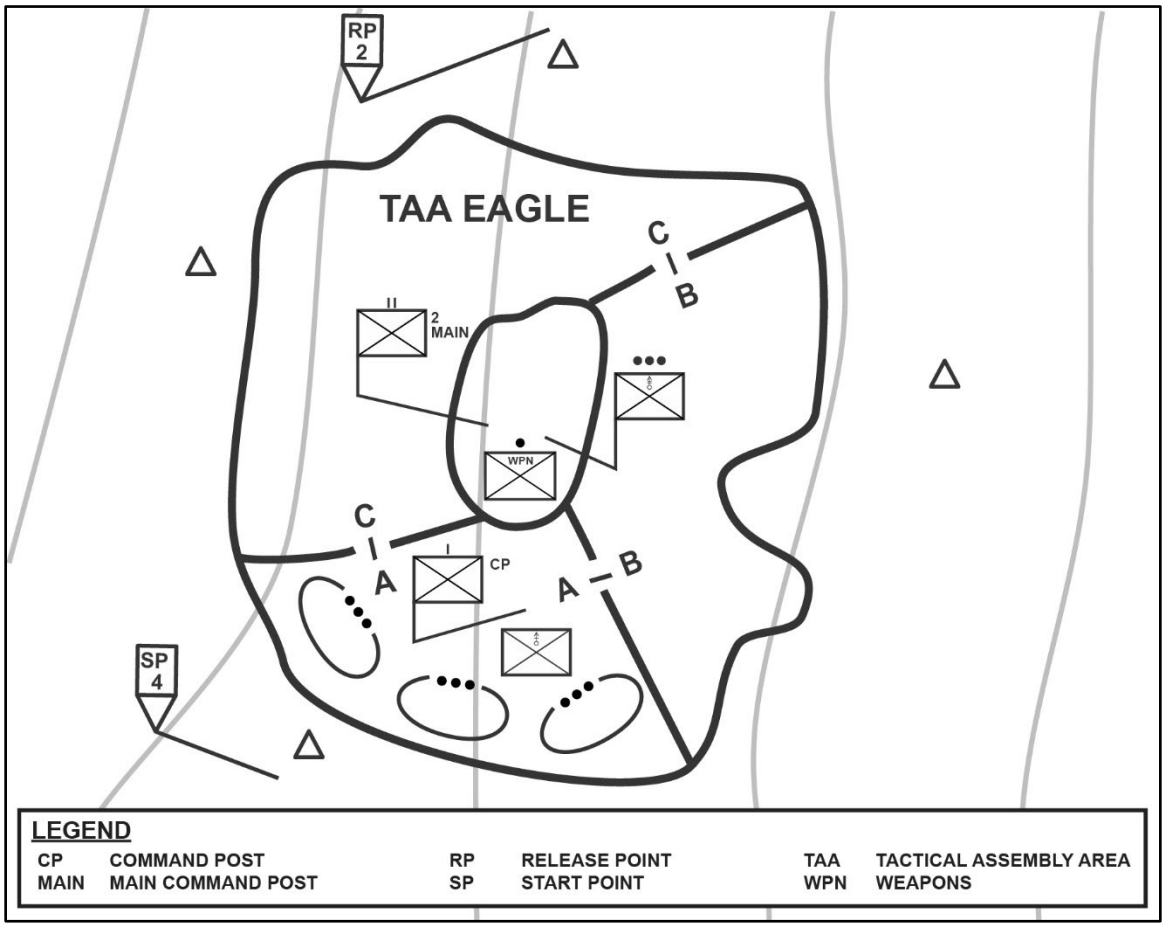


Figure 5-3. Occupy a tactical assembly area, example

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Appendix A

Command Post Operations and Organization

The Infantry rifle company CP does not have a set organization. It consists of the commanding officer and other personnel and equipment required to support company C2. The CP is located where the commander determines it is best able to support C2. Its purpose is to provide communications with higher, lower, adjacent, and supporting units; to assist the commander in planning, coordinating, and issuing company orders; and to support continuous operations by the company. Often the CP is required to provide its own security but can locate with subordinate elements on the move, or stationary when necessary. (See ATP 6-0.5 for more information on CP operations.)

COMPANY COMMAND POST

A-1. Normally the CP consists of RTOs and the FIST HQ. The XO, 1SG, signal support NCO, armorer, and the leaders of attached or supporting elements may also locate with the CP. When positioning the CP, the commander considers communication requirements, the CP's security needs, and above all, the location where the commander is best able to fight the company. CP personnel support the commander by—

- Establishing C2 systems (antennas, radios, tracking mechanisms).
- Assisting in preparation of the company OPORD.
- Providing recommendations or input during planning.
- Receiving and sending required reports and updated information to the battalion and subordinates.

A-2. The commander organizes and mans the CP to conduct continuous operations. Techniques the commander considers to ensure continuous operations include the following:

- Cross-training personnel within the CP.
- Ensuring the XO and 1SG are aware of critical decisions in the commander's absence.
- Establishing a rest plan and ensuring compliance.
- Ensuring key decision makers get rest.

PRIMARY AND ALTERNATE COMMAND POST LOCATIONS

A-3. The commander establishes a CP to exercise C2 during all operations. When the mission requires a second CP to assist C2, the commander organizes a primary CP to control the battle, and an alternate CP that can assume command of the company if the primary CP is destroyed or unable to communicate. The commander considers security and communications requirements when positioning the primary and alternate CPs, both on the move and when stationary.

A-4. When moving, the commander designates where the CPs are positioned in the formation. At times the commander may move away from the CP, for example, to better control the company's maneuver. In this instance, the commander may move with the lead platoon or during the attack locate with the main effort. In these situations, the commander may designate a part of the CP (RTOs or the FSO) to move with the commander.

A-5. In static positions (TAAs, BPs), a stationary CP's location may be designated by the commander where field expedient antennas are employed to allow communications to be established with battalion, and subordinate units within the company. The stationary CP provides a designated location whereby messengers and leaders can report to conduct face-to-face interaction. The CP should be in defilade with covered, and concealed routes to and from its location. The CP should be off natural lines of drift and key terrain features. It must be well-camouflaged from ground and air observation. Local security is provided by either its relation to rifle platoons, by collocating with the company reserve element, or using its own organic HQ personnel. When the commander leaves the primary CP, the XO or the 1SG assume control of CP operations, or when an alternate CP is established assumes control of CP operations from that location.

RESOURCING THE COMMAND POST

A-6. The most critical decision in organizing a company CP is committing resources. There are several options for manning an Infantry rifle company CP when 24-hour CP operations are required. The basic manning requirement is for two NCOs to serve as noncommissioned officers in charge. One NCO is in charge during the day shift and the other is in charge during the night shift. These NCOs must be able to perform their duties with little or no supervision. There are several members of the company who can meet this manning requirement. They include, but are not limited to—

- The signal support NCO.
- The fire support NCO (if available).

A-7. When conducting continuous 24-hour operations other members of the HQ section can man needed positions in the CP, such as senior RTOs. At a minimum, there should be two senior RTOs. One senior RTO supports the day shift and the other supports the night shift. The senior RTO assists the noncommissioned officer in charge as needed to accomplish the CP mission.

A-8. The Soldiers manning the company CP assist the commander by reducing the number of items the commander must personally track and report. This frees the commander to focus on and conduct TLP during planning. Key tasks performed by the Soldiers manning the CP include—

- Recording incoming information such as status reports, WARNORDs, and FRAGORDs.
- Continuously refining the SITEMP using the latest intelligence and distributing the updated SITEMP to all company elements.
- Posting current guidance, timelines, and overlays.
- Passing required reports to the battalion and subordinate units.
- Tracking unit preparations and logistical status.
- Conducting required coordination with adjacent and flank units.
- Facilitating bottom-up refinement of planning and preparation.
- Battle tracking.

A-9. Attached or operational control units can use the CP as the point of contact. The units can further assist the commander by supervising and enforcing the timeline and reproducing overlays and constructing sand tables for company and platoon rehearsals. The company CP is an information management center during the plan and prepare phase of a mission and battle tracking during mission execution. Additional tasks performed by the Soldiers manning the CP include—

- Tracking and providing situational updates of current missions.
- Alerting the command group or subordinate elements.
- Coordinating with higher and subordinate units to—
  - Receive daily and recurring information requirements.
  - Send daily and recurring information requirements.
  - Track daily and recurring information requirements.
- Tracking friendly unit locations.
- Tracking times for planned patrols or upcoming combat missions.
- Tracking the current manning status and task organization of units.
- Tracking the current status of key weapons systems, equipment, and vehicles.
- Recording and verifying any messages needing the attention of the commander, 1SG, or XO when they are not available.
- Updating the commander to include—
  - Tracking charts.
  - Tracking maps.
  - Tracking troop movements.
  - Tracking personnel accountability.
  - Tracking other products as specified by the commander.
- Tracking company significant activities in a staff journal, when able, such as DA Form 1594 (*Daily Staff Journal or Duty Officer's Log*).
- Acting as a communications retransmitting site to higher HQ when necessary.

COMMAND POST SURVIVABILITY

A-10. CP survivability depends mostly on concealment. The best way to protect a CP is to prevent the enemy from detecting it by minimizing all signatures. Good camouflage and proper noise, light, and signal discipline enhance the security provided by a good location.

A-11. Concealment of a CP, regardless of type, is critical to its survivability. The use of radar scattering camouflage netting in addition to natural vegetation can help prevent detection from the ground as well as the air. The outline of tents, antennas, command vehicles, and generators are distinctive, even from a distance, and all efforts must be made to break up their outlines. Consideration should be given to concealing not only the vehicles and supporting equipment such as tents, antennas, and generators, but also the tracks made by the vehicles moving into position to establish the CP. Based upon terrain and soil composition, it may be difficult to completely conceal the disturbed earth, though an effort must be made to do so.

A-12. Communications systems are difficult to conceal; however, installing antennas as low as possible on the backside of a terrain feature or behind a man-made obstacle helps shield communications systems from enemy jamming. The use of camouflage helps conceal from above and from enemy reconnaissance. The CP should balance the use of natural and man-made concealment of communications systems and antennas against the degradation to the system's capability caused by that concealment. Some systems are negatively impacted by overhead cover. An effective method to visually verify CP camouflage is to fly over unit positions using a UAS to make an assessment from above and whether it stands out among the terrain. Raise the UAS to the maximum height, and without getting too close or lingering too long, look at the terrain as the enemy UAS would observe it. Leaders should also pay particular attention to the activity near the CP. Units should do the following to minimize the probability of detecting the CP location using EW:

- Prevent the accumulation of personnel near the CP.
- Prohibit the use of wireless networks by personnel not involved in the work of the CP (and establish rules of use for those involved).
- Ban the use of handheld, mobile, and cellular communications.
- Move radio communication equipment and remotely emplace antennas away from the CP.
- Do not place wireless network routers on the surface (better at ground level or below ground level).

A-13. The noise made by vehicle engines and generators may reveal the location of a CP long before an enemy is able to visually detect it. Orientation of the equipment's exhaust, such as ensuring that it faces towards the center of the CP footprint, may be able to reduce the equipment's audible signature. Running equipment engines only, when necessary, can also help reduce the signature. Personnel establishing the CP must ensure that there is adequate ventilation for vehicle exhaust. The use of speakers either on a vehicle or within a tent may make it easier for all personnel in the immediate vicinity to gain SA, but sound carries and can reveal the location of the CP. The use of headsets or handheld microphones instead of speakers can help reduce this likelihood.

A-14. Unnecessary movement of personnel and equipment, even under camouflage netting, can also reveal the CP's location. Although it may be not always possible, personnel should avoid silhouetting themselves against netting that has no backdrop when moving between tents or vehicles. Older netting that is torn or missing portions may make it easier to see Soldier movement. If the camouflage netting does not completely extend to the ground, it may also be possible to see the lower extremities of personnel as they move about behind the netting. If the threat conditions allow it, an element from the CP should walk the perimeter of the CP from a distance to confirm the effectiveness of the concealment efforts and make corrections as needed.

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Appendix B

Planning and Preparing for Operations

The company commander is the primary planner that receives the OPORD, WARNORD, and FRAGORD from battalion and develops the company plan to complete assigned missions. The XO, 1SG, FSO, and other personnel may assist the company commander. The company commander employs TLP to develop the plan and prepare for the mission. (See ATP 3-21.20 for information on the military decision-making process.)

SECTION I – PLANNING

B-1. Planning is the process by which the company commander translates visualization into a specific COA for preparation and execution, focusing on the expected results. Planning helps the commander create and communicate a common vision and a shared understanding between subordinate leaders. Planning results in an order that synchronizes the action of forces in time, space, and purpose to achieve objectives and accomplish missions. The commander relies on intuitive decision making and direct contact with subordinate leaders to integrate activities when circumstances are not suited for TLP.

OPERATIONS PROCESS

B-2. TLP begin when the small-unit leader receives the first indication (for example, a WARNORD or FRAGORD) of an upcoming mission and continues throughout the *operations process*—the major command and control activities performed during operations: planning, preparing, executing, and continuously assessing the operation (ADP 5-0). During the operations process, TLP are not a hard and fast set of rules. Some actions may be performed simultaneously or in an order different from those shown in the example outline in figure B-1 on page 164. (See ATP 3-21.20 for additional information on the operations process.)

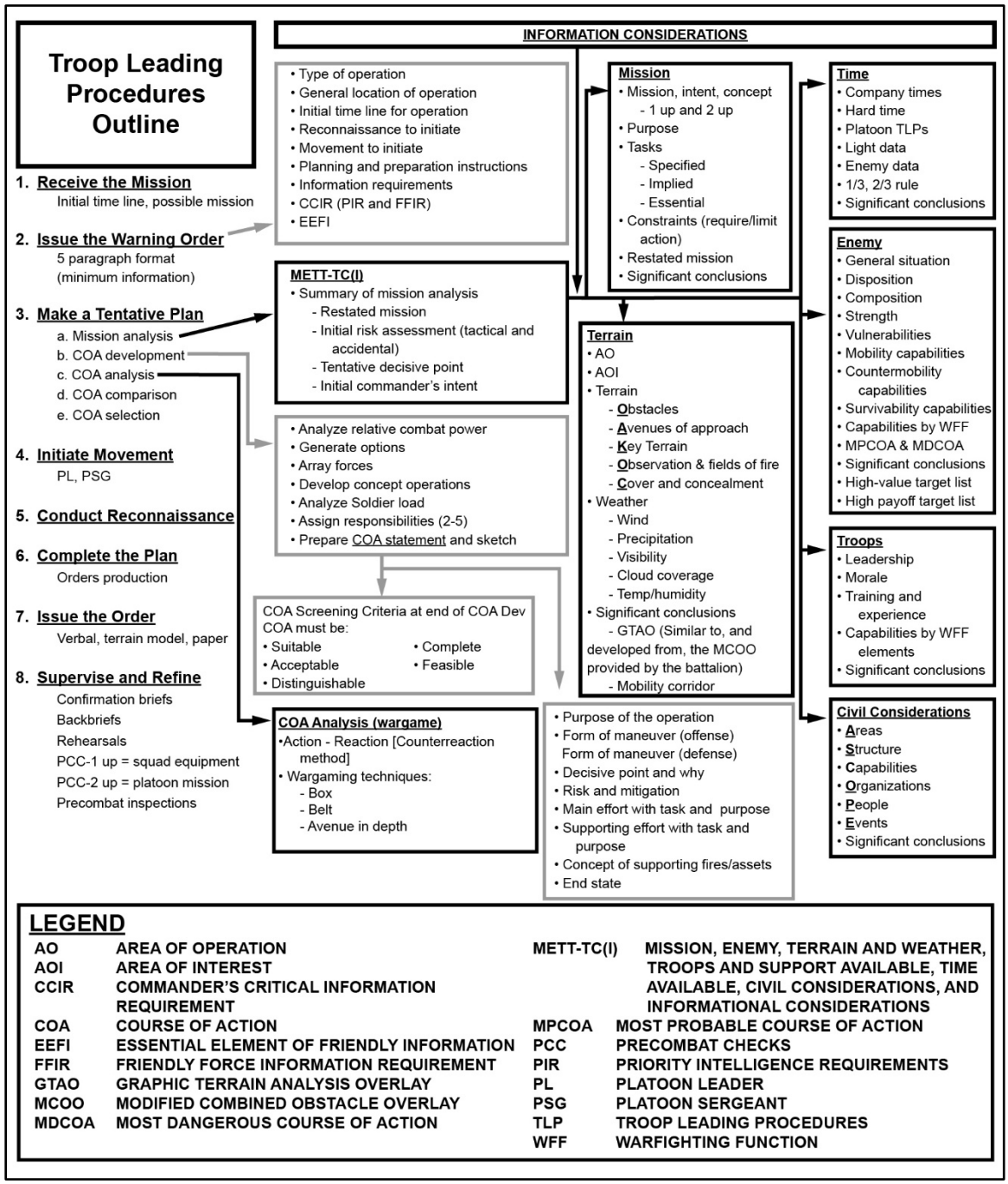


Figure B-1. Troop leading procedures outline

ORDERS

B-3. Planning at the company team level can start when the battalion shares information continuously on future missions with subordinate units. Rather than waiting until the battalion commander and staff finish planning, the company commander starts to develop the company's mission as information becomes available (typically through WARNORDs). The commander develops an initial intent, ensuring that the commander's intent reflects the intent and concept of operation of the two higher commanders. The commander identifies tasks most likely to be assigned to the company, then develops an initial mission statement based on the information received. The commander's visualization of the initial plan requires ongoing clarification to ensure a shared understanding among subordinate leaders.

B-4. The company commander cannot finalize the company OPORD until the battalion staff completes its order. If each successive WARNORD contains enough information, the final order confirms what the company commander has already analyzed and put into an initial plan. In other cases, the battalion's order may change or modify the company's tasks enough that additional planning and reconnaissance are required. As the next higher commander's concept of operation continues to mature, planning continues, and the company plan adjusts. Figure B-2 illustrates the parallel sequences of the military decision-making process (MDMP) and the TLP.

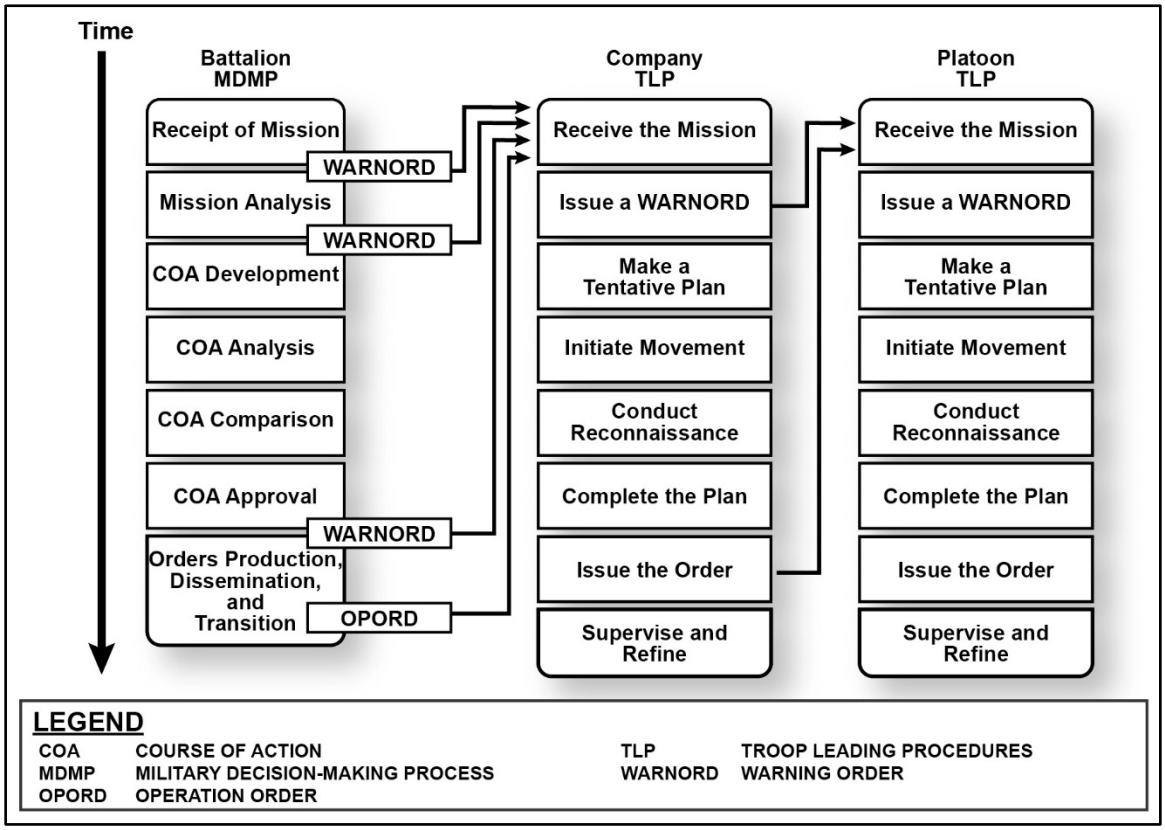


Figure B-2. Parallel sequences of the MDMP and troop leading procedures

SECTION II – TROOP LEADING PROCEDURES

B-5. Infantry small-unit leaders use TLP when working alone or with a small group to solve tactical problems. *Troop leading procedures* is a dynamic process used by small-unit leaders to analyze a mission, develop a plan, and prepare for an operation (ADP 5-0). TLP comprise a sequence of actions helping the leader use available time effectively and efficiently to issue orders and execute an assigned mission. TLP extend the MDMP to the company level. These procedures enable company-level leaders to maximize available planning time while developing effective plans and preparing the company for a mission.

B-6. TLP consist of eight steps. TLP are also supported by risk management. The sequencing of the steps to the TLP is not always rigid. The commander modifies the sequence to meet the mission, situation, and available time. (See GTA 07-10-003 [*Infantry Reference Card for Small Unit Leaders {Troop Leading Procedures}*] for additional information.) TLP have eight steps which are as follows:

- Step 1—receive the mission.
- Step 2—issue a WARNORD.
- Step 3—make a tentative plan.
- Step 4—initiate movement.
- Step 5—conduct reconnaissance.
- Step 6—complete the plan.
- Step 7—issue the order.
- Step 8—supervise and refine.

B-7. TLP are a guide that must be applied consistently with the situation and the experience of the commander and subordinate leaders. The following information concerning the TLP assumes that the company plans in a time-constrained environment. All steps should be done, even if done in abbreviated fashion. As such, the suggested techniques are provided to help the commander quickly develop and issue an order. (See FM 5-0 for more information.)

STEP 1, RECEIVE THE MISSION

B-8. In step 1, the commander determines the company's mission and assesses the time available to accomplish the mission. The commander can conduct an initial analysis of the order using METT-TC (I) to understand the company's likely mission, the threat, and other details necessary to start preparations for combat. The commander conducts detailed METT-TC (I) analyses only after the first WARNORD is issued (step 2). Rarely does the company receive its missions until after the battalion issues the third WARNORD or the OPORD itself. However, while parallel planning, the commander already has deduced a tentative mission.

B-9. Using mission variables, the commander develops a timeline to manage the company's planning and preparation for operations. While this timeline is updated with the plan, it is essential to time management that the commander identify necessary tasks and starts movement on them in accordance with the timeline.

B-10. The company can receive the mission in several ways. The company can receive the mission in the form of WARNORDs or, if the battalion chooses to wait for more information, an actual OPORD. Worst case, the company receives a new mission due to situational changes occurring during the execution of a prior mission. In addition to receiving (or deducing) the mission during this step, the commander also—

- Conducts a confirmation brief to the battalion commander to verify an understanding of the battalion commander's intent and concept of operation.
- Conducts the initial assessment of the situation using reverse planning and ensures adherence to the one-thirds, two-thirds rule.
- Conducts assessment to identify—
  - Time available to prepare for and execute the mission.
  - Initial timeline for planning and executing the mission.
- Conducts an initial planning-time analysis to identify critical times in the timeline.
- Analyzes the time the company has available.
- Prepares an initial timeline.

B-11. The most important element of the company's WARNORD is the initial timeline for planning. The WARNORD may convey other instructions or information that the commander thinks helps subordinate leaders prepare for the upcoming mission.

STEP 2, ISSUE WARNING ORDER

B-12. A *warning order* is a preliminary notice of an order or action, or a planning directive that initiates the development and evaluation of courses of action by a commander (JP 5-0). Though less detailed than a complete *operation order*—a commander's directive that defines the mission and the subordinate commanders' roles and responsibilities for the operation (JP 5-0)—a WARNORD aids in parallel planning. After the commander receives the new mission and assesses the time available for planning, preparing, and executing the mission, the commander immediately issues a WARNORD to subordinates. By issuing the initial WARNORD as quickly as possible, the commander enables subordinates to begin their own planning and preparation (parallel planning) while they begin to develop OPORDs. When the commander obtains more information, the commander issues an updated WARNORD, giving subordinates a shared understanding of what the commander knows. If practical, the commander briefs subordinate leaders within the company face-to-face. In the defense, the commander ideally briefs subordinates on the actual ground to defend. Otherwise, the commander uses a terrain model, sketch, or map. (See figure B-3 for an example of a WARNORD format.)

Warning Order # **to Operations Order #**
Initial Task Organization:
Effective Date/Time:

1. Situation:
General Overview:
- Area of Operation (AO).
- Area of Interest (AOI).
- Who the Platoon/Squad is Fighting.
- Brigade Mission.
- Brigade Commander Intent.
- Battalion Mission.
- Battalion Commander Intent.

2. Mission:
Upcoming Task and Purpose or Type of Operation/ General Location.

3. Execution:
Movement Instructions/Movement to Initiate:
- Our Current Location.
- Our Next Location.
- Objective Location.

Reconnaissance Guidance/Reconnaissance to Initiate.
Information Requirements.
Coordinated Instructions:
- Load Carriage.
- Mission-Oriented Protective Posture (MOPP).
- Personal Protective Equipment Posture (PPEP).
- Collection Operations Management (COM).
- Route.
- Zero/Boresight.
- Precombat Inspections.
- Commander's Critical Information Requirement (CCIR):
  - Priority Intelligence Requirement (PIR).
  - Friendly Force Information Requirement (FFIR).
- Priorities of Work.
- Order of Movement.
- Priorities of Rehearsals.

Initial Operational/Planning Timeline:
- Company/Platoon.
- Enemy.
- Weather (WX)/Light Data.

4. Sustainment:
Planning/Preparation Instructions.
Company Trains Grid.
Battalion Trains Grid.
Unit Maintenance Collection Point (UMCP) Grid.
Logistics Release Point (LRP) Grid.
Ambulance Exchange Point (AXP) Grid.
Casualty Collection Point (CCP) Grid.
Class of Supply:
- Class I.
- Class III.
- Class IV.
- Class V.
- Others.

5. Command and Signal:
Company Command Post (CP):
- Primary CP.
- Alternate CP (when required).

Succession of Command.
Company Grid.
Battalion Command Post Grid.

Figure B-3. Warning order format

B-13. The WARNORD follows the five-paragraph OPORD format and normally contains minimal information. The WARNORD generally alerts the leader that a new mission is pending. (See FM 5-0 for more information.) The commander issues the WARNORD to subordinates immediately after the initial assessment, which includes the—

- Mission or nature of the operation.
- Time and place for issuing the OPORD.
- Task organization of units or elements participating in the operation.
- Initial information collection tasks (R&S to initiate).
- Security missions to initiate.
- Movement to initiate.
- Initial information requirements (CCIR), PIR, and friendly force information requirement.
- Essential element of friendly information (also called EEFI).
- Planning and preparing (assessing throughout) instructions.
- Specific tasks not addressed by unit SOPs.
- Precombat checks (PCCs), PCIs, and rehearsal guidance.
- Timeline for the operation.

B-14. During hasty operations, the information collection effort and intelligence staff focus on answering the commander's CCIRs. The commander directs PIRs that answer gaps in knowledge concerning the enemy and terrain. PIRs are best expressed in a question not answered by a yes or no response. The commander uses WARNORDs to modify PIRs based on current mission parameters. Friendly force information requirements include information the commander needs to know about the company or about adjacent units to make critical decisions. Although essential element of friendly information is not part of the CCIR, they still become priorities when the commander states them. *Essential element of friendly information*—a critical aspect of a friendly operation that, if known by a threat would subsequently compromise, lead to failure, or limit success of the operation and therefore should be protected from enemy detection (ADP 6-0). If known by the enemy, that would subsequently compromise or lead to the failure of the operation. Consequently, this information must be protected from identification by the enemy.

STEP 3, MAKE A TENTATIVE PLAN

B-15. In a time-constrained environment, the commander typically develops only one COA. However, as time permits, the commander can develop additional COAs for comparison purposes. The commander begins step 3 after the issuance of the company WARNORD, and generally after receiving the battalion's third WARNORD, or until the commander has enough information to proceed. The commander does not wait for a complete OPORD before starting to develop a tentative plan. Once subordinate leaders receive the company WARNORD they begin to develop their tentative plan and adjust as more information becomes available.

MISSION ANALYSIS

B-16. Within mission analysis the commander makes significant deductions about the enemy, terrain, and own forces affecting the mission. These significant deductions drive the planning process, preparation activities, and the execution of the mission with assessments throughout the operations process. During the planning the commander conveys to subordinates the importance of these deductions, and the effects they have on the unit's mission. As part of mission analysis, the commander must understand the personnel recovery plan to develop isolated Soldier guidance for each operation. Mission analysis answers questions that become inputs into developing a COA. These questions are—

- What is the company's mission statement?
- What is the threat-based and accident-based risks hazards to company operations?
- What is the tentative decisive point(s) essential to mission success?
- What is the commander's intent at battalion and brigade?
- What is the current situation; for example, what is the type, nature, and probable location of enemy contact throughout the depth of the operation?
- What are the tentative communications, EW counter-UAS and tactical deception activities?

Note. Leaders below company level typically do not issue a commander's intent. They reiterate the intent of their higher and next higher commanders.

Conduct Risk Assessment

B-17. *Risk management* is the process to identify, assess, and mitigate risks and make decisions that balance risk cost with mission benefits (JP 3-0). It is an ongoing and iterative process that is integral to planning and preparation during TLPs. Risk assessment is the identification and assessment of hazards allowing the commander to implement measures to control hazards (risk management, fratricide avoidance, and effects of continuous operations). The commander's risk assessment to protect the force aids in mission accomplishment. The commander considers tactical risk and accident risk during planning.

B-18. Risk management occurs continuously throughout TLP, with varying emphasis on different steps at different times. The supervision (during operations) and evaluation (during and after operations) must feed back into the system (see figure B-4). Through feedback, leaders ensure corrections are made during the current operation and in future operations.

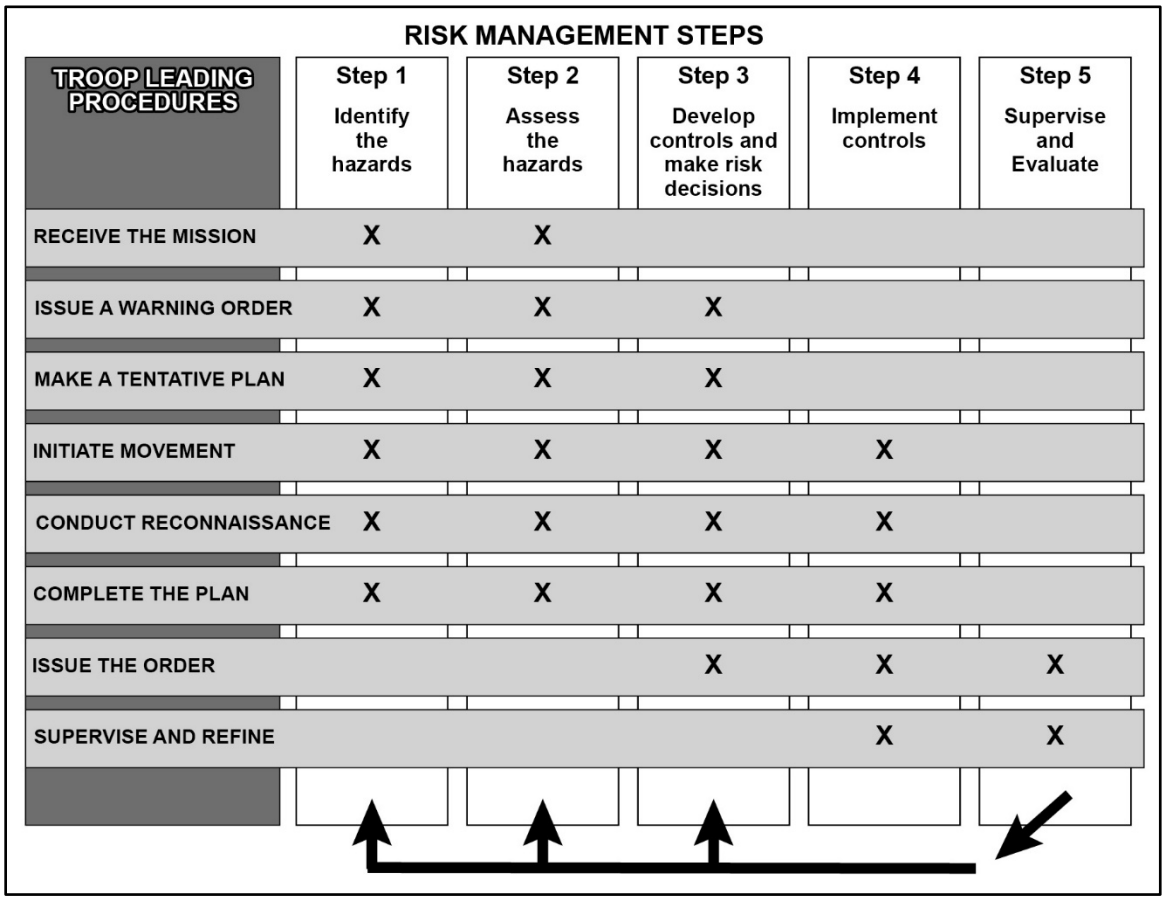


Figure B-4. Troop leading procedures correlated with risk management steps

B-19. Tactical risk is associated with hazards existing due to the enemy's presence. The consequences of tactical risk take two major forms:

- Enemy action where the commander has accepted risk such as an enemy attack where the friendly commander has chosen to conduct an economy of force.
- Lost opportunity, such as movement across terrain that severely restricts speed to traverse the terrain, restricting the unit's ability to mass the effects of combat power.

B-20. Accident risk includes all operational risk other than tactical risk and can include hazards concerning friendly personnel, equipment readiness, and the environment. Fratricide is an example of an accident risk.

B-21. Once identified, risk must be reduced through controls. For example, fratricide is a hazard categorized as an accident risk; surface danger zones and RED are used to identify the controls, such as TRPs and PLs, to reduce this accidental risk. When the commander decides what risks to accept, the commander must decide in a COA how to reduce risk to an acceptable level. (See ATP 5-19 for information on making informed decisions to reduce or offset risk.)

Identify Tentative Decisive Point(s)

B-22. A *decisive point* is key terrain, key event, critical factor, or function that, enables commanders to gain a marked advantage or to achieve success (JP 5-0). Identifying a tentative decisive point(s) during mission analysis and verifying it during COA development is the most important aspect of the TLP. Visualizing a valid decisive point is how commanders determine how to achieve success and accomplish their purpose. Commanders develop their entire COA from a decisive point. Without determining a valid decisive point, commanders cannot begin to develop a valid or tactically sound COA. Commanders, based on their initial analysis of METT-TC (I), SA, vision, and insight into how such factors can affect the unit's mission, should visualize where, when, and how their unit's ability to apply combat power (for example, firepower, protection, maneuver, leadership, and information) achieves their assigned task(s). A decisive point might orient on terrain, enemy, time, or a combination of these. A decisive point might be where or how, or from where, the unit combines the effects of combat power against the enemy. A decisive point might be the event or action (with respect to terrain, enemy, or time, and generation of combat power) which ultimately and irreversibly leads to the unit achieving its purpose.

B-23. A decisive point(s) does not simply restate the unit's essential task or purpose; it defines how, where, or when the unit accomplishes its purpose. The unit's designated main effort always focuses on a decisive point(s) and always accomplishes the unit's purpose. Designating a decisive point(s) is critical to the commander's vision of how to use combat power to achieve the purpose, how to task-organize units, how to shape operations to support the main effort, and how the main effort accomplishes the unit's purpose. This tentative decisive point(s) forms the basis of the commander's planning and COA development. Commanders should clearly explain what the decisive point(s) is to their subordinate leaders and why it is decisive; this summary, in conjunction with the commander's intent, facilitates subordinate initiative. A valid decisive point enables the commander to clearly and logically link how the application of combat power with respect to terrain, enemy, and time allows the unit to accomplish its purpose. If the commander determines the tentative decisive point(s) is not valid during COA development or analysis, then the commander must determine another decisive point(s) and restart COA development.

Commander's Intent

B-24. The commander's intent is a short and concise statement that describes the purpose of the operation, initial key tasks, and the desired end state which in planning guides COA development. The higher echelon commander's intent provides the basis for unity of effort throughout the force. Each commander's intent nests within the higher echelon commander's intent. The commander's intent explains the broader purpose of the operation beyond that of the mission statement. Within the company, this explanation allows subordinate leaders and Soldiers to gain insight into what is expected of them, what constraints apply, and most importantly, why the mission is being conducted. A clearly understood commander's intent allows subordinates to exercise initiative and judgment to accomplish the company's purpose.

B-25. Based on their situational understanding, commanders summarize their visualization in their initial commander's intent statement. The initial commander's intent links the operation's purpose with conditions that define the desired end state. Commanders may change their intent statement as planning progresses and more information becomes available. The commander's intent must be easy to remember and clearly understood by leaders two echelons lower in the chain of command. The shorter the commander's intent, the better it serves these purposes.

B-26. The commander's intent provides the link between mission and concept of operation by stating essential tasks or conditions existing to achieve the stated purpose of the operation. The intent and mission statement forms the basis for subordinates to exercise disciplined initiative and judgment in the face of new opportunities, or whenever the concept of operation ceases to apply. The commander's intent continuously evolves throughout the planning and preparation for the operation as the commander becomes more attuned to what the company must do to accomplish the mission.

B-27. The essential tasks and conditions specified in the commander's intent are not tied to a specific COA. Essential tasks are not limited to tactical tasks. The operation's tempo, duration, and effect on the enemy, and terrain being controlled are examples of essential tasks or conditions.

B-28. The commander's intent does not include the method by which the force gets from its current state to the end state. The method is the concept of operation. Nor does the intent contain acceptable risk. Risk is addressed in the COA. The final commander's intent included in the OPORD is based on the sum of all of the analysis conducted during the TLP. This final intent can be provided after the commander understands the end state of the mission, only.

Mission Variables of METT-TC (I)

B-29. Analyzing the mission variables of METT-TC (I) is a continuous process. Commanders constantly receive information from the time they begin planning through execution. During execution, their continuous analysis enables them to issue a well-developed *fragmentary order*—an abbreviated operation order issued as needed to change or modify an order or to execute a branch or sequel (JP 5-0). They must assess if the new information affects their missions and plans. If so, then they must decide how to adjust their plans to meet these new situations. They need not analyze METT-TC (I) in a particular order.

Note. METT-TC (I) reflects an order in which commanders progress through the mission variables during the mission analysis portion of TLP.

Analysis of Mission

B-30. A mission is the task and purpose clearly indicating the action to be taken and reason for the action. In common usage, especially when applied to the company and below, a mission is a duty or task assigned to an individual or unit. The commander analyzes the battalion's WARNORD, OPORD, and mission to determine how the company contributes to the battalion's mission. The mission is always the first factor the commander considers and the most basic question: What has the company been told to do and why?

B-31. The commander must understand the mission, intent, and concept of operation up to two levels higher. This understanding makes it possible to exercise disciplined initiative. The commander captures understanding of what the company is to accomplish in the revised mission statement. The commander uses six steps to fully analyze the company's assigned mission as directed from—

- Higher HQ' (two levels up) mission, commander's intent, and concept of operation.
- Immediate higher HQ' (one level up) mission, commander's intent, concept of operations, available assets, and timeline.
- Unit's assigned AO, tasks, and purpose.
- Assumptions and constraints.
- Specified, implied, and essential tasks.
- Restated mission.

Higher Headquarters' (One and Two Levels Up) Mission, Commander's Intent, and Concept of Operation

B-32. The commander understands the higher HQ, one and two levels up, mission, commander's intent, and concepts of operation. The commander identifies the HQ' tasks and purposes, and how they contribute to the fight. This understanding is required for all adjacent units to the company.

Company's Purpose

B-33. Specific to the company mission, the commander must identify and understand the company's assigned area, tasks, and purpose to accomplish a given mission. The commander identifies the company's purpose from the battalion's OPORD. The company's purpose generally matches or achieves the purpose of the battalion. Similarly, the purpose of supporting efforts relate directly to those of the main effort.

Assumptions and Constraints

B-34. Assumptions are specific suppositions of an OE or problem that are assumed to be true, in the absence of positive proof. The commander only uses assumptions that are essential for the continuation of planning. In other words, an assumption is information that is accepted as true in the absence of facts, but at the time of planning cannot be verified. Appropriate assumptions used in decision-making have two characteristics:

- They are valid; that is, they are likely to be true.
- They are necessary; that is, they are essential to continuing the problem-solving process.

B-35. A *constraint* is a restriction placed on the command by a higher command (FM 5-0). A constraint dictates an action or inaction, thus restricting the freedom of action of a subordinate commander. The commander determines all constraints the battalion OPORD places on the company's ability to execute the mission. Annexes to the battalion order may include constraints. The operation overlay, for example, may contain a RFL or a no-fire area (see appendix C). Constraints may also be issued verbally, in WARNORDs, or in policy memoranda. Constraints may also be based on resource limitations within the command, such as organic transport capacity, or physical characteristics of the OE.

Specified Tasks, Implied Tasks, and Essential Tasks

B-36. A *task* is a clearly defined action or activity specifically assigned by an appropriate authority to an individual or organization, or derived during mission analysis, that must be accomplished. (JP 1, Volume 1). The commander must identify and understand tasks required to accomplish a given mission. The three types of tasks (specified, implied, and essential) are discussed in the following three paragraphs.

B-37. A *specified task*, a task specifically assigned to a unit by its higher headquarters (FM 5-0), is found throughout the OPORD. Specified tasks also may be found in annexes and overlays, for example: seize Objective Fox; reconnoiter Route Blue; assist the forward passage of First Platoon, B Company; send two Soldiers to assist in the loading of ammunition.

B-38. An *implied task* is a task that must be performed to accomplish a specified task or mission but is not stated in the higher headquarters' order (FM 5-0). Implied tasks derive from a detailed analysis of the battalion's order, from the enemy situation and COA, from the terrain, and from knowledge of doctrine and history. Analyzing the company's current location in relation to future AO as well as the doctrinal requirements for each specified task might reveal the implied tasks. Only those requiring resources should be used. For example, if the specified task is to seize Objective Fox and new intelligence has Objective Fox surrounded by reinforcing obstacles, this intelligence would drive the implied task of breach reinforcing obstacles vicinity Objective Fox.

B-39. An *essential task* is a specified or implied task that must be executed to accomplish the mission (FM 5-0). An essential task, along with the company's purpose, is usually assigned by the battalion's OPORD in the concept of operation or tasks to subordinate units. For decisive operations, since the purposes are the same nested concept, the essential task accomplishes the battalion's purpose. For supporting efforts, it accomplishes the assigned purpose, which supports the main effort.

Restated Mission

B-40. The commander concludes mission analysis by restating the mission. A *mission statement* is a short sentence or paragraph that describes the organization's essential task(s), purpose, and action containing the elements of who, what, when, where, and why (JP 5-0). The five elements of a mission statement answer these questions, commonly referred to as the five Ws:

- Who will execute the operation (unit or organization)?
- What is the unit's essential task (may or may not be a tactical mission task)?
- When will the operation begin (by time or event) or what is the duration of the operation?
- Where will the operation occur (AO, objective, grid coordinates)?
- Why will the force conduct the operations (for what purpose)?

B-41. An example is a company mission statement for the defense: B Company, 1-31 Infantry (who) defends (what) no later than 281700(Z) December 2023 (when) from GL 380650 to GL 410710 (where) to prevent the envelopment of A Company (why), the battalion main effort.

Analysis of Terrain and Weather

B-42. Terrain and weather are key aspects to mission analysis. When analyzing terrain, the commander considers man-made features and effects on natural terrain features and climate. The commander also considers the effects of man-made and natural terrain in conjunction with the weather on friendly and enemy operations. In general, terrain and weather do not favor one side over the other unless one is better prepared to operate in the environment or is more familiar with it. The terrain, however, may favor defending or attacking. Analysis of terrain and weather answers the question: What are the terrain and weather effects on the operation? The commander analyzes terrain and weather using the five military aspects of terrain and the five military aspects of the weather.

B-43. From the modified combined obstacle overlay developed by battalion, the commander already understands the general nature of the ground and effects of weather. However, the commander must conduct a detailed analysis to determine how terrain and weather uniquely affect the company's mission and the enemy. The commander must go beyond merely passing along the modified combined obstacle overlay to subordinate leaders and making general observations of the terrain such as, this is high ground, or this is a stream. The commander must determine how the terrain and weather affects the enemy and their units. The commander also applies these conclusions when developing COAs for both enemy forces and the company.

B-44. At company level and below, the commander and subordinate leaders develop a graphic terrain analysis overlay. With the reduced time to conduct that same level of analysis, and the lack of expertise and capability to produce the same detail as a modified combined obstacle overlay, the company commander builds a graphical terrain analysis overlay to show the critical military aspects of terrain. This allows them to brief the five military aspects of terrain; observation and fields of fire, avenues of approach, key terrain, obstacles and movement, cover and concealment (also called OAKOC). Not only does it facilitate planning, but it also aids in briefing subordinates.

B-45. For the commander to have a starting point for the company's terrain analysis, the commander must first define the OE. The commander must understand the company's AO and areas of interest, which are:

- The commander uses boundaries to define a company's AO; assigning an AO to companies lets subordinate commanders use their initiative and supports decentralized execution.
- An area of interest is a geographical area, usually larger than the commander's AO; the area of interest includes threat forces or other elements characterizing the OE that can greatly influence the accomplishment of the mission.

B-46. The commander prepares a graphic depiction of terrain to help explain findings about the effects of terrain and weather on the mission. The graphic depiction of terrain can be a photograph, overlay for a map sheet, or a terrain model. In it, the commander shows terrain mobility classifications, key terrain, intervisibility lines, known obstacles, avenues of approach, and mobility corridors.

Five Military Aspects of Terrain

B-47. One technique is for the commander to analyze terrain by evaluating the five military aspects of terrain in a specific order: obstacles, avenues of approach, key terrain, observation and fields of fire, and cover and concealment. (See ATP 2-01.3 and ATP 3-34.80 for information on analyzing the military aspects of terrain.) Military aspects of terrain are used to analyze the ground and the sequence can vary. The leader determines the effects of each aspect of terrain on both friendly and enemy forces. These effects translate directly into conclusions applying to friendly or enemy COAs. Even if time is tight, the commander should allocate as much time as possible to factor, starting at the objective area, and analyzing other aspects of key terrain. Conclusions include at least the following:

- Templating of enemy forces and essential weapons systems.
- Positioning of own assets.
- Understanding of time and space relationships of events, leading to thorough contingency plans.
- Echeloning and identifying enemy observation and indirect fires.
- Selecting movement techniques and movement formations, including when to transition to maneuver.

Five Military Aspects of Weather

B-48. The five military aspects of weather are visibility, winds, precipitation, cloud cover, and temperature and humidity. Consideration of the weather's effects is an essential part of the commander's mission analysis, but the commander goes past observing to application. The commander determines how the weather affects the visibility, mobility, and survivability of the company and that of the enemy and applies the results to the friendly and enemy COAs during development. The subordinate leaders within the company review their commander's conclusions and identify their own.

Analysis of the Enemy

B-49. The commander analyzes the battalion staff's assumptions regarding the enemy's doctrine, composition, disposition, strength, capabilities, equipment, vulnerabilities, probable COA, and recent activities. The commander is aware that the line between enemy combatants and civilian noncombatants is sometimes unclear. This requires the commander to understand the laws of war, the ROE, and the local situation.

B-50. Analyzing the enemy answers the question, what is the enemy doing and why? The commander answers—

- What is the composition and strength of the enemy force?
- What are the capabilities of their weapons?
- What are the capabilities of other systems?
- What is the location of current and probable enemy positions?
- What is the enemy's most probable COA (defends, reinforce, attack, withdraw, or delay, [also called DRAW-D])?

Doctrinal Analysis (How the Enemy Will Fight)

B-51. The commander must know more than just the enemy's number and types of vehicles, troops, and weapons. The commander must understand when, where, and how the enemy prefers or tends to use assets. A SITEMP is a visual illustration of how the enemy force might look and act without the effects of weather and terrain. The commander looks at specific enemy actions during a given operation and uses the appropriate SITEMP to gain insights into how the enemy may fight. Likewise, the commander must understand enemy doctrinal objectives. In doctrinal terms, the commander asks, "Is the enemy oriented on the terrain, for example, a reconnaissance force, their own force (assault force, terrorists, or insurgent forces), civilian forces or critical infrastructure (terrorist or insurgent forces, sabotage), or other supporting or adjacent friendly forces (as in a disruption zone)? What effect will this have on the way the enemy fights?"

B-52. As the global situation changes, the possibility of fighting a threat who lacks a structured doctrine increases. In such a situation, the commander must rely on information provided by battalion or higher echelon R&S assets and, most importantly, the HQ' pattern analysis and deductions about the enemy in its AO. The commander may also make logical assumptions about the enemy, human nature, and the local culture.

Composition

B-53. The commander's analysis must determine the types of vehicles, troops, and equipment the enemy could use against the company. The commander must be familiar with the basic characteristics of the enemy units and platforms identified.

Disposition

B-54. The commander determines how the enemy is (or might be) arrayed using information from the battalion. From this information, the commander determines the echelon force where the enemy originated. The commander determines the disposition of the next two higher enemy elements. From this analysis, the commander might be able to determine patterns in the enemy's employment or troops and equipment.

Strength

B-55. The commander identifies the enemy's strength by unit. The commander obtains this information by translating percentages given from the battalion to the actual numbers in each enemy element or from information provided by the common operational picture.

Capabilities

B-56. Based on the battalion S-2's assessment and the enemy's doctrine and current location, the commander must determine the enemy's capabilities. This includes studying the maximum effective range for each weapon system, the doctrinal rates of march, and timelines associated with the performance of certain tasks. One technique is to use the warfighting functions as a checklist to address every significant element the enemy brings to the fight.

B-57. The commander determines the capabilities of the next higher enemy element. These capabilities should include reasonable assets the next higher element, or other higher enemy HQ, may provide. This includes the employment of enemy reserves, CBRN weapons, artillery or mortar locations and ranges, R&S, and security operations.

Recent Activities

B-58. Gaining complete understanding of the enemy's intentions can be difficult when the enemy's SITEMPs, composition, and disposition are unclear. The enemy's recent activities must be understood, because they can provide insight into future activities and intentions. When time permits, the commander conducts a pattern analysis of the enemy's actions to predict future actions. In the OE, this might be the most important analysis the commander conducts and is likely to yield the most useful information to the commander.

Enemy Situation Template

B-59. The enemy SITEMP is created. The commander weighs the result of the analysis of terrain, weather, and civil considerations against the battalion's SITEMP to identify how the enemy may potentially fight. The refined product is a platoon SITEMP, a graphic showing how the commander believes the enemy fights under specific conditions. The SITEMP portrays one echelon lower than developed by the battalion S-2. For example, if a battalion SITEMP identifies a platoon-sized enemy element on the company's objective and squad-sized enemy elements on the platoon's objective, the commander, using knowledge of both the enemy's doctrine and terrain, develops a SITEMP positioning squad-sized BPs, crew-served weapons positions, or defensive trenches.

B-60. The commander includes in the SITEMP the likely sectors of fire of the enemy weapons and tactical and protective obstacles, either identified or merely templated, which support defensive tasks. Table B-1 shows recommended enemy SITEMP elements. (See ATP 2-01.3 for more information.)

Table B-1. Recommended enemy situation template elements

Defensive and Offensive	
Primary, alternate, subsequent positions	Attack formations and axes of advance
Engagement area	Battle positions, trenches, and area of operations
Individual vehicles	Coordinated fire line and restrictive firing lines
Crew-served weapons	Objective(s), phase lines, and support (attack) by fire position(s)
Tactical (directed, situational, and reserved) obstacles (for example, persistent and nonpersistent minefields)	Maximum engagement line
	Planned indirect fire targets
Planned indirect fire targets	Electromagnetic warfare capabilities
Observation posts	Reconnaissance/security objectives
Command and control positions	Reconnaissance force routes
Final protective fires and final protective line	Fires (indirect fires and manned and unmanned aircraft systems)
Locations of reserves	Fires (indirect fires and manned and unmanned)
Routes for reserve commitment	Chemical, biological, radiological, and nuclear employment
Travel time for reserve commitment	Protective obstacle locations
Reserve force commitment triggers	Enemy scheme of maneuver/decisive point
Sectors of fire	Unmanned aircraft system capabilities

B-61. The commander avoids developing a SITEMP independently of the battalion commander's guidance and S-2's products. The template reflects the results of R&S, and shared understanding. Differences between the SITEMPs are resolved before the commander can continue analyzing the enemy. Given the scale with which the commander often develops the SITEMP, on a 1:50,000 maps, the SITEMP is transferred to a graphic depiction of terrain for briefing purposes, as the situation allows. This is not for analysis, but to show subordinates the details of the anticipated enemy COA. Once the commander briefs the enemy analysis to subordinates, the commander must ensure a shared understanding of the differences between what is known, what is suspected, and what is just templated (estimated). Unless given the benefit of information collection, the SITEMP is only an estimate of how the enemy might be disposed. The commander must not take these as facts. This is why the commander develops a tactically prudent and flexible plan and clearly explains commander's intent to subordinates. Information collection (R&S, security operations, and intelligence operations) is critical in developing the best possible enemy scenario.

B-62. Initial PIRs are developed. The commander defines PIRs as information about the enemy leading to a critical decision and develops specific PIRs for each situation. Answering the PIR questions lets the commander confirm or deny assumptions made during planning. Although doing this helps to clarify the enemy situation, it usually leads to answering the PIRs of the battalion and next higher level. The commander must understand the higher HQ' collection plan and how the company assists in answering PIRs.

Analysis of Troops and Support Available

B-63. The commander reviews the company's task organization to determine the number, type, capabilities, and condition of available friendly troops and other support. Analysis of troops follows the same logic as analyzing the enemy by identifying capabilities, vulnerabilities, and strengths. The commander should know the disposition, composition, strength, and capabilities of their forces one and two levels down. This information can be maintained in a checkbook-style matrix for use during COA development (specifically array forces). The commander maintains an understanding of subordinate readiness, including maintenance, training, strengths and weaknesses, leaders, and LOGSTAT. Analysis of troops and support available

answers the question: What assets are available to accomplish the mission? Additional questions the commander answers include:

- What are the strengths and weaknesses of subordinate leaders?
- What is the supply status of ammunition, water, fuel (if required), and other necessary items?
- What is the present physical condition of Soldiers (morale, sleep)?
- What is the condition of equipment?
- What is the unit's training status and experience relative to the mission?
- What additional Soldiers or units will accompany?
- What additional assets are required to accomplish the mission?

B-64. Perhaps the most critical aspect of mission analysis is determining the combat potential of one's own force. The commander realistically and unemotionally determines all available resources and new limitations based on level of training or recent fighting. This includes troops who are either attached to or in direct support of the company. It also includes understanding the full array of assets in support of the company. The commander must know how much indirect fire by type is available and when it becomes available.

B-65. Throughout planning and preparation for an operation the commander continually assesses the company's combat effectiveness—the ability of a unit to perform its mission. Factors such as ammunition, personnel, fuel status, and weapons systems are evaluated and rated by the commander. (See FM 1-02.2.) The ratings used by the commander are—

- Fully operational–green (85 percent or greater).
- Substantially operational–amber (70 to 84 percent).
- Marginally operational–red (50 to 69 percent).
- Not operational–black (less than 50 percent).
- Unknown.

B-66. The commander cannot be expected to think of everything during mission analysis because of the constant uncertainty present in operations at the small-unit level. This fact forces the commander to determine how to get assistance when the situation exceeds the company's capabilities. Therefore, a secondary product analysis of troops and support available should be an answer to the question, how do I get help?

Analysis of Time Available

B-67. Time available refers to many factors during the operations process (plan, prepare, execute, and continuously assessing throughout the operation). The four categories the commander considers include—

- Planning and preparation.
- Operations.
- Next higher echelon's timeline.
- Enemy timeline.

B-68. During a *phase*—a planning and execution tool used to divide an operation in duration or activity (ADP 3-0), the commanders consider critical times, unusable time, the time it takes to accomplish activities, the time it takes to move, priorities of work, and tempo of operations. Other critical conditions to consider include visibility and weather data, and events such as higher HQ' tasks and required rehearsals. Implied in the analysis of time is the commander's prioritization of events and sequencing of activities.

B-69. As addressed in step 1 of the TLP, time analysis is a critical aspect to planning, preparation, and execution. Time analysis is often the first thing the commander does. The commander must not only appreciate how much time is available but be able to appreciate the time and space aspects of preparing, moving, fighting, and sustaining. The commander must be able to see the company's tasks and enemy actions in relation to time. Most importantly, as events occur, the commander must adjust the time available to them and assess its impact on what the commander wants to accomplish. Finally, the commander updates previous timelines for subordinates, listing all events affecting the platoon and its subordinate elements.

Analysis of Civil Considerations

B-70. Civil considerations include the influences of man-made infrastructure, civilian institutions, and attitudes, activities of civilian leaders, populations, and organizations within an AO, regarding the conduct of military operations. Civil considerations generally focus on the immediate impact of civilians on operations in progress. Civil considerations of the environment can either help or hinder friendly or enemy forces; the difference lies in the commander taking time to learn the situation and its possible effects on the operation. Analysis of civil considerations answers three critical questions:

- How do civilian considerations affect the operation?
- How does the operation affect civilians?
- How does the company build national will in its AO?

B-71. The battalion provides the commander with civil considerations affecting the next echelon's mission. The memory aid (areas, structures, capabilities, organizations, people, and events [also called ASCOPE]) is used to analyze and describe these civil considerations. (See ATP 2-01.3 for additional information.)

B-72. The commander identifies civil considerations affecting the mission. Civil considerations are important when conducting operations against terrorist or insurgent forces in urban areas. Most terrorists and insurgents depend on the support or neutrality of the civilian population to camouflage them. The commander must understand the impact of their actions—as well as their subordinate's actions—on the civilian population, and effects they have on current and future operations. Considerations may include—

- Ethnic dynamics.
- Organizations of influence.
- Patterns.
- Leaders and influencers.
- Economic environment.

Informational Considerations

B-73. *Informational considerations* are those aspects of the human, information, and physical dimensions that affect how humans and automated systems derive meaning from, use, act upon, and are impacted by information (FM 3-0). Understanding the physical, information, and human dimensions of each *domain*—a physically defined portion of an operational environment requiring a unique set of warfighting capabilities and skills (FM 3-0), helps the commander assess and anticipate the impacts of their operations. Their definitions follow:

- *Physical dimension* is the material characteristics and capabilities, both natural and manufactured, within an operational environment (FM 3-0).
- *Information dimension* is the content and data that individuals, groups, and information systems communicate and exchange, as well as the analytics and technical processes used to exchange information within an operational environment (FM 3-0).
- *Human dimension* encompasses people and the interaction between individuals and groups, how they understand information and events, make decisions, generate will, and act within an operational environment (FM 3-0).

Note. Within the context of an OE, a domain (land, maritime, air, space, and cyberspace) is a physically defined portion of an OE requiring a unique set of warfighting capabilities and skills. Each military service and branch trains and educates its leaders to be experts about operations in a primary domain, although each service has some capability in each of the domains, and each develops shared understanding of how to integrate capabilities from different domains. (See FM 3-0 for additional information.)

B-74. Operations reflect the reality that war is an act of force (in the physical dimension) to compel (in the information dimension) the decision making and behavior of enemy forces (in the human dimension). Actions in one dimension influence factors in the other dimensions. Understanding the interrelationship enables decision making about how to create and exploit advantages in one dimension and achieve objectives in the others without causing undesirable consequences.

B-75. The commander integrates information into all operations and activities to create favorable support and circumstances for friendly action, limit enemy or adversary action, and minimize unintended consequences. Informational considerations are the relevant friendly, threat, and neutral (both military and civilian) individuals, organizations, and systems capable of generating cognitive effects and influencing behavior. (See FM 5-0 and FM 3-13 for additional information.)

ELECTROMAGNETIC WARFARE

B-76. *Electromagnetic warfare* is military action involving the use of electromagnetic energy to control the electromagnetic spectrum or to attack the enemy (JP 3-85). Commanders and subordinate leaders at each echelon integrate EW activities into operations through cyberspace electromagnetic activities. EW capabilities are applied from air, land, sea, space, and cyberspace by manned, unmanned, attended, or unattended systems. Cyberspace electromagnetic activities are the process of planning, integrating, and synchronizing cyberspace and EW operations. *Cyberspace operations* are the employment of cyberspace capabilities where the primary purpose is to achieve objectives in or through cyberspace (JP 3-0). (See ATP 3-21.20 for additional information.)

Electromagnetic Warfare Capabilities

B-77. EW capabilities assist in shaping the OE to gain an advantage. For example, EW may be used to set favorable conditions for cyberspace operations by stimulating networked sensors, denying wireless networks, or other related actions. Operations in cyberspace and the electromagnetic spectrum depend on EW activities maintaining freedom of action in both. EW consists of three functions, electromagnetic attack, EP, and electromagnetic support. In any environment, the primary focus at the platoon and company level is on EP considerations as it relates to communications within small-unit operations.

Electromagnetic Protection

B-78. *Electromagnetic protection* is a division of electromagnetic warfare that protects personnel, facilities, and equipment from any effects of friendly or enemy use of the electromagnetic spectrum (JP 3-85). For example, EP includes actions taken by the commander and subordinate leaders to ensure friendly use of the electromagnetic spectrum, such as frequency agility in a radio or variable pulse repetition frequency in radar. They avoid confusing EP with self-protection. Both defensive electromagnetic attack and EP protect personnel, facilities, capabilities, and equipment. However, EP protects from the effects of electromagnetic attack (friendly and enemy) and electromagnetic interference, while defensive electromagnetic attack primarily protects against lethal attacks by denying enemy use of the electromagnetic spectrum to guide or trigger weapons. (See ATP 3-21.20 and ATP 3-12.3 for additional information on EW functions and activities.)

Emission Control

B-79. The company commander and subordinate leaders are responsible for EMCON as an element of EP that inhibits enemy EW capabilities from detecting, intercepting, finding, fixing, or engaging emitters. *Emission control* is the controlled use of electromagnetic, acoustic, or other emitters to optimize command and control capabilities and minimize detection by enemy sensors, mutual interference among friendly systems, and enemy interference with the ability to execute a military deception plan (JP 3-85).

B-80. In large-scale combat operations against peer threats, the enemy is expected to use EW capabilities to detect, intercept, deny, degrade, disrupt, destroy, or manipulate friendly communications, C2, and intelligence capabilities. EMCON is a planning aid designed to help leaders develop standard procedures and battle drills for their unit's unique suite of emitters using an appropriate mix of the EMCON considerations listed in table B-2 on page 180.

Table B-2. Emission control considerations

Tactics, Techniques, and Procedures	
Minimize length and frequency of radio transmissions. *	Use satellite communications (SATCOM) information on these practices.
Use appropriate power settings. *	Use high frequency (HF) transmissions.
Plan radio messages. *	Use electronic counter-countermeasures (ECCM).
Use electronic terrain masking. *	Train while employing radio silence.
Establish and enforce a primary, alternate, contingency, and emergency (PACE) communication plan (see paragraph B-44). *	Ensure electronic equipment is properly grounded and has shield cables.
Use remote antennas.	Train on land navigation (without GPS).
Use brevity codes and proword execution matrixes.	Set radar cueing cycles.
Use secure landlines.	Execute survivability moves.
Use directional antennas.	Ensure electronic equipment is properly grounded and has shield cables.
Use line of sight communications parallel to the forward line of own troops (FLOT).	Understand the impact of terrain composition on emissions.
Use alternate means of communications for planning /preparation; use primary for execution.	Recognize communications jamming (reporting criteria).
Use data-burst transmissions.	Recognize GPS jamming (reporting criteria).
Mask with camouflage netting.	Recognize radar jamming (reporting criteria).
Use encrypted Global Positioning System (GPS).	Recognize satellite jamming (reporting criteria).
*These emission control considerations should always be practiced, but leaders emphasize them more as threats involving the electromagnetic spectrum (EMS) elevate.	

B-81. EMCON prevents the threat discovery and attacks on friendly forces' locations with EW. When establishing EMCON best practices, it is important to understand the general categories and status criteria for EMCON levels. Based on the tactical situation, the commander can dictate the appropriate EMCON level to the platoon. During operations, commanders consider EMCON level 3 (amber) as the baseline condition. Figure B-5 captures the five EMCON levels and the general descriptive criteria associated with each level. (See ATP 3-12.3 and ATP 6-02.53 for additional information.)

EMCON Status	Description
EMCON 1 Green	Describes a situation where there is no apparent hostile activity against friendly emitter operations. Operational performance of all EMS-dependent systems is monitored, and password-encryption-enabled systems are used as a layer of protection.
EMCON 2 Yellow	Describes an increased risk of attack after detection. Increased monitoring of all EMS activities is mandated, and all end users must make sure their systems are secure, encrypted, power levels monitored, and transmissions limited. EMS usage may be restricted to certain emitters, and rehearsals for elevated EMCON is ideal.
EMCON 3 Amber	Describes when a risk has been identified. Counter ECM (encryption, FH, directional antennas) on important systems is a priority, and the CEWO's alertness is increased. All unencrypted systems are disconnected.
EMCON 4 Red	Describes when an attack has taken place but the EMCON system is not at its highest alertness. Non-essential emitters may be taken offline, alternate methods of communication may be implemented and modifications are made to standard lower EMCON configurations (for example, power levels and antenna types).
EMCON 5 Black	Describes when attacks are taking place based on the use of the EMS. The most restrictive methods of EP are enforced. Any compromised systems are isolated from the rest of the network.

LEGEND

CEWO	CYBER ELECTROMAGNETIC WARFARE OFFICE	EMS	ELECTROMAGNETIC SPECTRUM
ECM	ELECTROMAGNETIC COUNTERMEASURES	EP	ELECTROMAGNETIC PROTECTION
EMCON	EMISSION CONTROL	FH	FREQUENCY HOP

Figure B-5. Emission control status

DENIED, DEGRADED, AND DISRUPTED COMMUNICATIONS

B-82. The company commander must plan to operate in denied, degraded, and disrupted communications environments. In an environment where every transmission is potentially targeted, the PACE communications plan enables both mission success and survivability. To be effective, the PACE plan must be understood and rehearsed by every participant. The PACE plan is a communication plan that exists for a specific mission or task, not a specific unit, as the plan considers both intra- and inter-unit sharing of information. The commander's ability to exercise C2 during an operation can suffer due to communication systems not working properly or otherwise unavailable.

B-83. If the company cannot execute the full PACE plan, the commander must inform the higher-level commander with an assessment of shortfalls, gaps, and possible mitigations as part of the mission analysis process during TLP. (See ATP 3-21.20 for additional information.)

B-84. During TLP, units must prepare for denied, degraded, and disrupted C2 systems and reduced access to cyberspace and space operations capabilities. Key indicators that C2 systems are being degraded include—

- Degraded voice communications.
- Increased latency for data transmissions.
- Frequent and accurate targeting by threat lethal and nonlethal effects.
- Increased pings/network intrusions.
- Inconsistent digital common operational picture, for example, spoofing.
- Inaccurate GPS data/no satellite lock and inconsistency between inertial navigation aids and GPS-enabled systems.
- Uncharacteristically few voice or digital transmissions.

B-85. Efforts to increase survivability and prevent degraded C2 systems include—

- Reducing radio power settings.
- Using messengers and hand and arm signals.
- Minimizing length of FM transmissions.
- Using terrain to mask transmission signatures.
- Employing directional antennas.
- Using remote antennas/carrying spare antennas.
- Requiring physical presence of leaders at briefings, for example, distributing information via analog means in person.
- Using camouflage and deception in all environments.
- Digging in a CP.
- Using communications windows reducing transmissions.
- Employing encryption/cypher techniques.

B-86. Efforts that counter the effects of degraded C2 systems include—

- Training to recognize indicators.
- Developing and rehearsing contingency plans during the planning process and preparations.
- Maintaining analog common operational pictures at all echelons.
- Training to operate from the commander's intent, and analog graphics and synchronization matrixes.
- Keeping plans as simple as possible makes them less susceptible to friction.

COUNTERING UNMANNED AIRCRAFT SYSTEM THREATS

B-87. The company commander and subordinate leaders should assume the company is being observed by the enemy through reconnaissance forces, surveillance assets, and targeting systems, and not assume they are under a protective umbrella of friendly air and missile defense units. While not all hostile air threats require engagement using air defense measures from air and missile defense units, there is still a requirement to detect, identify and be prepared to counter and defeat all classes of UASs. (See ATP 3-01.81 for classifications and additional information on counter-UASs.)

B-88. Companies and below take the concept of protection developed at battalion and implement it. Their main focus during TLP is reacting to air contact battle drills. Leaders at company and below conduct rehearsals and examine their unit's active and passive measures. Rehearsals check things such as air guard locations, assigned sectors, UAS reporting procedures, communication plans, air defense warning status, WCS, engagement criteria, and threat UAS identification.

B-89. Understand that planning is the first step toward effectively countering UAS threats. Neutralizing the UAS threat requires a combined arms approach that employs capabilities from all the warfighting functions. Effective planning synchronizes activities across echelons and warfighting functions to ensure complementary and redundant capabilities. Planning considerations are part of a coherent planning structure that includes—

- Layered approach.
- ROE.
- Airspace management.
- Air defense warning condition.
- WCS.

- Early warning network.
- Prioritized protection list.
- Warning.

B-90. The tactical situation determines the degree or extent of control necessary over weapon systems. The brigade air and missile defense cell either establishes separate WCSs for various air threats, including fixed- and rotary-wing aircraft, and UASs or an overall control status for any threat air engagement. The three WCSs for counter-UASs are—

- Weapons free:
  - Any UAS not positively identified as friendly in accordance with standing ROE shall be treated as hostile.
  - This is the least restrictive WCS.
- Weapons tight; engage only UASs identified as hostile in accordance with ROE.
- Weapons hold:
  - Units may fire only in self-defense or when ordered by proper higher authority.
  - This is the most restrictive WCS.

B-91. Once an air threat is detected, all friendly forces need to be warned quickly. This can happen by two methods—a top-down approach or a bottom-up approach. Small unmanned aerial vehicles are typically detected by forward units first, so rehearsing the use of the unit early warning net and rehearsals from the bottom-up are critical. No matter which approach is used, the information is passed using the SALUTE report format. Receipt of this report should trigger additional follow-on actions for all units. These follow-on actions could be for units to freeze in place or engage with lethal or non-lethal means. When possible, units detecting air threats alert adjacent units. (See ATP 3-01.81 for additional information.)

TACTICAL DECEPTION

B-92. *Tactical deception* is a friendly activity that causes enemy commanders to take action or cause inaction detrimental to their objectives (FM 3-90). Tactical deception operations are designed to support the commander's plan by enhancing the probability of mission success. It allows units to create windows of opportunity by doing the unexpected and causing the target to react to the unit's operation. Vital to the unit's ability to execute tactical deception is through maintaining operational security and ensuring realism. (See ATP 3-21.20 and FM 3-96 for more information.) The purpose of tactical deception is to—

- Gain the initiative.
- Reduce the overall operational risk.
- Preserve combat power.

B-93. Tactical deception means provide the signatures, associations, and profiles of friendly alleged activities to the enemy. The means are typically found in either the coordinating instructions of an order or through commander's guidance. The two tactical deception means categories are physical and technical.

B-94. Physical means are resources, methods, and techniques used to convey information normally derived from direct observation or active sensors by the deception target. (Most physical means also have technical signatures visible to sensors that collect scientifically or electronically.) Examples might include—

- Movement of the company or one of its platoons.
- Decoy equipment and devices.
- Security measures.
- Tactical actions.
- R&S and security activities.

B-95. Technical means are resources, methods, and techniques used to convey or deny selected information or signatures. Technical means may be applied with corresponding physical means or alone to replicate something physical that is absent from visual contact. Examples of technical means might include—

- The establishment of communications networks and interactive transmissions that replicate a specific unit type, size, or activity.
- Emission or suppression of chemical or biological odors associated with a specific capability or activity.
- Organic capabilities that disrupt an enemy sensor or affect data transmission.

COURSE OF ACTION DEVELOPMENT

B-96. The purpose of COA development is to determine one or more ways to accomplish the mission consistent with the battalion commander's intent. A COA describes how the unit might generate the effects of overwhelming combat power against the enemy at the decisive point with the least friendly casualties. Each COA the commander develops must be detailed enough to clearly describe how they envision using all their assets and combat multipliers to achieve the company's mission-essential task and purpose.

B-97. To develop a COA, the commander focuses on the actions the company must take at the decisive point and works backward to their start point. The commander focuses company efforts to develop at least one well-synchronized COA; if time permits, additional COAs are developed. The result of the COA development process is paragraph 3 of the OPORD. A COA should position the unit for future operations and provide flexibility to meet unforeseen events during execution. COAs should give subordinates the maximum latitude for initiative. From developing a strategy to analyzing, refining, and rehearsing the plan, the commander must be knowledgeable in the following areas detailed under this subheading to construct a solid COA.

Screening Criteria

B-98. Leaders use screening criteria to ensure that the COA they consider can accomplish the mission. Screening criteria defines the limits of acceptable actions. They are tools to establish baseline products for analysis. A COA should be feasible, acceptable, suitable, distinguishable, and complete. These elements are defined below:

- Feasible—the company has the technical and tactical skills and resources to accomplish the COA, with available time, space, resources and available capabilities.
- Acceptable—the military advantage gained by executing the COA must justify the cost in resources, especially casualties:
  - This assessment is largely subjective and asks the following question: Is it worth the cost or risk?
  - If it is illegal, immoral or unethical, it is not acceptable.
- Suitable—if executed, the COA accomplishes the mission legally and ethically while consistent with the battalion commander's concept and intent.
- Distinguishable—if more than one COA is developed, does it differ significantly from the other solutions?
- Complete—the COA covers the operational factors of who, what, when, where, and why, and must show from start to finish how the company will accomplish the mission:
  - The COA must address the doctrinal aspects of the mission.
  - For example, in an attack against a defending enemy, the COA must address the movement to, deployment against, assault of, and consolidate upon the objective.

Actions

B-99. Next, the commander analyzes relative combat power, generates options, arrays forces (generally two levels below their echelon), develops concept of operation, analyzes Soldier load, assigns responsibility, and prepares a COA statement and sketch.

Analyze Relative Combat Power

B-100. During the first step of COA development, analyzing relative combat power, leaders compare and contrast friendly combat power with the enemy. The commander determines where, when, and how friendly forces can overwhelm the enemy by reviewing the five dynamics of combat power (leadership, firepower, information, mobility, and survivability, and by the six warfighting functions (C2, movement and maneuver, intelligence, fires, protection, and sustainment).

B-101. The purpose of this step is comparing the combat power of friendly and enemy forces, analyzing troop-to tasks to determine if the company has enough combat power to accomplish its assigned task. It is not merely a calculation and comparison of friendly and enemy weapons numbers or units with the aim of gaining a numerical advantage. Using the results of all previous analyses done during mission analysis, the commander compares the company's combat power strengths and weaknesses with those of the enemy. The commander seeks to calculate the time and way the company (and enemy) can maximize the effects of maneuver, firepower, protection, leadership, and information in relation to the specific terrain, disposition, and composition of each force. An analysis of the ability to generate combat power helps the commander confirm or deny a tentative decisive point.

B-102. Additionally, the CCIRs, PIRs, and friendly force information requirements and essential elements of friendly information are identified. *Friendly force information requirement* is information the commander and staff need to understand the status of friendly force and supporting capabilities (JP 3-0).

Generate Options

B-103. Most missions and tasks can be accomplished in more than one way. The goal of this step, generating options, is to determine one or more of those ways quickly. First, the commander considers tactics, techniques, and procedures from doctrine, unit SOPs, history, or other resources to determine if a solution to a similar tactical problem already exists. If it does, the commander's job is to take the existing solution and modify it to the company's unique situation. If a solution does not exist, the commander must develop one. Second, the commander confirms the mission's decisive point. Then, using doctrinal requirements as a guide, the commander assigns purposes to the tactical tasks involved. The commander adheres to the doctrinal requirement for the mission including all tactical tasks normally assigned to subordinates. By defining the decisive point, the commander understands where and when the company can mass overwhelming combat power to achieve a specific result that accomplishes the mission with respect to the enemy, terrain, time, or civil considerations. The commander considers enemy and friendly decisive and decision points that lead to the desired mission end state when generating options.

Array Forces

B-104. Using the product from generating options, the commander determines what combinations of Soldiers, weapons, and other systems are needed to accomplish each task. This is known as arraying forces or assigning troops to task. This judgment call is unique to the specific METT-TC (I) conditions the commander faces. The commander then task-organizes the company specific to the respective essential tactical tasks and purposes assigned to subordinate elements. The commander determines the specific quantity of squads, weapons (by type), and fire support necessary to accomplish each task against the enemy array of forces. The commander allocates resources required for the main effort's success first and determines the resources needed for the supporting effort in descending order of importance.

Develop a Concept of Operations

B-105. The concept of operation describes how the commander envisions the operation unfolding, from its start to its conclusion or end state. Operations and actions consist of numerous activities, events, and tasks. The concept of operation describes the relationships between activities, events, and tasks, and explains how the tasks lead to accomplishing the mission. The concept of operation is a framework to assist leaders, not a script. The normal cycle for an offensive mission is tactical movement, actions on the objective, and consolidate and reorganization. The normal cycle for defensive missions is EA development and preparation of the BPs, actions in the EA, counterattack, and consolidate and reorganization. In developing the concept of operation, the commander clarifies the best ways to use the available terrain and to employ the company's strengths against the enemy's weaknesses. The commander includes the requirements of indirect fire to

support the maneuver. The commander then develops the maneuver control measures necessary to convey commander's intent, enhances the understanding of the scheme of maneuver, prevents fratricide, and clarifies the tasks and purposes of the main supporting and sustaining operations. The commander determines the sustainment aspects of the COAs. The commander refines the battalion isolated-Soldier guidance in support of the concept of the operation according to FM 3-50.

Analyze Soldier Load

B-106. Soldier load is an area of concern for Infantry commanders and subordinate leaders. How much is carried, how far, and in what configuration are critical mission considerations? The commander balances the risk to Soldiers from the enemy against the risk to mission accomplishment due to excessive loads and Soldier exhaustion and injury. Soldier load is limited to mission essential equipment to sustain continuous operations. The commander accepts acceptable risks to reduce Soldier load based on a thorough mission analysis and collaboration with the higher echelon commander and staff. (See ATP 3-21.20 and ATP 3-21.18 for information on Soldier load, to include echeloning loads and load determination.)

Assign Responsibilities

B-107. The commander assigns responsibility for each task to a subordinate. Whenever possible and depending on the existing chain of command, the commander avoids fracturing unit integrity. The commander attempts to keep the span of control between two to five subordinate elements. The commander ensures every subordinate unit is employed, every asset is attached, and adequate C2 is provided for each element. The commander must avoid unnecessary complicated C2 structures and maintain unit integrity where feasible.

Prepare a Course of Action Statement and Sketch

B-108. The company commander primarily uses the COA statement and COA sketch to describe the concept of operation. These two products are the basis for paragraph 3 of the OPORD. The COA statement specifies how the company accomplishes the mission. The first three steps of COA development provide the bulk of the COA statement. The COA statement details how the company's operation supports the battalion commander's operation, the decisive point and why it is decisive, the form of maneuver or type of defensive mission, and operational framework. The COA sketch is a drawing or series of drawings to assist the commander in describing how the operation unfolds. The sketch provides a picture of the maneuver aspects of the concept. The commander uses tactical mission task graphics and control measures (see FM 3-90 and FM 1-02.2) to convey the operation in a doctrinal context. Both the COA statement and sketch focus at the decisive point. The COA statement should identify—

- The decisive point(s) and what makes it decisive.
- A form of maneuver and offensive or defensive variation(s).
- Tasks and purposes of the main effort and supporting efforts.
- Reserve planning priorities.
- Purposes of critical warfighting functions.
- The end state.

B-109. The COA sketch should identify how the company intends to focus the effects of overwhelming combat power at the decisive point. When integrated with terrain, the refined product becomes the company's operations overlay.

COURSE OF ACTION ANALYSIS

B-110. COA analysis begins with friendly and enemy COAs and, using a method of action-reaction-counteraction war game, results in a synchronized friendly plan, identified strengths and weaknesses, and updated risk assessment. When conducting COA analysis, there are three methods: belt, avenue-in-depth, and box. Each considers the area of interest and all enemy forces that can affect the outcome of the operation. Planners can use these methods separately or in combination and modify them as appropriate for long-term operations dominated by stability. The three COA analysis methods are briefly described (see FM 5-0 for more detailed information):

- Belt—the belt method divides an assigned area into belts (areas) running the width of the area.; the shape of each belt is based on the factors of METT-TC (I):
  - The belt method works best when conducting offensive and defensive tasks on terrain divided into well-defined cross-compartments, during phased operations (such as gap crossings, air assaults, or airborne operations).
  - When the enemy is deployed in clearly defined belts or echelons.
  - Belts can be adjacent to or overlap each other.
- Avenue-in-depth—the avenue-in-depth method focuses on one avenue of approach at a time:
  - It begins with the avenue most directly tied to accomplishing the main effort's objective.
  - This method is good for offensive COAs or in the defense when canalizing terrain inhibits mutual support.
- Box—the box method is a detailed analysis of a critical event, such as an EA, a wet gap crossing site, or a LZ:
  - It works best in a time-constrained environment, such as a hasty attack.
  - It is particularly useful when planning operations in noncontiguous assigned areas.

B-111. After developing the COA, the commander analyzes it to determine its strengths and weaknesses, visualizes the flow of the battle, identifies the conditions or requirements necessary to enhance synchronization, and gains insights into actions at the decisive point of the mission. During the war game, the commander visualizes a set of enemy and friendly actions and reactions. War-gaming is the process of determining "what if?" factors of the overall operations. The objective is to determine what can go wrong and what decision the commander likely has to make as a result. COA analysis allows the commander to synchronize assets, identify potential hazards, and develop a better understanding of the upcoming operation. The COA enables the commander to—

- Determine how to maximize the effects of combat power while protecting friendly forces and minimizing collateral damage.
- Anticipate events within the AO.
- Determine conditions and resources required for success.
- Identify additional control requirements.
- Identify friendly coordination requirements.

B-112. COA analysis (war-gaming) brings together friendly and enemy forces on the actual terrain to visualize how the operation unfolds. It is a continuous cycle of action, reaction, and counteraction. This process highlights critical tasks, stimulates ideas, and provides insights rarely gained through mission analysis and COA development alone. War-gaming helps the commander fully synchronize friendly actions, while considering the likely reactions of the enemy. The product of this process is the synchronization matrix. War-gaming, depending on how much time is devoted to planning, provides:

- An appreciation for time, space, and triggers needed to integrate—
  - Direct- and indirect-fire support.
  - Obscurants.
  - Engineers.
  - Air defense artillery.
  - CBRN enablers with maneuver platoons supporting the company's tasks and purposes identified in the scheme of maneuver.
- Flexibility built into the plan by gaining insights into possible branches to the basic plan.
- The need for control measures, such as checkpoints, contact points, and target registration points, aid in control, flexibility, and synchronization.
- Coordinating instructions enhancing execution and unity of effort and easing confusion between subordinate elements.
- Information needed to complete—
  - Paragraphs 3, 4, and 5 of the OPORD.
  - Assessments regarding on-order and be-prepared missions.
- Projected sustainment expenditures, friendly casualties, and resulting medical requirements.

B-113. The best way for the commander to war-game is to start at the company's location and go through the mission from start to finish or start at a critical point such as the objective or EA. Using the

action-reaction-counterreaction method, the commander can think through the engagement beforehand. As war-gaming proceeds, the commander can either record observations into a matrix or keep notes in a notebook. The most important aspect of this process is not the method but the output, meaning a more in-depth understanding of the operation. At the conclusion of the war game, the commander fully understands the potential tactical risk associated with the plan. It is here that the commander may refine the plan to mitigate those risks internally or present them to the battalion staff and commander for assistance.

COURSE OF ACTION COMPARISON AND SELECTION

B-114. If the commander has developed more than one COA, the commander must compare them by weighing the specific advantages, disadvantages, strengths, and weaknesses of each as noted during the war game. These attributes may pertain to the accomplishment of the company's purpose, the use of terrain, the destruction of the enemy or other aspects of the operation the commander believes is important. The commander uses these factors, gained from their relational combat power analysis matrix, as the frame of reference when tentatively selecting the best COA. The commander finally selects a COA based on own judgment, the start time of the operation, the AO, the scheme of maneuver, and subordinate unit tasks and purposes. The right decision must be ethical (consistent with the moral principles of the Army Ethic), effective (likely to accomplish its purpose), and efficient (making disciplined use of resources).

B-115. The CCIRs identify and filter information needed by the commander to support the commander's vision and to make critical decisions, especially to determine or validate COA. CCIRs help the commander determine what is relevant to mission accomplishment. In one technique, the commander writes the desired question, the quantified answer, and reaction (critical decision to make). CCIRs help focus the efforts of subordinates and aids in the allocation of resources. The commander limits CCIRs to essential information.

STEP 4, INITIATE MOVEMENT

B-116. The commander initiates movement necessary to continue mission preparation or to posture the company for starting the mission. This step can be executed anytime throughout the sequence of the TLP. The step can include movement to an assembly area, BP, a new AO, or the movement of guides or quartering parties.

STEP 5, CONDUCT RECONNAISSANCE

B-117. To exploit the principles of speed and surprise, the commander weighs the advantages of reconnoitering personally against the combat multiplier in the form of supplied information from battalion information collection efforts. The commander realistically considers the dangers of reconnoitering personally and the time required to conduct them. The commander might be able to plan the company's operation using the unprecedented amount of combat information provided by the higher echelon information collection assets. However, if time permits, the commander verifies higher HQ' intelligence by reconnoitering visually. The commander seeks to confirm the PIR supporting tentative plans. PIRs usually consists of assumptions or critical facts about the enemy. This can include strength and location, especially at templated positions. It can also include information about the terrain. For example, verification of a tentative support by fire position can suppress the enemy or determine if an avenue of approach is usable.

B-118. If possible, the commander includes subordinate leaders in the company's reconnaissance efforts. This allows subordinates to see as much of the terrain and enemy as possible. Reconnaissance helps subordinate leaders gain insight into the commander's vision of the operation.

B-119. The commander's reconnaissance might include moving to or beyond the LD, reconnaissance of an AO, or walking from the FEBA back to and through the platoon AO or BP along likely enemy avenues of approach. If possible, the commander selects a vantage point(s) with the best possible view of the decisive point. In addition to the commander's reconnaissance efforts, subordinate units can conduct additional reconnaissance operations. Examples include surveillance of an area by subordinate elements, patrols to determine enemy locations, and establishment of OPs to gain additional information. Subordinate leaders can incorporate Javelin command launch units (also called CLUs) as surveillance tools (day or night), based on an analysis of METT-TC (I).

B-120. The nature of the reconnaissance, including what it covers and how long it lasts, depends on the tactical situation and time available. The commander uses the results of the COA development process to identify information and security requirements of the company's reconnaissance missions.

B-121. The commander includes results and conclusions arrived from reconnaissance into the commander's time analysis. The commander must consider how to communicate changes in the COA to subordinates and how these changes affect the plan, actions of the subordinates, and other supporting elements.

STEP 6, COMPLETE THE PLAN

B-122. During this step, the commander expands the selected (or refined) COA into a complete OPORD. The commander prepares overlays, refines the indirect fire list, completes sustainment and C2 requirements, and updates the tentative plan based on the latest reconnaissance or information. The commander prepares briefing sites and other briefing materials needed to present the OPORD directly to subordinates. The commander conducts final coordination with other units and battalion staff members before issuing the order to subordinates.

B-123. Using the five-paragraph OPORD format helps the commander explain all aspects of the operation: terrain, enemy, higher and adjacent friendly units, unit mission, execution, support, and mission C2. The format serves as a checklist to ensure the commander covers all relevant details of the operation and gives subordinates a smooth flow of information from beginning to end.

STEP 7, ISSUE OPERATION ORDER

B-124. The OPORD precisely and concisely explains both the commander's intent and concept of how the commander envisions the company accomplishing the mission and does not contain unnecessary information. The OPORD is delivered quickly and in a manner allowing subordinates to concentrate on understanding the commander's vision and not just copying what the commander says verbatim. The commander must prepare adequately and deliver the OPORD confidently and quickly to build and sustain confidence in their subordinates.

B-125. When issuing the OPORD, the commander must ensure their subordinates understand and share the vision of what must be done and when and how it must be done. Subordinate leaders must understand how all platoons and elements work together to accomplish the company's mission. They must also understand how the platoon's and the company's mission supports the intentions of the immediate higher commander. When the commander finishes issuing the order, subordinate leaders should leave with a clear understanding of what the commander expects their elements to do. The commander is responsible for ensuring subordinate leaders understand what is to be expected. This common visualization and understanding is translated into execution through operational graphics. These graphics are necessary to ensure synchronization of the plan (and most likely higher HQ) while maximizing effects on the enemy and preventing fratricide.

B-126. In many respects, the commander must issue the order in a manner instilling subordinates with confidence in the plan and a commitment to do their best to achieve the plan. Whenever possible, the commander issues the order in person. The commander looks into the eyes of subordinate leaders to ensure each one understands the mission and what the element must achieve.

B-127. The commander completes the order with a confirmation brief. At a minimum, each subordinate leader should be able to backbrief the company's mission and commander's intent, the immediate higher commander's intent, their own tasks and purpose, and time they issue their unit's OPORD. Each subordinate confirms their understanding of the commander's vision and how the mission is accomplished with respect to the decisive point. This confirmation brief provides an opportunity to highlight issues or concerns.

B-128. The five-paragraph OPORD format (see figure B-6 on page 190), helps the commander paint a picture of all aspects of the operation, from the terrain to the enemy, and finally to the company's own actions from higher to lower. The format helps the commander decide what relevant details are included and provides subordinates with a smooth flow of information from beginning to end. At the same time, the commander ensures the order is not only clear and complete but also as brief as possible. If the commander has already addressed an item adequately in a previous WARNORD, the commander can simply state, "No change," or

provide necessary updates. The commander is free to brief the OPORD in the most effective manner to convey information to subordinate leaders.

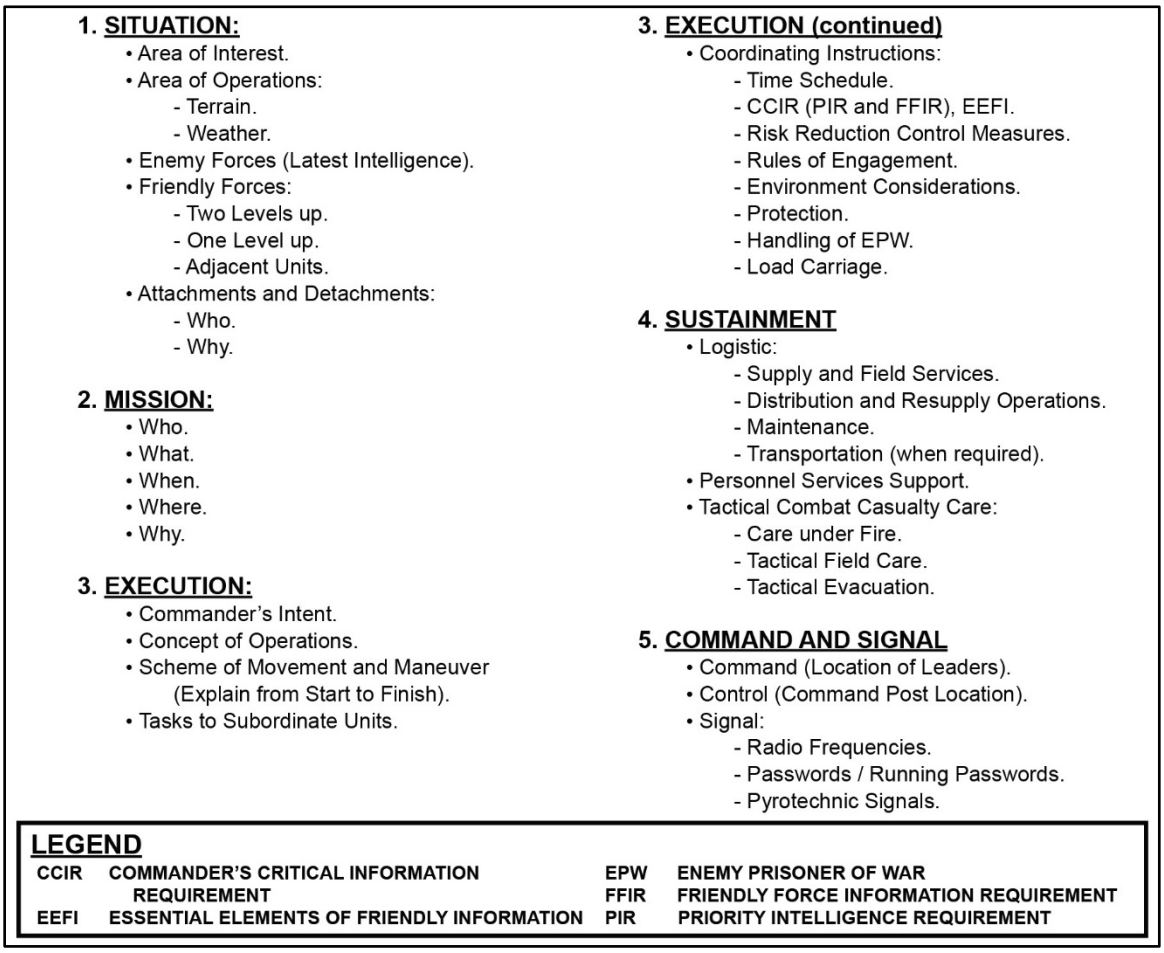


Figure B-6. Operation order format

STEP 8, SUPERVISE AND REFINE

B-129. This final step of TLP is crucial. After issuing the OPORD, the commander and subordinate leaders ensure the required activities and tasks are completed in a timely manner prior to mission execution. Supervision is the primary responsibility of all leaders. Both officers and NCOs must check everything important for mission accomplishment. This includes, but is not limited to—

- Conducting numerous backbriefs on all aspects of the platoon and subordinate unit operations.
- Ensuring the second in command in each element is prepared to execute in their leaders' absence.
- Listening to subordinates' OPORD.
- Observing rehearsals of subordinate units.
- Checking load plans to ensure they carry only what is necessary for the mission or what the OPORD specified.
- Checking the status and serviceability of weapons.
- Checking on maintenance activities of subordinate units.
- Ensuring local security is maintained.

SECTION III – PREPARATION ACTIVITIES

B-130. Preparation consists of activities performed by the company to improve its ability to execute a mission. Preparation includes but is not limited to plan refinement, rehearsals, information collection, coordination, inspections, and movements. Thorough backbriefs and comprehensive rehearsals are important keys to refining a plan. Preparation activities play a critical role in ensuring that the company can execute its mission effectively. These activities allow the commander, subordinate leaders, and each team or crewman to discover potential problem areas and to develop contingency plans to avoid unforeseen difficulties.

B-131. Since time is a factor in all operations, the commander conducts a time analysis early in the planning process to determine what preparation activities need to take place and when to begin those activities to ensure forces are ready and in position before execution. The plan may require the commander to direct subordinates to start necessary movements; conduct task organization changes; begin R&S and security operations; and execute other preparation activities before completing the plan.

B-132. Commander-driven key preparation activities (although not inclusive) are addressed in the following paragraphs B-133 through B-140. (See ADP 5-0 for a complete listing of preparation activities and ATP 3-21.20 for preparation activities conducted by the Infantry battalion.)

REHEARSALS

B-133. A *rehearsal* is a session in which the commander and staff or unit practices expected actions to improve performance during execution (ADP 5-0). They are essential in ensuring thorough preparation, coordination, and understanding of the commander's plan and intent. Leaders should never underestimate the value of rehearsals.

B-134. Rehearsals require subordinate leaders and, when time permits, other company Soldiers to perform required tasks, ideally under conditions as close as possible to those expected for the actual operation. At their best, rehearsals are interactive; participants maneuver their actual vehicles or use vehicle models or simulations while verbalizing their elements' actions. During every rehearsal, the focus is on the how element, allowing subordinates to practice the actions called for in their individual scheme of maneuver.

Note. Rehearsals are different from a discussion of what is supposed to happen during the actual event. The commander can test subordinates' understanding of the plan by ensuring they push the rehearsal forward rather than waiting to dictate each step of the operation. A technique for rehearsing is sending real spot reports when reporting enemy contact, rather than just saying, "I would send a spot report now."

B-135. The commander uses well-planned, efficiently run rehearsals to accomplish the following:

- Reinforcing training and increasing proficiency in critical tasks.
- Revealing weaknesses or problems in the plan, leading to more refinement of the plan or developing additional branch plans.
- Integrating the actions of subordinate elements.
- Confirming coordination requirements between the platoon and adjacent units.
- Improving each Soldier's understanding of the concept of the operation, the direct fire plan, anticipated contingencies, and possible actions and reactions for various situations that may arise during the operation.
- Ensuring seconds-in-command are prepared to execute in their leaders' absence.

REHEARSAL TYPES

B-136. Rehearsals are practice sessions conducted to prepare units for an upcoming operation or event. The commander may use several types of rehearsals, which include the—

- Backbrief.
- Combined arms rehearsal.
- Support rehearsal.
- Battle drill or SOP rehearsal.

REHEARSAL TECHNIQUES

B-137. Rehearsals should follow the crawl-walk-run training methodology whenever possible (see FM 7-0 for additional information on this methodology). This prepares the platoons and subordinate elements for increasingly difficult conditions. Units, dependent on the mission variables of METT-TC (I), conduct these forms of rehearsals:

- Full-dress rehearsal.
- Key leader rehearsal.
- Terrain-model rehearsal.
- Digital terrain-model rehearsal.
- Sketch-map rehearsal.
- Map rehearsal.
- Network rehearsal.

Note. Because time is scarce during TLP, commanders and subordinate leaders should direct certain rehearsals (for example, special teams, breach, battle drills) to occur by way of the WARNORD.

PRECOMBAT CHECKS AND PRECOMBAT INSPECTIONS

B-138. PCCs and PCIs are critical to the success of missions. These checks and inspections are leader tasks and cannot be delegated below the team leader level. (See ATP 3-21.8 for an example PCC and PCI at the platoon echelon.) They ensure the Soldier is prepared to execute the required individual and collective tasks supporting the mission. Checks and inspections are part of the TLP protecting against shortfalls endangering Soldiers' lives and jeopardizing the execution of a mission.

B-139. PCCs and PCIs must be tailored to the specific unit and mission requirements. Each mission and each patrol may require a separate set of checklists. Each element has its own established set of PCCs and PCIs, but each platoon within its element should have identical checklists. Weapons squads have a different checklist than line squads, but each weapon squad within an organization should be the same.

B-140. One of the best ways to ensure PCCs and PCIs are complete and thorough is with full-dress rehearsals. These rehearsals run at combat speed with communication and full battle-equipment, allowing the commander and subordinate leaders to envision minute details as they occur during the operation. If it is a night operation, Soldiers should conduct full-dress rehearsals at night as well. PCCs and PCIs should include backbriefs on the mission, the task and purpose of the mission, and how the Soldiers' roles fit into the scheme of maneuver. The Soldiers should know the latest intelligence updates, ROE, be versed in MEDEVAC and CASEVAC procedures and sustainment requirements.

Appendix C

Direct Fire

Suppressing or destroying the enemy with direct fires is fundamental to success in close combat. Direct fire is inherent in maneuver, as is close combat. The Infantry rifle company commander focuses, distributes, and shifts the overwhelming mass of direct fire at critical locations and times to succeed in combat. Through efficient and effective direct fire planning and control, the company acquires the enemy and masses the effects of fires from all attached and organic weapons to achieve decisive results in the close fight. Appendix C focuses on the commander's role in planning direct fires within the company. (See ATP 3-21.8 for a discussion on the principles of direct fire and direct fire control.)

DIRECT FIRE PLANNING

C-1. The company must be able to mass the fires of all available resources at critical points and times to be successful on the battlefield. Massing of fires is defined by the terminal effect on the enemy, not the number of systems firing, or the number of rounds fired. Leaders must plan to focus, distribute, and shift the overwhelming mass of direct fire capability at critical locations and times to destroy the enemy. Based on where and how the unit wants to focus and distribute fires, leaders can establish the weapons ready postures for their elements as well as triggers for initiating fires. During mission preparation, leaders plan and conduct rehearsals of direct fires (and of the fire control process) based on the estimate of the situation. As the situation develops, the commander refines the direct fire plan. (See FM 3-90 and TC 3-20.31-040 for more information.)

C-2. Companies and platoons develop their plan for direct fire control measures based on the mission and commanders' intent. Commanders plan direct fires to distribute and control their fire in both offensive and defensive operations. Determining where and how the company can mass fires is an essential step in this process. Based on where and how they want to focus and distribute fires, leaders can establish weapons ready postures for their elements as well as triggers for initiating fires.

C-3. After identifying probable enemy locations, the commander determines points or areas where to focus combat power. Visualization of where and how the enemy attacks or defends assists the commander in determining the volume of fires that must be focused on points to have a decisive effect. If massing the fires of more than one subordinate element, the commander must establish the means for distributing fires effectively.

C-4. Based on where and how they want to focus and distribute fires, the commander and subordinate leaders can establish weapons ready postures for company team elements as well as triggers for initiating fires. The commander must also evaluate the risk of fratricide and establish controls to prevent it; these measures include the designation of recognition markings, WCS, and weapons-safety status.

C-5. After determining where and how they are massing and distributing fires, the commander and subordinate leaders must orient elements so they can rapidly and accurately acquire the enemy using the fire control measure. They can war-game the concept of the operation to determine probable requirements for refocusing and redistributing fires and to establish other required controls. During mission preparation, the commander plans and conducts rehearsals of direct fires (and of the fire control process) based on the estimate of the situation.

C-6. The commander and subordinate leaders must continue to apply planning procedures and considerations throughout execution. They must be able to shift direct fires based on a continuously updated estimate of the situation, combining SA with the latest available intelligence. When necessary, they must apply effective direct fire SOPs, which are covered in the following discussion.

EMPLOYMENT OF DIRECT FIRES

C-7. A *field of fire* is the area that a weapon or group of weapons may cover effectively from a given position (FM 3-90). In selecting a position, a unit must balance how the field of fire best gains an advantage while simultaneously providing cover and mitigating the effect of the enemy's weapons systems.

C-8. Fire control measures are how leaders control direct fires. Application of these concepts, procedures, and techniques helps the unit acquire the enemy, focus fires on the enemy, distribute the results of the fires, and prevent fratricide. At the same time, no single measure suffices to control fires effectively (see TC 3-20.31-040 for more information). Common fire control measures are—

- TRPs.
- ROE.
- EAs.
- Sectors of fire.
- Weapons safety posture.
- Direction of fire.
- WCS.
- Terrain-based quadrants.
- Engagement priorities.
- Friendly-based quadrants.
- Triggers.
- Maximum engagement lines.
- RFLs.
- FPLs.
- Engagement techniques.
- Fire patterns.
- Target arrays.

ORIENT, FOCUS, DISTRIBUTE, AND SHIFT FIRES

C-9. Commanders plan direct fires for C2. Determining where and how they can mass fires is an essential step in the process for planning direct fires in both the offense and defense. This planning must enable commanders to orient, focus, distribute, and shift their direct fires in execution.

C-10. Orienting fires allows the commander to effectively engage the enemy with direct fires. The plan must allow friendly forces to acquire enemy elements rapidly and accurately. Orienting friendly forces on probable enemy locations and on likely avenues of approach speeds target acquisition. Conversely, failure to orient subordinate elements results in slower acquisition and greatly increases the likelihood that enemy forces can engage first.

C-11. Commanders determine points or areas to focus combat power after identifying probable enemy locations. The commander's visualization of where and how the enemy may attack or defend enables the commander to determine the volume of fire necessary at points to have a decisive effect. Commanders establish weapons ready postures for the unit as well as triggers for initiating fires based on where and how they want to focus. Commanders evaluate the risk of fratricide and establish controls to prevent it. Control measures, although not inclusive, include the designation of recognition markings, weapons-safety posture, and WCS.

C-12. Distribution of fires enables the firing unit to distribute the effects of fires throughout the width and depth of the enemy array. Shifting fires means the ability to shift fires from one area to another area rapidly. In the defense these are typically planned areas; however, offensively, they may be as necessary. Commanders typically shift the focus or distribution of fires from one area to another in response to an emerging threat or a changed enemy formation.

C-13. Commanders shift fires to refocus and redistribute the effects based on the evolving estimate of the situation as the engagement proceeds. SA becomes an essential part of the fire control process at this point. Commanders apply the same techniques and considerations, including fire control measures that they used earlier to focus fires.

PLANNING TECHNIQUES

C-14. The commander determines points or areas to focus combat power after identifying probable enemy locations. The commander's visualization of where and how the enemy may attack or defend enables the commander to determine the volume of fire necessary at particular points to have a decisive effect. The commander establishes the means for distributing fires effectively to mass the fires of more than one subordinate element.

C-15. The commander, in coordination with subordinate leaders, establishes weapons ready postures for the company as well as triggers for initiating fires based on where and how they want to focus and distribute fires. The commander evaluates the risk of fratricide and establishes controls to prevent it. Control measures, although not inclusive, include the designation of recognition markings, weapons safety posture, and WCS.

C-16. After determining where and how to mass and distribute fires, the commander and subordinate leaders orient elements to rapidly and accurately acquire the enemy. They war game the selected COA or concept of operation to determine probable requirements for refocusing and redistributing fires and establishing other required controls. During mission preparation, the commander and subordinate leaders plan and conduct direct fire rehearsals based on the commander's estimate of the situation and the fire control process.

STANDARD OPERATING PROCEDURES

C-17. Well-rehearsed, direct fire SOPs ensure quick, predictable actions by all company members. The commander bases the various provisions of the SOP on the capabilities of the company (and attachments when task organized), and on anticipated conditions and the situation. The commander adjusts SOPs whenever changes to anticipated and actual mission variables of METT-TC (I), and informational considerations become apparent. When directed, company engagements follow the set procedures listed within the company's direct fire SOP. The commander uses fire commands to refocus or redistribute fires. Paragraphs C-18 through C-24 discuss specific SOP provisions for orienting forces and fires, focusing fires, distributing fires, shifting fires, and preventing fratricide.

ORIENTING FORCES AND FIRES

C-18. A standard means within the company to orient forces is to assign a PDF using a TRP to orient each element on a probable enemy position or likely avenue of approach. To provide all-around security, provisions of the SOP can supplement the PDF with sectors of fire (or commonly used, a field of fire using a friendly-based quadrant. Paragraph C-19 illustrates the use of this method.

C-19. The center (front) platoon's PDF is TRP 2 (center). Until otherwise specified, the platoon is responsible for the front two quadrants. The left flank platoon's PDF is TRP 1 (left). Until directed differently, the platoon is responsible for the left two friendly quadrants (overlapping with the center platoon). The right flank platoon's PDF is TRP 3 (right). Until otherwise specified, the platoon is responsible for the right two friendly quadrants (overlapping with the center platoon).

FOCUSING FIRES

C-20. The commander uses TRPs, although not inclusive, to focus fires within the company. One method to establish a standard respective position for TRPs in relation to friendly elements is to consistently number the TRPs, such as from left to right. Utilizing this method allows the commander and subordinate leaders to quickly determine and communicate the location of TRPs.

DISTRIBUTING FIRES

C-21. Two means (although not inclusive) of distributing fires within the company include engagement priorities and target array. Engagement priorities, whether in the offense or in the defense, enable the commander and/or subordinate leader to assign each type of weapon system an engagement priority by type of enemy vehicle or weapon. For example, the Javelin CCMS priority may be any armored threat first, then any technical vehicle with mounted weapons systems, and any mounted elements are tertiary targets. The target array means assists the commander and/or subordinate leader in distribution by assigning specific company elements to engage enemy elements of approximately similar capabilities.

SHIFTING FIRES

C-22. Commanders establish standards to designate the shifting of fires. For example, the company's support element shifts fires as directed or in accordance with established standards, shifting fire forward of the assault element as it moves across the objective or to the flanks of targets or areas. Commanders also establish triggers for shifting fires (or ceasing) based on battlefield events such as the movement of enemy or friendly forces. One standard is the use of a minimum safe line when a friendly element, such as a breach force, is moving toward an area of fires. As the element approaches the minimum safe line, observers' call for fires shift (or cease), allowing the friendly force to move safely in the danger area. In the defense, designating secondary sectors of fire provide a means of shifting fires if adjacent elements are knocked out of action.

PREVENTING FRATRICIDE

C-23. A primary means of minimizing fratricide risk is to establish a standing WCS. The SOP also must dictate ways of identifying friendly rifle units and other dismounted elements; techniques include using an IR light source or detonating an obscuration grenade of a designated color at the appropriate time. Minimizing the risk of fratricide in the company can be accomplished through C2 systems (if equipped); however, this does not supplant the commander's responsibility to plan for fratricide prevention.

C-24. Finally, the SOP must address the most critical requirement of fratricide prevention, maintaining SA. It must direct subordinate leaders to inform the commander, adjacent elements, and subordinates whenever a friendly force is moving or preparing to move. Commanders must be especially cognizant of the heightened risk of fratricide when friendly elements enter or exit friendly lines, or when security elements, engineers, or other elements operate forwards of, or to the rear of, defensive positions. This information must always be disseminated to all levels.

Appendix D
Fires

Fires is the use of weapon systems or other actions to engage a target to create specific lethal or nonlethal effects (JP 3-09). Lethal fire support comes from MBCT organic indirect fires assets, Army artillery and aviation assets, and joint and multinational artillery and aviation assets. Nonlethal effects can come from a wide range of military and civilian, joint, and multinational partners. This appendix provides a brief overview on fire support operations and primarily focuses on the organization and employment of fires in support of the Infantry rifle company.

SECTION I – FIRE SUPPORT

D-1. *Fire support* is fires that directly support joint forces that are engaged with enemy forces (JP 3-09). Fire support is the collective and coordinated use of indirect fire weapons and armed aircraft in support of the commander's scheme of maneuver. Fire support planning is the process of analyzing, allocating, and scheduling fire support assets. Fire support assets available include mortars, field artillery cannons and rockets, Army attack aviation, CAS, naval gunfire, and electronic attacks.

FIRE SUPPORT SYSTEM

D-2. The fire support system acquires and tracks targets, delivers timely and accurate lethal fires, provides counterfire, and plans, coordinates, and orchestrates fire support. The fire support system achieves desired effects (lethal and nonlethal means) through a combination of fire support assets. The integration of fire support assets is critical regardless of which elements of offense, defense, and stability dominates. For example, in the defense, fire support systems support security forces by using both precision and area munitions to destroy enemy reconnaissance and high-payoff targets, and by delivering on-call fires at appropriate times and places. Fire support facilitates the withdrawal of security forces at the completion of their mission. Fire support systems cover barriers, gaps, and open areas within the defense. Disruptive methods to temporarily deny, degrade, deceive, delay, or neutralize enemy aircraft systems can include electronic attack during an area defense.

PLANNING AND COORDINATION PRINCIPLES

D-3. In advising commanders on the application of fire support, FSOs review fire support requirements against basic fire support planning principles during the development of the fire support plan. (See FM 3-09 for more information on planning principles.) Fire support principles include the following:

- Plan early and continuously.
- Ensure the continuous flow of targeting information.
- Consider the use of all capabilities.
- Use the lowest echelon capable of furnishing effective support.
- Furnish the type of support requested.
- Use the most effective fire support means.
- Avoid unnecessary duplication.
- Coordinate airspace.
- Provide adequate support.
- Provide for rapid coordination.
- Protect the force.
- Provide for flexibility.
- Use fire support coordination measures.

PLANNING AND THE INTEGRATION OF FIRES

D-4. *Fire support planning* is the continuing process of analyzing, allocating, integrating, synchronizing, and scheduling fires to describe how the effects of fires facilitate supported force actions (FM 3-09). Fire support planning is focused on using the timely and effective delivery of fires to enhance the actions of the maneuver force. Fire support planning involves the assignment of command or support relationships and positioning of fire support systems. Planning identifies the types of targets to attack and the collection assets that acquire and track the targets, specifies the fire support assets to attack each identified target, and establishes the criteria for target defeat. Fire support planning considers existing limitations on the employment of fires, such as ROE and positive identification requirements, weather effects on fires assets, the presence of special operations forces within the AO), desired conditions of subsequent phases, and requirements for collateral damage avoidance.

D-5. Fire support planning includes developing fire plans. A *fire plan* is a tactical plan for using the weapons of a unit or formation so that their fire is coordinated (FM 3-09), for example, target lists and overlays. Fire support planning determines FO control options to ensure fire support is integrated into the commander's scheme of maneuver and can be executed in a timely manner. (See ATP 3-09.42 for additional information.)

FIRE SUPPORT PLAN

D-6. The *fire support plan* is a plan that addresses each means of fire support available and describes how Army indirect fires, joint fires support, and target acquisition are integrated into operations to facilitate success (FM 3-09). An effective fire support plan clearly defines fire support requirements, focuses on the tasks and their resulting effects, uses all available acquisition and attack assets, and applies the best combination of fire support assets against high-payoff targets. The fire support plan identifies critical times and places where the commander anticipates the need to maximize effects from fire support assets. (See ATP 3-09.42 for additional information.)

COMMANDER'S GUIDANCE

D-7. The purpose of commander's guidance is to focus staff activities in planning an operation. The MBCT commander's guidance for fires provides subordinates with the general guidelines and restrictions for the employment of fires and their desired effects. The guidance emphasizes in broad terms when, where, and how the commander intends to synchronize the effects of fires with the other elements of combat power to accomplish the mission. The commander's guidance should include priorities and how the commander envisions the operation unfolding and the impact that fires have on its success. Priority of fires is the commander's guidance to the subordinate commanders, fires planners, and supporting agencies to organize and employ fires in accordance with the relative importance of the unit's mission. (See FM 3-96 for additional information.)

D-8. The Infantry battalion typically uses top-down fire support planning, with bottom-up refinement of the plans. The battalion commander develops guidance for fire support in terms of task, purpose, and effect. In turn, the battalion FSO, in conjunction with the S-3, determines the method used to accomplish each task. Subordinate Infantry rifle companies then incorporate assigned tasks into their fire support plans. Units tasked to initiate fires refine and rehearse their assigned tasks. The battalion commander refines the battalion's fire support plan, ensuring that designated targets achieve the intended purpose. The commander conducts rehearsals to prepare for the mission and as specified in the plan, directs subordinate units to rehearse their assigned targets. (See ATP 3-21.20 for additional information.)

FIRE SUPPORT TASKS

D-9. A fire support task is a task that a FIST, fire support unit, or organization must accomplish to support a combined-arms operation. Failure to achieve a fire support task may require the commander to alter the unit's scheme of maneuver. A fully developed fire support task must be clear, concise, and include the elements of task, purpose, and effect. The task describes what targeting objective fires, such as delay, disrupt, limit, or destroy, must achieve on an enemy formation's function or capability. The purpose describes why the task contributes to maneuver. The effect quantifies successful accomplishment of the task. (See ATP 3-09.42 for additional information.)

COMPANY FIRE SUPPORT

D-10. The Infantry rifle company FSO is with the commander when the commander develops the company's maneuver plan. The FSO plans company fire support, and the commander approves the plan. The FSO coordinates, synchronizes, and executes the plan's fire support. The FSO identifies observer (including joint fires observer) requirements in the commander's observation plan and integrates them into the company rehearsal.

ROLE OF THE COMMANDER AND FIRE SUPPORT OFFICER

D-11. The company commander ensures the FSO clearly understands the intent and desired effects for the company's scheme of fires and scheme of movement and maneuver. The scheme of fires paragraph (subparagraph 3e of the OPORD) together with the scheme of movement and maneuver, describes how the company accomplishes the mission and meets the battalion commander's intent. The scheme of fires provides the sequence of fire support tasks and outlines the who, what, where, when, and why for each fire support task needed for the operation.

D-12. While the company commander develops and refines the tactical plan, the commander and FSO concurrently develop and refine the fire support plan. Once determined, fire support tasks are placed in the fire support planning channels as soon as possible to be processed at the battalion fire support cell or field artillery FDC. Regardless of the planning method used, the company fire support plan includes—

- Target number and location.
- Description of the expected target.
- Primary and alternate persons responsible for shooting each target.
- Amount of effect required and purpose.
- Radio frequency and call sign to use in requesting fires.
- When to engage the target.
- Priority of fires and shifting of priority.
- Size, location, code word, and emergency signal to begin FPFs.

D-13. The FSO does most of the technical aspects of the company's fire support plan; however, the FSO may receive targets and target information from platoon leaders and the battalion FSO. The company commander and FSO should not plan too many targets. The number of targets planned by the company and included in the formal fire support plan depends upon the company's priority for fire support and the number of targets allocated to them. The total number of targets in the fire support plan or the battalion and company mortar plan might be constrained. An excessive number of targets tends to dilute the focus of fire planning and can lead to increased response times.

D-14. Informal planning continues with target locations being recorded on terrain sketches or the FSO's map or being stored in Advanced Field Artillery Tactical Data System for quick reference and transmission. Fire planning for the company mortars complements these plans; the primary constraint is normally ammunition availability and the ability to resupply mortar assets. Care must be taken to ensure that planning focuses on the critical fire support requirements identified by the company commander.

D-15. The company FSO completes the indirect fire plan and briefs the company commander on any updates. The company commander may alter the plan or approve it as is, but the commander makes the final decision. After the company commander approves the plan, the FSO makes sure the targets are passed to the battalion fire support cell where the fire plans are integrated into the battalion scheme of fires.

D-16. The commander and the FSO ensure platoon leaders are thoroughly familiar with the indirect fire plan. The FSO provides target overlays to the platoon leaders, FOs, and the commander. The FSO may disseminate the company fire support plan as a target list and a FSEM (see paragraph D-60). The FSO does this in sufficient time to allow subordinates to brief their platoons and sections. A good plan given with the company order is better than a perfect plan handed out at the LD.

COMPANY FIRE SUPPORT PLANNING

D-17. The company FSO (as does the battalion FSO) uses fire support planning questions to determine the commander's intent. The answers help the FSO prepare fire support plans and briefings. The FSO assists the commander in estimating the situation and in war-gaming to develop the commander's concept of the

operation. The FSO aggressively inputs fire planning as the scheme of maneuver is being developed to help achieve synchronization. The FSO does this by mentally employing all fire support assets along a proposed COA in concert with the company commander's other resources. While the commander fights through each action in the war-gaming process to determine factors critical to success, the FSO, in coordination with the battalion FSO, mentally considers the following factors:

- Attacking emerging targets with the most effective system.
- Determining the tasks and requirements for all fire support resources.
- Considering proper distribution of assets (focused mainly at MBCT and battalion echelon) for close support of maneuver elements, for counterfire, interdiction, and suppression of enemy air defenses.
- Visualizing fire support unit movements required to follow the battle flow.
- Considering fire support sustainment needs and their impact on the battle.
- Considering the use of fire support coordination measures and airspace coordinating measures.

Fire Support Planning Questions

D-18. Fire support planning questions are answered ensuring that fire support is coordinated with maneuver. Some questions are answered by the commander, however, most of the information comes from the battalion staff, the field artillery or mortar unit in support of the FSO's own expertise and experience. The following are some questions to determine the commander's intent for fire support:

- What is the task, for example, offensive, defensive, or stability task?
- What is the commander's concept of operation and intent?
- What is the company/battalion's area of operation?
- How are firing units to maneuver within the supported unit's area of operation?
- What is the enemy situation?
- Where are the known and suspected enemy locations?
- What is the most likely avenue(s) of approach?
- Where are the designated EAs?
- What is the priority of fires?
- What fire support assets provide the priority fires?
- Is there a shift in priority of fires planned?
- What are the priority targets?
- When is priority shifted to the next priority target?
- Where are special fires to be planned (obscurant, illumination, and scatterable mines)?
- Is there a requirement to adjust obscurant or illumination targets?
- Is there a requirement to register fire support assets?
- How are fire support vehicles (if available) to be used?
- What are the laser locator range finder and designator codes?
- What are the signals or events to commence special fires?
- What maneuver control measures have been established?
- Are any restrictive fire support coordination measures required?
- What additional fire support assets have been allocated (attached or in support) such as CAS, naval gunfire, or Army aviation?
- Are there any peculiar communications requirements?
- Are security forces forward and what are the fire support requirements for security forces?
- What are the future fire support plans?
- What is the succession of command?
- How much time is available?
- When and where is the rehearsal(s)?
- What type and how much mortar ammunition is available?
- What is the plan for ammunition resupply?
- For automated fire directions systems, what are the defeat criteria for different targets?
- What are the high-payoff target priorities for fire support?
- Where are the obstacles and how are they to be covered?
- What is the breaching plan?

- Have FPFs been allocated, where are they to be planned, and are they to be adjusted?
- What are the primary and alternate signals to fire the FPFs?
- How is logistical support for mortars accomplished?
- Who controls and positions mortars?

Note. Many of the questions should be submitted to the commander in the form of recommendations for their approval.

Fire Support Plan

D-19. The battalion scheme of fires states the fire support tasks and the purpose of each task, and the priorities for, allocation of, and the restrictions on these fires to subordinate units. The scheme of fires paragraph should include a subparagraph for each type of fire support involved. Appropriate fire support liaison representatives (if available) prepare their respective paragraphs in the battalion order. See Annex D (Fires), if published, as required. The scheme of fires paragraphs and the supporting annex (if any), target lists, schedules, matrices, or other documents within the battalion OPORD (or overlay with written instructions, an FSEM, and a target list) make up the fire support plan for the battalion.

Note. At brigade and higher levels, annexes, appendixes, and tabs are normally written to give more details concerning information in the OPORD. (See FM 6-0.) At battalion and lower, a formal written OPORD is often not produced. A fire support plan at battalion level may be an operation overlay with written instructions, an FSEM, and a target list.

D-20. The company FSO extracts information from the battalion's fire support plan to develop the company's fire support plan in accordance with the commander's concept of the operation and intent. During planning and the refinement of the company fire support plan, the FSO—

- Begins fire planning on receipt of the company's mission but before the briefing to the platoon FOs or the submission of targets by the platoon FOs.
- Plans target in-depth and other targets that were not planned by platoons but are required and within the company's AO.
- Coordinates with the battalion FSO and S-2 on all known, suspected, or likely enemy locations and advises the commander on enemy indirect fire support capabilities and limitations.
- Target lists are consolidated from the platoon FOs, the FSO resolves duplications, and forwards the target lists to the battalion FSO.

Note. The company target lists should consist of not more than three to five targets. When the number of targets is limited, the fire support plan is more manageable and can be better supported than a fire support plan with a lengthy target list.

- Distributes the consolidated target list to all FOs.
- Coordinates requests for additional fire support when the available fire support means at the company level are inadequate.
- Develops the company fire support plan and briefs the commander to obtain approval or further planning guidance and keeps the fire support plan current.
- Adjusts the fire support plan as required when intelligence and spot reports are received.
- Keeps the commander informed of the capabilities and limitations of all fire support assets that may be made available to the company and advises the commander on all fire support matters.
- Serves as both the field artillery liaison officer from the company and the representative to the battalion FSO and fire support cell.

Note. The absence of other liaison or staff officers does not relieve the FSO of their responsibility to keep the maneuver commander informed of all available fire support assets and to keep the field artillery units informed of the battalion plans and requirements.

- Advises and consults with other FO representatives, for example, joint fire observers; and supervises the operation of the company mortar section.
- Collects information from the various liaison officers, correlates that information, and informs the commander.

Note. As a minimum, this information should include the availability of fire support assets (command or support relationship), suitability, response time, and assigned priorities.

Quick-Fire Plan

D-21. In fire support planning and integration either through the Advanced Field Artillery Tactical Data System or manually, a quick-fire plan contains all the necessary elements for the rapid execution of fires. The company FSO, in coordination with the battalion FSO, uses standardized but flexible techniques to quickly prepare the fire support plan for a maneuver tactical task. The company commander must approve the quick-fire plan. The FSO develops targets and assigns target numbers to them. In quick-fire planning the FSO assigns targets (and possibly a schedule of fires) to the most appropriate fire support means available to support the operation. In fast-moving situations, targets may be developed or planned by the battalion FSO and passed to the company FSO. The battalion FSO coordinates fires while the company FSO orchestrates the fire plan. In this type of fire support planning, the available time usually does not permit evaluation of targets on the target list and consolidation with targets from related fire support coordination agencies. In a task using a quick-fire plan, field artillery may be directed to provide fire support to the maneuver company. This direct relationship simplifies planning and coordination between FSOs and the battery commander and the FDC. (See ATP 3-09.42, chapter 6 for a detailed discussion of quick-fire planning.)

Observer Positions

D-22. Ensuring that indirect fire can be called on a specific target, observers are designated and in the proper position. As the company plans indirect fire targets to support the mission and passes these down to the platoon, specific observers are positioned to observe the target and the associated trigger line or TRP. Any Soldier can perform this function if they understand the mission and have the communications capability and training. Once the target has been passed to the platoon or included by the platoon in the fire support plan, the platoon leader must position the observer and make sure they understand the following:

- The nature and description of the target they are expected to engage.
- The terminal effects required (destroy, delay, disrupt, limit, and so on) and purpose.
- The communications means—radio net, call signs, and FDC to be called.
- When or under what circumstances targets are to be engaged.
- The relative priority of targets.
- The method of engagement and method of control to be used in the call for fire.
- The purpose and location of the target; observers (primary and alternate); trigger; communications; and the resource providing the fires.

Linking Tasks to Purpose

D-23. A clearly defined purpose enables the company commander to articulate precisely how fires are to affect the enemy during different phases of the battle. This, in turn, allows the FSO to develop a fire support plan that effectively supports the intended purpose. The FSO can determine each required task (in terms of effects on target), the best method for accomplishing each task (in terms of a fire support asset and its fire capabilities), and a means of quantifying accomplishment. A carefully developed method of fire is equally valuable during execution of the fire support mission; it helps not only the firing elements but also the observers who are responsible for monitoring the effects of the indirect fires. With a clear understanding of the intended target effects, fire support assets and observers can work together effectively, planning and adjusting the fires as necessary to achieve the desired effects on the enemy (see table D-1). There are several types of targeting objectives associated with fire support tasks and provided examples show how the company commander might link a target task to a specific maneuver purpose in their order.

Table D-1. Target effect task and purpose

Target Task	*Maneuver Purpose*
Delay	Friendly forces use indirect fires to cause a function or action to occur later than the enemy desires.
Disrupt	Disrupting fires are employed to break apart the enemy's formation; to interrupt or delay their tempo and operational timetable; to cause premature commitment of their forces; or to force them to stage their attack piecemeal.
Limit	Indirect fires help prevent the enemy from executing an action or function where they want it to occur.
Destroy	Friendly forces use indirect fires to render an enemy formation ineffective.
Divert	Diverting fires are used to cause the enemy to modify their course or route of attack.
Screen	Screening fires entail the use of smoke to mask friendly installations, positions, or maneuver.
Obscure	Obscurant is placed between enemy forces and friendly forces or directly on enemy positions to confuse and disorient the enemy's direct fire gunners and artillery forward observers.

Final Protective Fire

D-24. *Final protective fire* is an immediately available prearranged barrier of fire designed to impede enemy movement across defensive lines or areas (JP 3-09.3). An FPF is a special type of priority target. An FPF target is normally assigned to the company or platoon that is covering the most dangerous avenue of dismounted approach or covering the most vital area. Most often this company or platoon also has priority of fire preventing conflict of missions. In some situations, however, one commander may have priority of fires while another has the FPF. This could occur when a security force has priority of fires initially, but the FPF target is assigned to a defending company. This requires close coordination between maneuver commanders, battalion and company FSOs, and the field artillery or mortar unit responsible for the fires. A specific amount of ammunition is always designated, prepared, and set aside for use with the FPF target. FPF ammunition may not be used on any other mission without specific authorization from the commander.

Field Artillery and Mortar Fires

D-25. In the fire support plan, an FPF is continuous artillery or mortar fires:

- Fired on a predetermined target.
- Fired at the maximum rate of fire until the firing unit is requested to stop, ammunition is exhausted, or the firing unit is forced to move.
- Allocated field artillery FPF.
- Allocated battalion mortar FPF.
- Authorized to shoot at the lowest maneuver commander level in whose area the FPF is placed or that commander's authorized representative.

D-26. The FIST has the responsibility to adjust in the FPF when the tactical situation dictates. The FIST may adjust one gun, or all guns designated to fire the FPF and cancel the FPF when it is no longer needed.

D-27. The mortar platoons normally have a single four-mortar FPF, but commanders may direct the platoons to prepare two, two-mortar FPFs. This should be done only if terrain dictates the need for more FPFs than has been allocated and only after seeking additional field artillery allocations.

D-28. Table D-2 on page 204 provides fire planning data for field artillery and mortar FPFs. The FPF approximate widths in the table are neither precise nor restrictive. The sheaf can be opened or closed to cover the specific terrain on which the FPF is located. The FPF approximate depths in the table are derived from data on the bursting diameter of rounds (see ATP 3-09.32). The bursting diameter of a high explosive (also called HE) round is generally considered to be twice the distance from the point of impact at which the round reliably places one lethal fragment per square meter of target.

Table D-2. Field artillery and mortar final protective fire planning data

SIZE	*NUMBER OF MORTARS OR GUNS*	*APPROXIMATE WIDTH (METERS)*	*APPROXIMATE DEPTH (METERS)*
120 mm	4	280	70
120 mm	2	140	70
81 mm	4	150	40
81 mm	2	80	40
60 mm	2	60	30
105 mm	3	105	35
105 mm	6	210	35
155 mm	3	150	50
155 mm	6	300	50
Legend: mm–millimeter			

Priority Target Versus Final Protective Fire

D-29. FPF differs from a standard *priority target*—a target, based on either time or importance, on which the delivery of fires takes precedence over all the fires for the designated firing unit or element (FM 3-09)—in that FPF is fired at the maximum rate of fire until mortars are ordered to stop or until all ammunition is expended. The RED for a given delivery system (see ATP 3-09.32) is a factor in how close the FPF can be placed in front of friendly front lines. Closer FPFs are easier to integrate into direct-fire FPLs. The high rate of fire achievable by mortars creates effective barriers of fire. The normal allocation of FPFs is identical to the allocation of priority targets (one for each battery/platoon and one for each mortar platoon). While firing FPFs, mortar sections are not normally allowed to cease fire and displace. Due to countermortar fires, they must take precautions to avoid or withstand countermortar fire when firing FPF.

Integration with the Final Protective Line

D-30. The company commander assigned an FPF is responsible for the positioning of the FPF and its integration with the FPL (when established). The FPL is a selected line of fire where an enemy assault is to be checked by interlocking fire from all available weapons and obstacles. During preparation, the FDC is responsible for fires plots, precomputes, and saves all firing data in support of the FPL as early as possible.

Integration with Direct Fire Weapons and Obstacles

D-31. When an FPF is allocated to a company, the commander designates the precise FPF location to best augment direct-fire weapons and obstacles. Figure D-1 shows how mortar FPFs (battalion and company) are positioned to integrate them into the direct-fire weapons and obstacles FPLs of the defender.

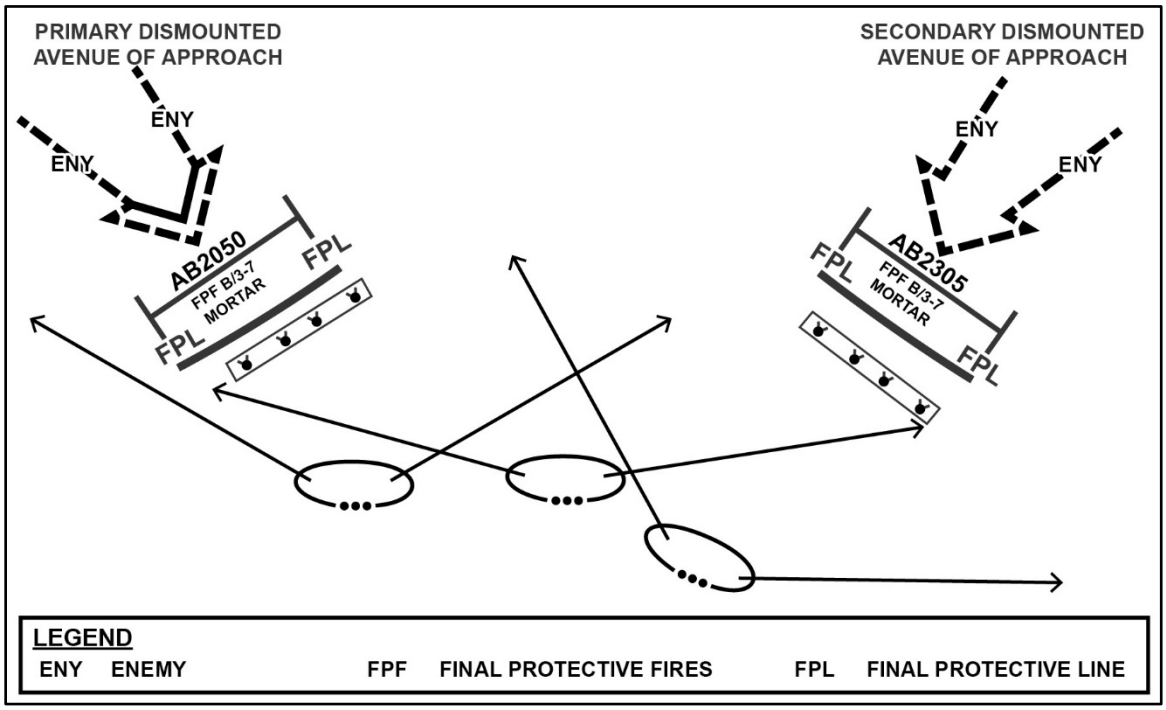


Figure D-1. Final protective line integration of fires and obstacles

D-32. As illustrated in figure D-1, mortar FPFs are normally targeted on an avenue of likely dismounted attack. FPFs can be any distance from the friendly position that fits into the commander's subordinate form of the defense (for example, a defense of a linear obstacle, perimeter defense, or reverse-slope defense) but are always within the range of organic direct-fire weapons, normally within 100 to 400 meters of friendly troops. The importance of accurate defensive fires and the proximity of friendly troops means that each mortar firing an FPF should be individually adjusted into place, normally using delay fuze settings and the creeping method of adjustment.

D-33. The company commander retains the authority to call for the mortar FPF to be fired or may delegate it to a subordinate. If the decision is delegated to a forward platoon leader, the leader directs the platoon's FO to transmit the request to fire the FPF directly to the FDC or through the company FSO. When the request is transmitted directly to the FDC, the platoon leader must inform the company commander that the FPF is initiated. The mortar section or platoon leader always informs the commander when the firing of the FPF is initiated.

D-34. As with any operation, the commander ensures alternate means of communication are established to support the execution of FPFs. Alternate means are established in addition to standard voice messages such as wire, runner, or visual signal. Once underway, FPFs are fired until ordered to terminate or until all mortar ammunition is gone.

D-35. High explosive ammunition with point detonating fuzes is normally used in firing the FPF. When planning FPFs, the mortar section leader, in coordination with the FSO, decides how many rounds to prepare, based on ammunition available and the control supply rate and sets them aside for immediate use. This allows mortars to quickly begin the FPF and maintain it without pausing to prepare rounds when the call for fire is received. Additional rounds can be prepared during the firing of FPFs if the ammunition requirement exceeds the quantity prepared.

Target Refinement

D-36. The commander is responsible for the employment of indirect fires within the company's assigned area of operation. A critical aspect of this responsibility is target refinement, in which the commander makes necessary changes to the fire support plan ensuring that targets accomplish the commander's intended

battlefield purpose. Rather than merely executing targets without regard to the actual enemy situation, the company commander and FSO adjust existing targets or nominate new targets that allow engagement of specific enemy forces.

D-37. Necessary refinements usually emerge when the commander war-games as part of step 6 (complete the plan) of TLP. The war-gaming process enables the commander to identify required additions, deletions, and adjustments to the battalion fire support plan. The company FSO then submits refinements to the battalion FSO for inclusion in the scheme of fires for the mission. (This is normally only the first step of target refinement, with the commander and FSO making further adjustments as the enemy situation becomes clearer.)

D-38. As a specific requirement in defensive planning, the commander focuses on target refinement within the company's AO, usually taking place as part of EA development. The commander makes appropriate adjustments to the targets based on refinements to the SITEMP such as the actual positions of obstacles and enemy direct fire systems.

D-39. Because fire support is planned from the top down, cutoff times for target nomination and target refinement are normally specified in the battalion OPORD. Commanders must ensure that nominations and refinements meet these deadlines to provide fire support planners with sufficient time to develop execution plans.

Tactical and Technical Triggers

D-40. The two types of triggers associated with a target are tactical and technical. The commander develops a tactical trigger for each target, then develops (or the FSO develops) the technical trigger. A tactical trigger is the maneuver-related event or action that causes the commander to initiate fires. This event can be friendly, or enemy based. The tactical trigger is usually determined during COA development. The technical trigger is the mathematically derived solution for firing the indirect fires based on the tactical trigger ensuring that the indirect fires arrive at the correct time and location to achieve the desired effects.

Note. Triggers can be marked using techniques like those for marking TRPs.

D-41. When selecting the tactical trigger, the commander, or designated observer, must be able to observe the enemy force or the event that is the tactical trigger if it is enemy driven; for example, when enemy forces occupy their defensive positions.

D-42. Several factors govern the selection and positioning of the technical trigger. Critical factors are the enemy's likely locations or rate of travel, and the time required for the enemy force to move from the technical trigger to the target area. Using this information, the commander can then select the technical trigger location based on the following considerations:

- The amount of time required to initiate the call for fire.
- The time needed by the fire support element to prepare for and fire the mission.
- The time required to clear the fires.
- Any built-in or planned delays in the firing sequence.
- The indirect fire rounds' time of flight.
- Possible adjustment times.

D-43. The commander can use an estimated rate of enemy movement, along with the information in table D-2 on page 204, to complete the process of determining the location of the technical trigger in relation to the target area. Table D-3 lists the response time required by field artillery assets to prepare for and fire various types of support missions. Trigger lines or points (used in this method) are usually employed as technical triggers to synchronize the effects of direct fires, countermobility efforts, and indirect fires in time and space, rather than trying to engage moving targets based on mathematical calculations. (See ATP 3-09.42.)

Table D-3. Artillery response times

SUPPORT MISSION	**RESPONSE TIME*
Grid or polar mission (unplanned)	5 to 7 minutes
Preplanned mission	3 minutes
Planned priority mission	1 to 2 minutes
*These are approximate times needed to process and execute calls for fire on normal artillery targets. Special missions may take longer.	

Ceasing or Shifting Fires

D-44. The commander establishes triggers for ceasing or shifting fires based on battlefield events such as the movement of enemy or friendly forces. One technique is the use of a minimum safe line when a friendly element, such as a breach force, is moving toward an area of indirect fires. As the element approaches the minimum safe line, observers' call for fires shift or cease, allowing the friendly force to move safely in the danger area.

Clearance of Fire

D-45. The commander is responsible for approving (clear) fires and their effects within the company's AO. Although the commander may delegate authority to coordinate and clear fires to the FSO, the ultimate responsibility belongs to the commander. The FSO normally helps the commander by making recommendations on the clearance of fires.

D-46. When the higher commander establishes ROE within the company's AO, the commander ensures they are followed through the operations process. ROE, especially during stability, often place limitations or prohibit the firing of certain types of indirect fires within the company's AO.

PREPARATION

D-47. Although the battalion and brigade commanders normally establish the majority of target tasks, purposes, and effects, and allocate appropriate fire support assets, the company commander is responsible to ensure assigned targets are executed successfully. In turn, successful execution demands thorough preparation at the company level. (See appendix B for a detailed discussion of preparation activities.) The commander's fire support preparation responsibilities, although not inclusive, include—

- Involving the company FIST in company- and battalion-level rehearsals.
- Making the company available for any separate fire support rehearsals.
- Rehearsing the company's FOs in the execution of targets.
- Using rehearsals to ensure primary and backup communications systems adequately support the plan.

D-48. Once the company develops and coordinates the fire support plan, it rehearses the plan. As the company rehearses the maneuver, it rehearses the fire plan. The target list is executed as the maneuver is conducted during rehearsal; fires are requested (though not actually executed by the firing units) just as they would be during the mission.

D-49. If time or conditions do not permit full-scale rehearsals, key leaders can meet, preferably at a good vantage point, and backbrief the plan. Rehearsals on like terrain can reveal any problems in visibility, communications, and coordination of the fire support plan.

D-50. Under ideal circumstances, FPF can be adjusted during the rehearsal. Conduct rehearsals under degraded conditions (for example, at night, in mission-oriented protective posture [MOPP] 4, with degraded or no communications) to make sure the company can execute the plan under different conditions.

D-51. Conduct a rock drill or use a sand table to—

- Show the plan to each participant, including the FSO, explaining what they do, where they do it, and how they plan to overcome key-leader casualties.
- Execute the fire plan as the company walks through/conducts the mission.
- Fire targets as required and adjust based on the anticipated enemy reactions.
- Cancel targets as friendly units pass them or they are no longer relevant to the maneuver.

SCHEME OF FIRES SUBPARAGRAPH

D-52. The scheme of fires subparagraph in the OPORD describes what fire support must accomplish to support the company's operation, clearly describing the logical sequence of fire support tasks and how each task contributes to the execution of the operation. The overall subparagraph organization mirrors that of the scheme of movement and maneuver subparagraph. When the scheme of movement and maneuver is phased or otherwise organized, the scheme of fires takes on the same organization.

Company Fire Support Task

D-53. A company fire support task is a task given to a fire support unit or organization that supports the commander's scheme of movement and maneuver. One or more fire support tasks may be developed for each phase of an OPORD. Taken together and considered sequentially the fire support tasks represent a summary of the scheme of fires supporting the OPORD. The scheme of fires paragraph (subparagraph 3e) in the OPORD must be concise but specific enough to clearly state what fires are to accomplish in the operation.

Internal Format for the Scheme of Fires

D-54. The internal format for the scheme of fires subparagraph includes the elements of task, purpose, and effect. (See table D-4.) The task states the supported company task and the type(s) of effects the firing unit must provide for that phase of the operation. The task describes what fire support must accomplish to support the mission. The effect identifies the desired result or outcome the delivered fires are to achieve (see FM 3-60). The purpose states the supported company commander's purpose and the desired end state for the targeted enemy formation, function, or capability. The purpose describes the why of the fire support task. In this case, the why is to disrupt the enemy's ability to affect the breach force. See appendix E for a detailed discussion on breaching operations.

Table D-4. Internal format for the scheme of fires subparagraph, example

COMPANY TASK, EXAMPLE			
When	Who	Where	What/Task and Desired Effect, When
0400	Company A	AB00054	Disrupt the ability of the enemy motorized infantry platoon at point of penetration to place effective direct fire against the breach force.
Why/Purpose			
To allow an Infantry rifle company to breach the obstacle without becoming decisively engaged by the motorized infantry platoon at the point of penetration.			

Observation Plan

D-55. In developing the observation plan to support the scheme of fires, the company commander and FSO ensure that both primary and alternate observers cover all targets and determine whether the desired target effects have been achieved. The plan provides clear, precise guidance for the observers. Perhaps the most important aspect of the plan is positioning. An observer's position must allow them to see the trigger for initiating fires as well as the target area and the enemy force on which the target is oriented; this is done to help the observer determine if the target effects have been achieved. The commander must also consider the observer capabilities, including any available systems. The observation plan must also include contingency plans that cover limited visibility conditions and backup communications.

COMPANY FIRE SUPPORT EXECUTION MATRIX

D-56. The company FSEM may be as simple as a hand-drawn matrix listing the platoons, PLs, and minimal necessary information. Figure D-2 and D-3 (on page 210) are two examples of company FSEMs. Using these types of formats, the FSO can depict fire support-related information for an operation together with the matrix. A format of these type might be used if a formal written OPORD or separate fire support annex were not prepared. The FSEM examples in figure D-2 and figure D-3 (on page 210) are illustrative only. Tailor the matrix preparation, format, and content to unit needs. Identify the FSEM preparation steps in local SOPs.

Event / Support Data/ Considerations	Event I	Event II	Event III	Event IV
	LD to 3d Platoon SBF 01	LD to 3d Platoon SBF 01	LD to 3d Platoon SBF 01	LD to 3d Platoon SBF 01
TARGET/GRID	AE0001 (PK10184938)	AE0002 (PK09005031)	O/O shift AE0001 to AE0003 (PK10204810) and lift AE0002.	O/O lift AE0003.
DELIVERY SYSTEM	120-mm HE	60-mm obscurant	120-mm	120-mm
OBSERVER/BACKUP	3d platoon will initially call for and adjust fires; FSO adjusts upon arrival at SBF; 3d platoon leader is backup.	FSO (primary)/ 3d platoon leader (backup).	AE0003: FSO (primary)/ 3d platoon leader (backup).	FSO (primary)/ 3d platoon leader (backup).
TRIGGER	Weapons company crosses PL Lynx.	On-call at SBF.	1st platoon crosses PL Lion.	2d platoon completes consolidation on OBJ Bob.
COMMUNICATIONS	Primary: Battalion FS NET FH800 Alternate: IBCT FS NET FH700	Primary: Company fire control NET FH800 Alternate: IBCT FS NET FH800	Primary: Battalion FS NET FH800 Alternate: IBCT FS NET FH700	Primary: Battalion FS NET FH800 Alternate: IBCT FS NET FH700
PURPOSE	Disrupt enemy on OBJ Bob to facilitate maneuver of 3d platoon to SBF position.	Obscure enemy to prevent interference with 1st platoon's breach.	Disrupt MRB reserve to protect the assault force (2d platoon).	Protect the assault force (2d platoon).

LEGEND

FS	FIRE SUPPORT	LD	LINE OF DEPARTURE	OBJ	OBJECTIVE
FSO	FIRE SUPPORT OFFICER	MM	MILLIMETER	O/O	ON-ORDER
HE	HIGH EXPLOSIVE	MRB	MOTORIZED RIFLE BATTALION	PL	PHASE LINE
IBCT	INFANTRY BRIGADE COMBAT TEAM	NET	NETWORK	SBF	SUPPORT BY FIRE

Figure D-2. Fire support execution matrix for a company combined arms breach, example

D-57. The advantage of the matrix is that it reduces the plan to one page and simplifies execution. The company FSEM also directs execution responsibilities and reduces the possibility that planned fires are not executed. The company commander is responsible for disseminating the FSEM. The commander and key subordinate leaders must understand the categories of targets, and how to engage those targets to create the desired result.

D-58. Figure D-3 shows a completed FSEM example of a company deliberate attack. In the TAA, a field artillery FPF is allocated for First and Second Platoons; Third Platoon has been allocated a mortar FPF; Second Platoon has priority of mortar fires from the LD to Checkpoint 7. From Checkpoint 7 to Objective Green, Third Platoon has been allocated a mortar priority target and has designated it as CA3017; Second Platoon is backup for execution. First Platoon has been allocated a mortar FPF; Second and Third Platoons have been allocated field artillery FPFs. At company level, information in each box of the matrix includes the following.

Priorities

D-59. Priorities of indirect fire support to a platoon appear in the upper left corner of the appropriate box. If a unit is allocated an FPF, the type of indirect fire means responsible for firing appears next to the indicator (field artillery FPF or mortar FPF). The target number of priority targets allocated to a platoon appear in the box preceded by the target, followed by the target number (MORTAR PRI TGT CA3014).

Initiating and Executing Fires

D-60. If the company FSO is responsible for initiating specific fires, the target number, group, or series designation is listed in the box for the FSO (CA3012). Specific guidelines concerning fires not included on the target list are included in that box. The alternate element responsible for the execution of specific fires is listed in the lower right-hand corner of the box (Second Platoon). If fires have not been initiated on time, that unit initiates them (unless ordered not to). Each fire support measure to be placed in effect, followed by a word designated for the measure, is shown in the box (cease fire line Chuck). For airspace coordination areas, the time for the arrival of the planned CAS or attack helicopters is listed (ACS [CAS]1400Z). Other factors that apply to a certain platoon during a specific time might be included in the appropriate box. General guidance is issued in the written portion of the OPORD.

	Assembly Area	Line of Departure	Check Point 7	Objective GREEN
Fire Support Officer	INITIAL PREP / 1st PLT	FIRE CA 3012 CFL CHUCK / 2d PLT	FIRE C1A GROUP / 3d PLT	ACS (CAS) 1400Z
1st Platoon	FA FPF	CFL CHUCK		MORTAR FPF
2d Platoon	FA FPF	MORTAR PRI TGT CA 3014 CFL CHUCK		FA FPF
3d Platoon	MORTAR FPF	CFL CHUCK	MORTAR PRI TGT CA 3107 / 2d PLT	FA FPF

LEGEND

ACS	AIRSPACE CONTROL SYSTEM	FA	FIELD ARTILLERY	PRI TGT	PRIORITY TARGET
CAS	CLOSE AIR SUPPORT	FPF	FINAL PROTECTIVE FIRE		
CFL	COORDINATED FIRE LINE	PLT	PLATOON		

Figure D-3. Fire support execution matrix for company deliberate attack, example

MORTARS

D-61. Mortars are high-angle, relatively short-range, high rate-of-fire, area fire weapons. Their mobility makes them well-suited for close support of maneuver and can be brought into action rapidly. Mortars are ideal weapons for attacking targets on reverse slopes, in gullies, in ditches, in built-up areas, and in other areas that are difficult to reach with low-angle fire. The proliferation of handheld (GPS) devices and the fielding of the new mortar fire control system partially compensates for the fact that mortar positions are seldom surveyed. The commander may specify mortar support for subordinate units by changing the command or support relationship, by assigning priority of fires or by assigning priority targets such as FPFs.

MORTAR EMPLOYMENT

D-62. Mortars, located in both the battalion and company level, act as both a killer of enemy forces and as an enhancer of friendly mobility. They provide commanders with responsive, organic indirect fire support at a higher rate of fire than field artillery units. Using mortars to suppress the enemy inhibits their fire and movement while allowing friendly forces to gain a tactical mobility advantage. The battalion mortar platoon and company section leaders work closely with their commanders and their FSOs to maximize mortar fires and ensure the mortars are integrated into the echelonment of fires. Additional employment considerations include the following:

- Mortars provide the maneuver commander with immediately available, responsive indirect fires in support of combat missions, and reinforce direct fires during close combat.
- Mortars are integrated with field artillery assets in an echelonment of fires.
- In the offense, mortars establish conditions for the maneuver elements in conducting their combat missions by:
  - Assisting in suppressing and fixing the enemy and providing close support fires during the assault.
  - Providing obscurants for screening and friendly movements.
  - Using heavy mortars to penetrate buildings and destroy enemy field fortifications.
- In the defense, mortars can—
  - Force the enemy in armored vehicles to button up.
  - Obscure their ability to employ supporting fires.
  - Deny use of defilade terrain.
  - Break up enemy concentrations and formations.
  - Separate enemy dismounted Infantry from their armored personnel carriers and accompanying tanks.
  - Destroy synchronization, reduce enemy mobility, and canalize enemy units into EAs.

COMPANY MORTAR SECTION

D-63. The Infantry rifle company's mortar section provides the commander with responsive, mobile, and lethal indirect fire. The mortar section's high-angle fires are invaluable against dug-in enemy troops and targets in defilade which are not vulnerable to attack by direct fires. The commander coordinates mortar fires with direct fire and other indirect fire weapons to defeat enemy forces. Mortar fires destroy an enemy, suppress their fire, reveal their movements, and obscure their ability to observe.

ORGANIZATION, EQUIPMENT, CAPABILITIES, AND LIMITATIONS

D-64. The company mortar section consists of two, three-Soldier light mortar squads. Each squad mans a single 60-mm (light) mortar. The senior squad leader is also the section leader and acts as the FDC point of contact with the second squad leader also acting as the FDC point of contact during split missions. The gunner and ammunition bearer completes the crew. Each squad is equipped with M224 or M224A1 mortar and fire control equipment. (See ATP 3-21.90 for additional information.)

Note. Ammunition-carrying capacity limits periods of firing for 60-mm (light) mortars organic to the Infantry rifle company. The capabilities of mortars and mortar munitions are summarized in ATP 3-09.32. (See ATP 3-21.90 for additional information on mortars and their capabilities.)

D-65. Company 60-mm mortar ammunition usually has to be carried to the firing point by Soldiers. The mortar section can only carry a very limited amount and therefore most ammunition is carried and dropped off by Soldiers in the rifle platoons. A key responsibility of the FIST and mortar section leader is to estimate the number of mortar rounds required for a mission. The section cannot expend all of its rounds prior to the mission's completion. Ammunition restrictions often have to be imposed for each target.

D-66. The company mortar section can be positioned between buildings, in confined areas, and on rough terrain. Light mortars are easy to conceal, can accompany raiding and counterattacking forces, can remain in position until the last moment, and can be moved with stealth. The location of a mortar section near rifle platoons makes communications by alternate means possible when conditions prevent radio contact with field artillery. The maneuverability of light mortars allows for sustained close fire support over the distances expected in close combat.

D-67. Obscuration, used at company level for illumination, may be scheduled or on-call. The commander may use friendly direct fire weapons and adjustment of indirect fires to illuminate areas of suspected enemy movement or to orient moving units. Within the company, internal smoke capabilities consist of mortars, M320 grenade launchers, and smoke pots. Smoke pots are the commander's primary means of producing small-area screening smoke while external smoke capabilities are required for long-term, large-area obscuration.

D-68. The mortar section can provide only limited security and when it does, the security requirement reduces its effectiveness. The mortar section usually has to establish fire points within a secured area provided by one of the rifle platoons or have security elements assigned to it.

COMMUNICATIONS

D-69. The company FSO can monitor three of four possible radio voice nets and three digital nets. The company's mission and priority determine the specific nets.

D-70. Company Command Net (voice and digital). Platoon leaders, company XOs, and attachments use this net to send reports, receive instructions, and request fires. Any Strykers, Bradleys, or tanks attached to the company monitor this net. This net also allows the FIST to monitor company missions and link them to the company commander, platoon leaders, and observers for planning and coordination. The company HQ is the net control station.

D-71. Battalion Mortar Fire Direction Net (voice). Observers may use this net to request fires of the battalion mortar platoon. Other stations on the net include the FIST HQ and the battalion FIST. The battalion mortar platoon is the net control station.

D-72. Battalion Mortar Fire Direction Net (digital). As necessary, the FIST sends fire missions to the supporting mortar platoon or section using this net.

D-73. Company Mortar Net (voice). Observers or the company FSO use this net to request fire from the company mortars.

D-74. Direct Support Battalion Fire Direction Net (voice and digital). Digital and voice nets are used for field artillery fire direction. The FIST uses this net to relay calls for fire through the battalion FIST to supporting artillery assets. The direct field artillery FDC is the net control center. The battery-level fire direction control and battalion FIST are also on this net.

Note. A quick-fire channel is established to link an observer (or other target executor) directly with a weapon system. Quick-fire channels might be either voice or digital nets. Quick-fire channels within an MBCT are normally established on field artillery or mortar nets. (See paragraph D-73.) These channels are designed to expedite calls for fire against high-payoff targets or to trigger preplanned fires. Quick-fire channels may also be used to execute fires for critical missions or phases of the mission and to link an observer with a battery or platoon FDC for counterreconnaissance fires. The FSO for the mission establishes a quick-fire channel and procedures based on the commander's intent and concept of operation.

ECHELONMENT OF FIRES

D-75. Understanding echelonment of fires is critical for the fire support plan to be synchronized effectively with the maneuver plan. The purpose of echeloning fires is to maintain constant and overlapping fires on an objective while using the optimum delivery system up to the point of its RED in combat operations or minimum safe distance in training. Echeloning fires provides protection for friendly forces as they move to and assault an objective, which allows them to get in close with minimal casualties. It prevents the enemy from observing and engaging the assault by forcing the enemy to take cover, which allows the friendly force to continue the advance unimpeded.

CONCEPT OF ECHELONING FIRES

D-76. The concept of echeloning fires begins with attacking targets on or around the objective using the weapons system with the largest RED. As the maneuver unit closes the distance en route to the objective, the fires cease or shift. This triggers the engagement of the targets by the delivery system with the next largest RED. The length of time to engage the targets is based on the rate of the friendly force's movement between the RED trigger lines. The process continues until the system with the smallest RED ceases or shifts fires and the maneuver unit is close enough to eliminate the enemy with direct fires or make its final assault and clear the objective.

D-77. The RED considers the bursting radius of particular munitions and the characteristics of the delivery system and associates this combination with a percentage for the probability of incapacitation of Soldiers at a given range. The munitions delivery systems include mortars, field artillery, helicopter, and fixed-wing aircraft. The RED is defined as the minimum distance friendly Soldiers can approach the effects of friendly fires without suffering appreciable casualties of 0.1 percent or higher probability of incapacitation. Commanders may maneuver their units within the RED area based on the mission; however, in doing so, they are making a deliberate decision to accept the additional risk to friendly forces. Before the commander accepts this risk, they should try to mitigate the probability of incapacitation. For example, maneuvering units into a defilade that provides some protection from the effects of exploding munitions.

WARNING

REDs are for combat use and do not represent the maximum fragmentation envelopes of the weapons listed. REDs are not minimum safe distances for peacetime training use.

D-78. The casualty criterion is the 5-minute assault criterion for a prone Soldier in winter clothing and helmet. Physical incapacitation means that a Soldier is physically unable to function in an assault within a 5-minute period after an attack. A probability of incapacitation value of less than 0.1 percent can be interpreted as being less than or equal to one chance in one thousand.

D-79. Using echelonment of fires within the specified RED for a delivery system requires the unit to assume some risks. The maneuver commander determines, by delivery system, how close fires are delivered in proximity to forces. The maneuver commander makes the decision for this risk level but relies heavily on the FSO's expertise. While this planning is normally accomplished at the battalion level, the company FSO has input and should be familiar with the process because the FSO must execute the same process with the company mortars. (See ATP 3-09.32, appendix H for information on REDs and appendix I for information on minimum safe distances.)

D-80. Commanders should integrate loitering munitions into their echelonment of fires to effectively strike high-payoff targets and enable friendly maneuver. By striking high-payoff targets such as C2 nodes, air defense systems, and artillery, loitering munitions degrade the enemy's ability to effectively C2 their forces and respond to friendly movements. This disruption creates windows of opportunity for friendly ground forces to maneuver and seize objectives with reduced risk. The ability of loitering munitions to provide organic, responsive, and precise fires at lower echelons empowers units to set conditions, seize the initiative within their assigned area, and maintain momentum.

SECTION II – AVIATION

D-81. Army aviation uses maneuver to concentrate and sustain combat power at critical times and places to find, fix, and destroy threat forces. Aviation units design, tailor, and configure their assets to support the company for specific operational support based on mission guidance and the specific area of responsibility in which the units operate. The organization could be a combination of attack reconnaissance, assault, lift, and maintenance units. (See FM 3-04 for more information.)

AIR-GROUND OPERATIONS

D-82. Air-ground operations are the simultaneous or synchronized employment of ground forces with aviation maneuver and fires to seize, retain, and exploit the initiative. Employing the combined and complimentary effects of air and ground maneuver and fires through air-ground operations presents the enemy with multiple dilemmas and ensures that aviation assets are position to support ground maneuver. Air-ground operations increase the overall combat power, mission effectiveness, agility, flexibility, and survivability of the entire combined arms team.

D-83. Air-ground operations ensure that all members of the Army combined arms team and overall joint force, whether on the ground or in the air, work toward common and mutually supporting objectives to meet the joint commander's intent. The following are some considerations for the company commander when receiving aviation assets:

- Exchange of frequencies, call signs, and FM check-in times.
- Terrain model and radio rehearsals.
- Location of air corridors and air control points.
- Location of aerial attack by fire, support by fire, or BPs.
- Identification method for marking ground targets.
- Aircraft weapons configuration and station times.
- Friendly recognition symbols for aircraft and ground vehicles.
- Fire coordination measures.
- Location and marking of LZs and PZs for MEDEVAC, CASEVAC, and aerial resupply.

FUNDAMENTAL CONSIDERATIONS

D-84. Air and ground forces must integrate effectively to conduct operations and to minimize the potential for fratricide and civilian casualties. Integration is the arrangement of military forces and their actions to create a force that operates by engaging as a whole, maximizing combat power through synergy of both forces. The integration of air operations into the ground commander's scheme of maneuver may also require integration of unified action partners. *Unified action partners* are those military forces, governmental and nongovernmental organizations, and elements of the private sector with whom Army forces plan, coordinate, synchronize, and integrate during the conduct of operations (ADP 3-0). Integration continues through planning, preparation, execution, and assessment. The MBCT and Infantry battalion commander and staffs, and subordinate unit commanders and leaders consider the following framework fundamentals to ensure effective integration of air and ground maneuver forces:

- Understanding capabilities and limitations of each force.
- SOPs.
- Habitual relationships.
- Regular training events.
- Airspace management.
- Maximizing and concentrating effects of available assets.
- Employment methods.
- Synchronization.

FIRE SUPPORT TEAM AND OBSERVERS

D-85. Company FIST HQ personnel and platoon FOs provide support to the Infantry rifle company to plan and coordinate all available supporting fires, including mortars, field artillery, naval surface fire support, Army attack aviation, and joint/coalition CAS integration. Attached FISTs provide maneuver companies with

fire support coordination, precision targeting, type 2 and 3 terminal attack control, and effects assessment capabilities. The use of precision target location tools is the preferred method of establishing accurate target location. These tools include a targeting device or a precision targeting device, a forward entry device, and imagery-based mensuration tools. The observer may have an optical device using a laser range finder for distance and an Azimuth Vertical Angle Module to acquire direction and vertical angle. Each FIST's fire support vehicle, if provided, possesses a target acquisition and communications suite with the capability for laser range finding and designation for laser-guided munitions. (See ATP 3-09.42 for additional information.)

Qualified Observers

D-86. Effective fires require qualified observers to call for and adjust fires on located targets. FOs, forward air controllers, naval gunfire spotter teams, JTACs train together and work effectively as a team to request, plan, coordinate, and place accurate fires on targets that create the effects desired by the commander. (See JP 3-09 for additional information.)

Forward Observer

D-87. A *forward observer* is an individual operating with front line troops trained to adjust ground or naval gunfire and pass back battlefield information (JP 3-09). In the absence of a *forward air controller*—an officer (aviator/pilot) member of the tactical air control party who, from a forward ground or airborne position, controls aircraft in CAS of ground troops (JP 3-09.3)—the observer may control CAS strikes. Platoon FOs are assigned to the FIST supporting each rifle company in the Infantry battalion. Forward air controllers (airborne), JTACs, and naval gunfire spotter teams may not always be available when and where their support is required. Field artillery observer teams must be proficient in planning and executing CAS when a JTAC is not available. With additional training and certification, the FO can qualify as a joint fires observer. (See ATP 3-09.42 for additional information.)

Joint Fires Observer

D-88. A *joint fires observer* is a certified and qualified Service member who requests, controls, and adjusts surface-to-surface fires; provides targeting information in support of close air support; and performs terminal guidance operations (JP 3-09.3). The joint fires observer is not an additional Soldier in the Army fire support organization, but rather an individual who has received the necessary training and certification to be awarded the joint fires observer's additional skill identifier. A joint fires observer is not a certified JTAC.

D-89. *Terminal attack control* is the authority to control the maneuver of and grant weapons release clearance to attacking aircraft (JP 3-09.3). *Terminal guidance operations* is actions using electronic, mechanical, voice or visual communications that provide approaching aircraft or weapons additional information regarding a specific target location (JP 3-09). A *joint terminal attack controller* is a qualified (certified) Service member who, from a forward position, directs the action of combat aircraft engaged in close air support and other offensive air operations (JP 3-09.3). A qualified and current JTAC is recognized across the Department of Defense as capable and authorized to perform terminal attack control.

D-90. Air Force JTACs, if available from the battalion Air Force tactical air control party, can deploy forward with a maneuver company and position where they can best support the operation. JTACs provide the commander and the subordinate and supporting units with recommendations on the use of CAS and its integration with ground maneuver and other attack resources and also perform terminal attack control of individual CAS missions.

D-91. A *forward air controller (airborne)* is a specifically trained and qualified aviation officer, normally an airborne extension of the tactical air control party, who exercises control from the air of aircraft engaged in close air support of ground troops (JP 3-09.3). A qualified and current forward air controller (airborne) is recognized across the Department of Defense as capable and authorized to perform terminal attack control. (See JP 3-09.3 for additional information.)

Untrained Observers

D-92. An untrained observer is anyone who is not military occupational specialty qualified in requesting and adjusting indirect fire. Often these are critical requests where the requestor is under fire. For more information on untrained observer procedures, see TC 3-09.81. (For more on observers see ATP 3-09.42 and ATP 3-09.30.)

ARMY ATTACK AVIATION

D-93. During the planning process, Army aviation attack and reconnaissance units are integrated into the company's scheme of maneuver to ensure responsiveness, synergy, and agility during actions on the objective or upon contact with the enemy. Pre-mission development of control measures provides a foundation for the successful integration of Army aviation into company operations. Among these control measures are engagement criteria; the triggers and conditions for execution; fire support coordination measures, such as EAs and TRPs; and airspace coordinating measures, such as aerial ingress and egress routes and *restricted operations zone*, which is airspace reserved for specific activities in which the operations of one or more airspace users is restricted (JP 3-52).

ATTACK AVIATION CALL FOR FIRE

D-94. *Call for fire* is a standardized request for fire containing data necessary for obtaining the required fire on a target (FM 3-09). Army attack aviation targets are planned on probable enemy locations. Army attack aviation call for fire is a coordinated attack by Army attack aircraft against enemy forces near friendly units. Army attack aviation call for fire (see figure D-4) is not synonymous with CAS flown by joint and multinational aircraft. Terminal control from ground units or controllers is not required due to aircraft capabilities and enhanced situational understanding of the aircrew. Depending on the enemy situation, Army attack aviation can be on station during times when contact is most likely to occur. Air-ground integration ensures frequencies are known and markings are standardized to prevent fratricide.

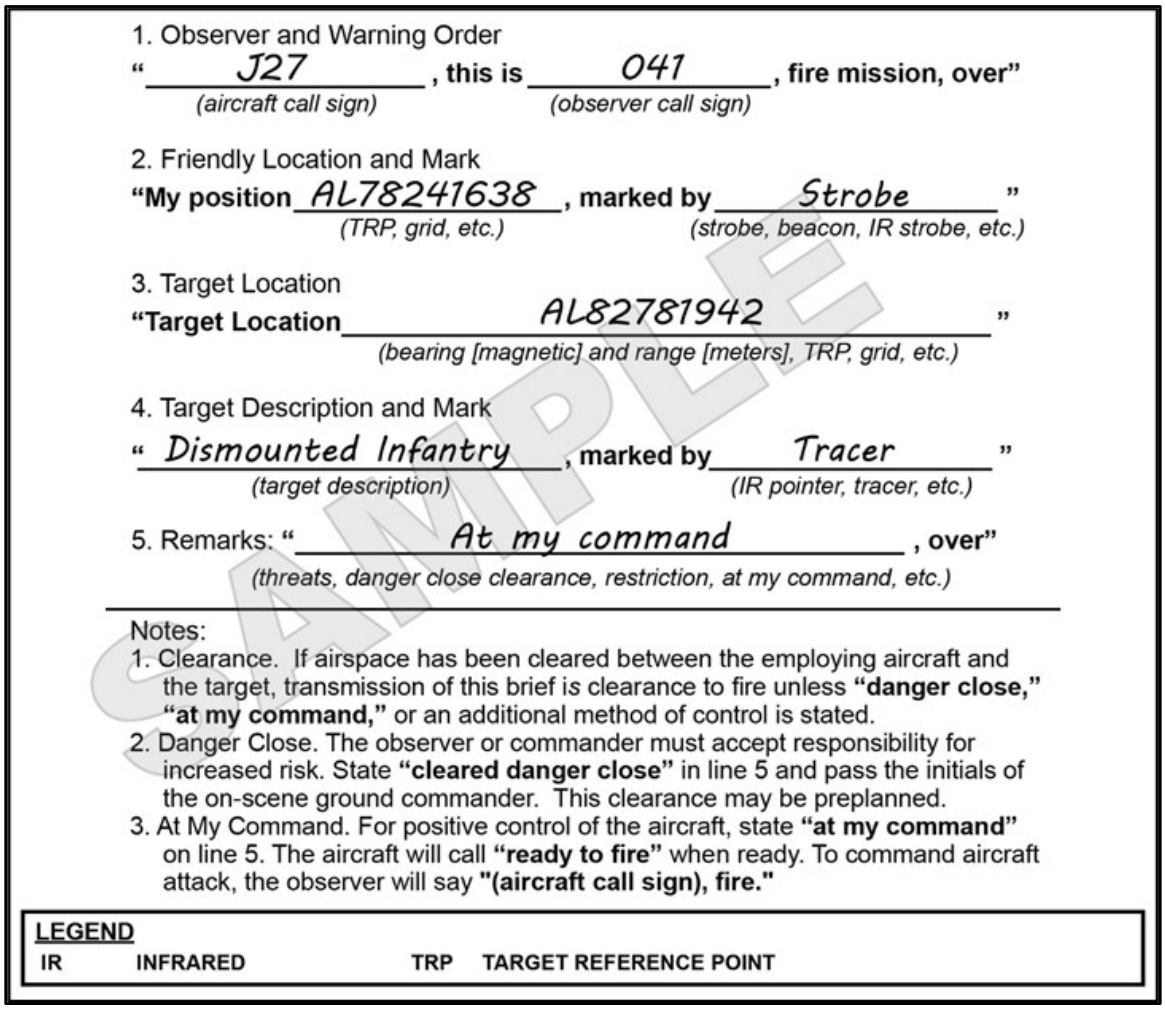


Figure D-4. Army aviation attack request call for fire format

D-95. During call for fire, the flight lead must have direct communication with the on-scene ground commander to provide direct fire support. After receiving the call for fire brief from ground forces, pilots must be able to positively identify friendly locations before engagement. Once the crew has identified both enemy and friendly locations, flight leads formulate an attack plan and brief the supported commander and their other attack team members.

UNMANNED AIRCRAFT SYSTEM EMPLOYMENT

D-96. When feasible, echelon-specific UAS employment provides an information collection (specifically R&S) capability prior to the operation. UAS employment enables SA during the operation and can monitor and track movement in areas of key interest. Commanders use a UAS prior to and during the operation—

- To gain knowledge on known or suspected enemy locations.
- To reconnoiter an area, route, or zone.
- To observe or monitor otherwise unobservable areas (such as defilade, cracks, crevices, and other concealed areas).
- To provide security and fires (echelon-specific UAS [to include firing] platform).
- Support security for OPs, combat outposts, raids, and patrols.
- To disrupt enemy radio communications.
- To deceive or divert the enemy through tactical deception.

D-97. UAS capabilities from higher echelons may be available for battalion-level and below operations, though coordination is generally required well in advance. Often these systems are used for preplanned operations rather than opportunity type missions and require 72- to 96-hour pre-coordination. The employment of echelon-specific UAS platforms, (for example, organic or tasked to the Infantry rifle company) depends on the situation. Employment advantages and disadvantages at each echelon determine the system's employment.

D-98. Conditions affecting UAS employment include rain, fog, snow, wind, and other weather-related situations. These systems are easily detected and are prone to interference from enemy jamming. When other aviation assets are operating in the area, ground forces must alert aerial platforms controllers to the current location and altitude of tactically operated UASs. Coordination and communication with higher HQ ensure aircrews are alerted to airspace restrictions as they arise for UAS use.

D-99. In mountainous terrain, where weather conditions can vary abruptly and easily crash a UAS, commanders may decide risk of loss is too great to warrant their employment. Depending on mission requirements, downed systems may have to be recovered. The recovery of a downed UAS in adverse terrain can be slow and arduous and expose recovery teams to enemy actions. (See ATP 3-04.1 for additional information.)

LOITERING MUNITION

D-100. A loitering munition, often associated with UAS employment in contested environments, is an air-launched, sensor-enabled munition capable of autonomous or operator-directed engagement. UAS-equipped loitering munitions are typically launched from a handheld or vehicle-mounted canister, programmed to loiter in a designated airspace, and engage high value or time-sensitive targets based on visual or GPS-cued confirmation. An on-board sensor-based system (with munition) with extended endurance and/or maneuverability; can be controlled by a user or perform an engagement autonomously.

D-101. Loitering munitions are systems designed to loiter over a designated area, use on board sensors to identify and track targets, and then execute a precision strike by crashing into them. This approach offers tactical flexibility, allowing for rapid engagement of fleeting or concealed targets with a high degree of precision. Tactical uses of loitering munitions are:

- Suppression of enemy air defenses (also called SEAD).
- Counter-artillery and antiarmor.
- Strikes on high value and moving targets.
- Swarm tactics.

LAUNCHED EFFECTS

D-102. Launched effects are air- or ground-launched UAS variants that support collaborative sensing, EW, communications relay, and precision targeting missions. They are characterized by their ability to operate as part of a "swarm" or networked team of manned and unmanned assets. Launched effects systems are often equipped with mission-adaptive payloads such as radio frequency jammers, cameras, or chemical sensors. Launched effects enable—

- Extend R&S.
- Target acquisition of high value targets.
- Employ decoy or deception.
- Deliver loitering munitions during high-risk or denied access operations.
- EW (jam enemy communications and disrupt radar systems).

CLOSE AIR SUPPORT

D-103. Infantry battalions' distributed CAS sorties may further distribute assets to individual rifle companies. *Close air support* is air action by aircraft against hostile targets that are in close proximity to friendly forces and that require detailed integration of each air mission with the fire and movement of those forces (JP 3-09.3). CAS can be employed to blunt an enemy attack; to support the momentum of the ground attack; to help set conditions for battalion and MBCT operations as part of the overall counterfire fight; to disrupt, delay, and destroy second-echelon forces and reserves; and to provide cover for friendly movements.

The effectiveness of CAS is related directly to the degree of local air superiority attained. Until air superiority is achieved, competing demands between CAS and counterair operations may limit sorties apportioned for the CAS role.

D-104. The battalion can request CAS, receive immediate CAS to support company-level operations, or accept execution responsibility for a planned CAS mission. CAS is another means of indirect-fire support available. In planning CAS missions, the commander must understand the capabilities and limitations of CAS and synchronize CAS missions with the battalion fire plan and scheme of maneuver. CAS capabilities and limitations such as windows for use, targets, observers, and airspace coordination present some unique challenges, but the commander must plan CAS with maneuver the same way indirect artillery and mortar fires are planned. When executing a CAS mission, the battalion must have a plan that synchronizes CAS with maneuver and the scheme of fires of maneuver companies.

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Appendix E

Mounted Operations

Throughout history, success in battle has gone to the commander who can build and effectively fight combat organizations with the right blend of mobility, firepower, and protection. Dependent on the mission variables, the Infantry rifle company may be task-organized with Armored tanks (M1 Abrams and M2 Bradley fighting vehicle) or M1126 Stryker Infantry carrier vehicle elements or be task-organized within the Armored brigade combat team (also called ABCT) or Stryker brigade combat team. The tactical situation in these cases determines the mixture and command relationship (attached versus operational control). The Infantry rifle company commander might be given the mission to conduct mounted operations to increase the company's tactical mobility, and/or to increase the company's firepower or protection.

EMPLOYMENT OF MOUNTED PLATFORMS

E-1. The Infantry rifle company within the Infantry battalion can be task-organized as part of, or with elements of an Armored brigade combat team and Stryker brigade combat team. To employ any unit effectively, commanders and subordinate leaders must understand the specific capabilities and limitations of the Armored or Stryker force and its equipment. The most important considerations for the Infantry rifle commander are an appreciation for the differences in the perspective, with which the force views the battlefield, and how the Infantry force communicates effectively with the Armored or Stryker force. Most Armored and Stryker vehicles are equipped with the same types of radios employed by an Infantry force but only leaders' combat vehicles have more than one radio. Careful consideration must be given to how Infantry forces communicate with the Armored or Stryker force. (For additional information on the Abrams, Bradley fighting vehicle, and Stryker, see ATP 3-20.15, ATP 3-21.71, and ATP 3-21.9 respectively.)

E-2. The Infantry rifle company fights as part of a combined arms team. Armored and Stryker employment provide unique capabilities to the company and must be considered during the planning and preparation. Keys to the employment of these mounted platforms include the following.

CAPABILITIES

E-3. Generally, Armored and Stryker vehicles can contribute to the dismounted battle by—

- Providing suppressive fires and a mobile base of fire for dismounted Infantry.
- Using their stabilized gun systems (armored only) to provide accurate direct fires while moving.
- Assisting the Infantry in executing an assault with their speed and shock effect.
- Providing effective AT fires.
- Providing limited mobility to the dismounted force.
- Using their technical assets to aid in target acquisition and ranging at long distances, day or night.
- Providing additional communication assets.
- Maneuvering rapidly to counter threats.

LIMITATIONS

E-4. Armored and Stryker vehicles have the following limitations and vulnerabilities that affect their employment:

- They are vulnerable to AT guided missiles, guns, mines, tanks, and aircraft.
- They require daily resupply of petroleum, oil, and lubricant products in large quantities.
- They require extensive maintenance, skilled operators, and mechanics.
- Their movement may be restricted by obstacles and soft ground.
- Their observation is restricted when buttoned-up.

- There is restricted turret traverse in close terrain.
- There is a limited amount and type of ammunition.

COMBINED ARMS MISSIONS

E-5. Armored and Stryker elements are normally employed under the battalion's scheme of maneuver. They may work with the company to concentrate combat power, isolate enemy positions, or attack enemy base camps. They may also escort convoys through terrain occupied by enemy forces. Leaders must know what mounted and Infantry forces can do for each other. They must know how to communicate by radio, phone, and visual signals.

- Infantry helps Armored and Stryker forces by—
  - Finding, breaching, or marking AT obstacles.
  - Detecting, destroying, or suppressing enemy AT weapons.
  - Designating targets.
  - Protecting Armored forces in close terrain.
- Armored and Stryker forces help Infantry by—
  - Leading Infantry in open terrain.
  - Providing a protected and fast-moving assault weapons system.
  - Suppressing and destroying enemy weapons, bunkers, and tanks.
  - Providing transportation when the situation permits.

MOVEMENT TO CONTACT

E-6. The Infantry rifle company team uses standard movement techniques (traveling, traveling overwatch, and bounding overwatch). When conducting an MTC with Armored and Stryker forces—

- Mounted forces may follow and provide overwatch for the Infantry rifle platoons in traveling or traveling overwatch at a distance determined by the terrain and visibility.
- Mounted forces may lead in traveling or traveling overwatch when speed is required and when in open terrain.
- Mounted forces normally use (platoon) bounding overwatch when they lead.
- Infantry units may ride with the overwatching mounted vehicle section to provide security at halts, and to clear danger areas when mounted forces lead.
- Mounted forces are normally part of the overwatch element when the unit conducts bounding overwatch.
- Vehicles, especially tanks, may be the bounding element in open terrain.

ATTACK

E-7. All attacks involving Armored and Stryker forces and Infantry must be well-planned, thoroughly coordinated, and fully rehearsed. The communications procedures require special considerations to ensure mutual support and flexibility.

Attack on Converging Routes

E-8. In this method, the Armored force and dismounted Infantry move on separate routes that meet on the objective. Armored forces may first support the Infantry by fire, then close on the objective in time to assault it with the Infantry. This may require the Infantry to breach obstacles and destroy certain antiarmor systems to help the Armored force reach the objective. Tanks are the only Armored forces that should assault the objective unless the enemy has no antiarmor capability.

Attack on Same Route

E-9. When mounted forces and dismounted Infantry attack on the same route, the two elements may move at the same speed or at different speeds. The two forces use the same speed when there are no good overwatch positions or when there is a need for close mutual support. For example, mutual support might be required when the enemy has AT weapons and tanks, but when their locations are unknown. When attacking at the same speed, the Infantry might be slightly ahead, but not directly in front of even with, or just to the rear of, the mounted force.

Note. This method should be avoided except in close terrain where mounted vehicles need close-in security and the Infantry require close support, such as moving in dense vegetation or urban terrain. Otherwise, both the Armored and Infantry are extremely vulnerable.

E-10. They move using different speeds when there are obstacles that their Infantry must clear for the mounted force, or when the route offers good cover and concealment for the Infantry but not for the mounted force. In these cases, the mounted force (first) provides support by fire while the Infantry moves to its assault position. The mounted force then moves forward to assault with the Infantry. However, the mounted force might lead the Infantry against an enemy that is being suppressed, lacks well-prepared positions with overhead cover, or presents no great antiarmor threat.

Mounted Force Support by Fire

E-11. This method is used when obstacles prevent the mounted force from closing on the objective. The mounted forces occupy positions where they can support the attacking dismounted Infantry (see figure E-1). As soon as the obstacles are breached or a suitable bypass is found, the mounted force rejoins the Infantry.

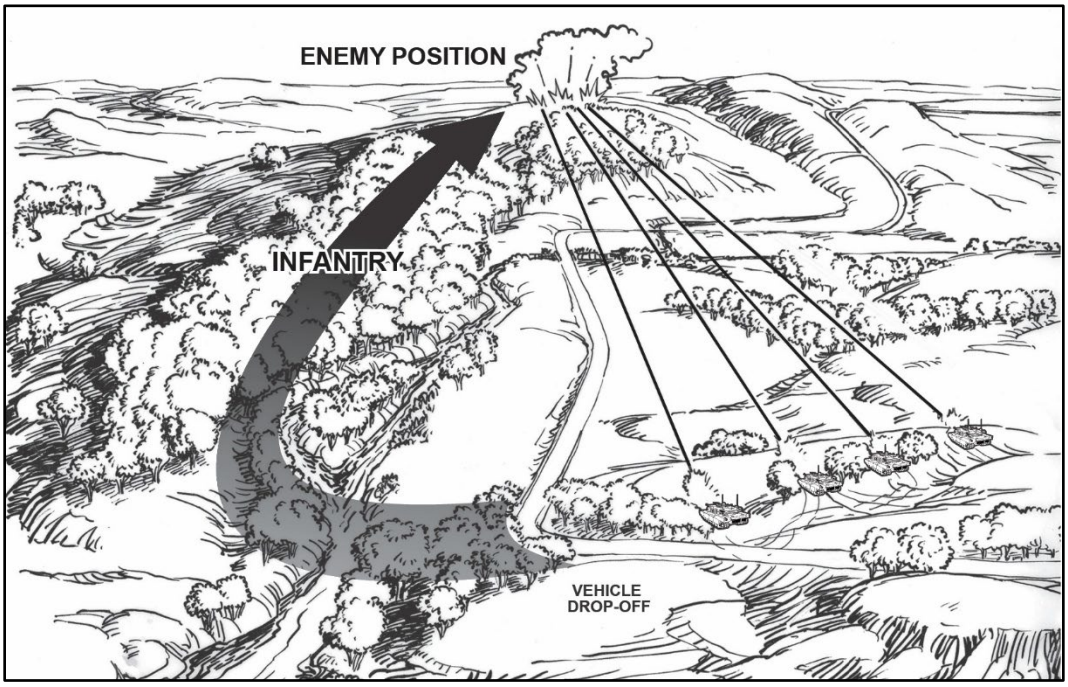


Figure E-1. Mounted forces support by fire

AREA DEFENSE

E-12. Mounted forces add strength, depth, and mobility to the defense. The company commander may initially position them forward to engage the enemy at long ranges and then move them back to cover armor approaches. However, the commander must move the vehicles where needed to concentrate fire against an enemy attack. The commander should also use them to add strength to the counterattack force.

E-13. The commander may temporarily position their mounted forces (with Infantry for security) forward of the company's defensive positions. When deployed, they can force the enemy to deploy early. This forward deployment may deceive the enemy as to the location of the company's defensive positions. As soon as the enemy is close enough to threaten them, the mounted force must withdraw to their defensive positions.

E-14. There are two basic ways for the defending Infantry company commander to employ mounted forces. In both, the commander selects their general positions and sectors of fire. The mounted forces leader advises the commander and selects the exact positions and controls fire and movement. The first method is to integrate the mounted force throughout the company defense, both laterally and in-depth, to cover Armor TAAs (see figure E-2). This might be done when there are only a few good firing positions or when the terrain restricts fast vehicle movement. Each vehicle should have mutual support with at least one other vehicle. The mounted force remains under control of the mounted force leader.

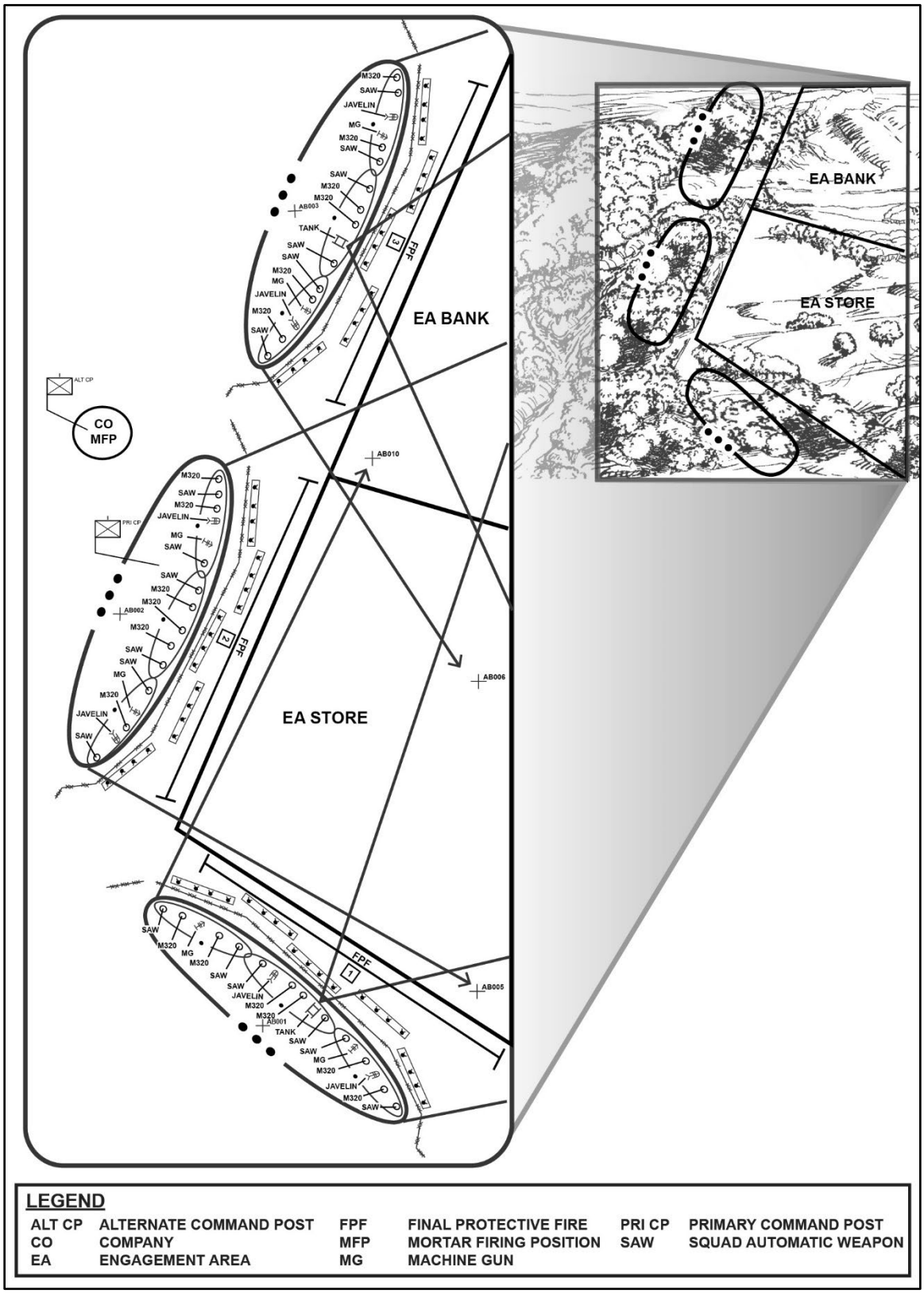


Figure E-2. Mounted forces integrated throughout position

E-15. The second method of employing the mounted force is to hold them in a position behind the forward Infantry platoons (see figure E-3). This might be done when there are several Armor assembly areas in the company AO. However, there must be sufficient vehicle firing positions and routes to them. When the enemy appears, the mounted force moves to forward or flank firing positions, allowing quick concentration of the vehicles at a critical point to repel an attack. The commander should determine their decision points and criteria for initiating the mounted unit's move. The leader of the mounted unit must know when to move in case communication is not possible.

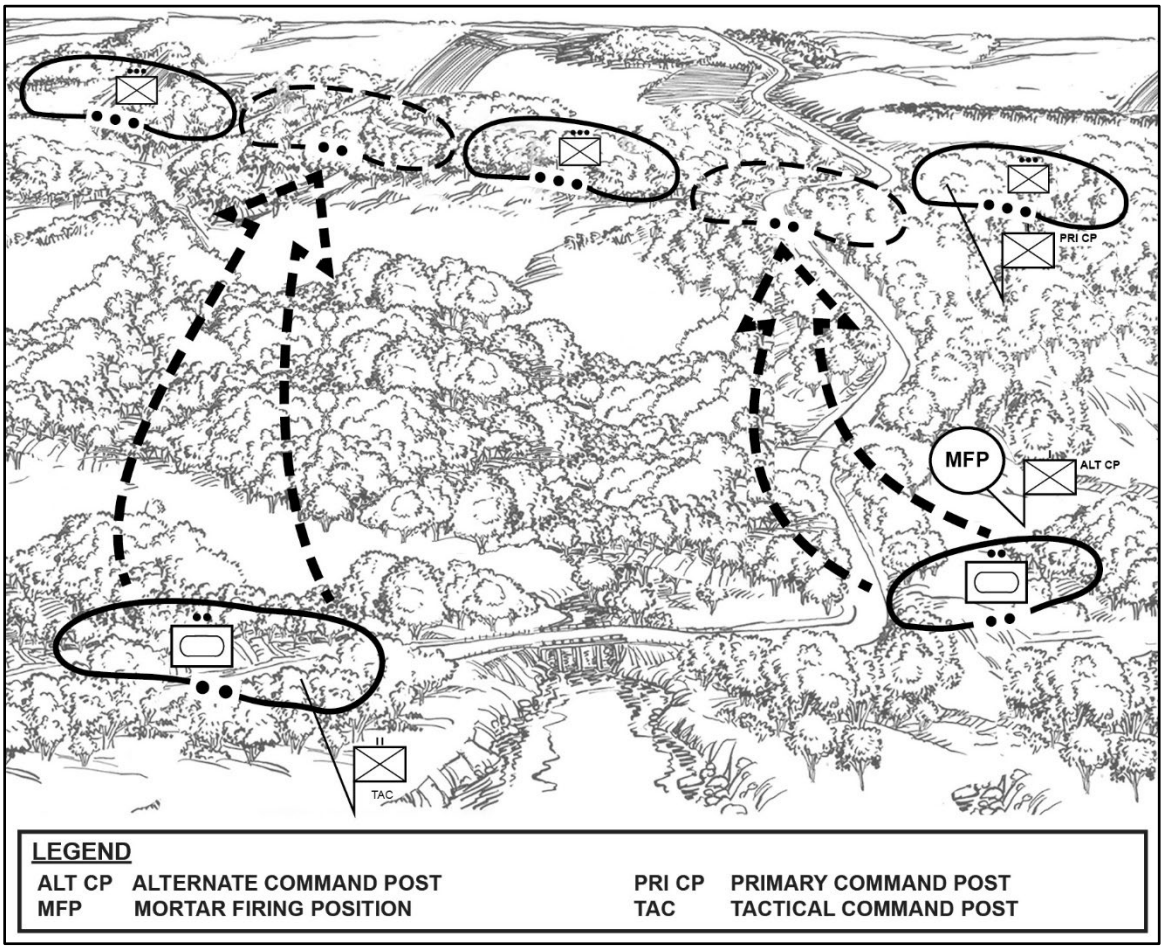


Figure E-3. Mounted force positioned as a counterattack force

Appendix F
Combined Arms Breaching

A combined arms breach is a complex operation with many moving parts. Combined arms breaching employs all warfighting functions and their supporting systems and multiplies the effectiveness of breaching operations. Combined arms breaching organizations accomplish their mission by synchronizing the warfighting functions to execute forms of maneuver. Breaching operations require detailed planning, preparation, and execution, and continuous assessment throughout the operations process. Effective breaching operations allow the company to maneuver in the face of obstacles. This appendix provides a brief overview of combined arms breaching operation types, areas, and tenets, and includes a discussion on deliberate and hasty breaching operations. (See ATP 3-21.20 and ATP 3-90.4 for information.)

SECTION I – OVERVIEW

F-1. A *breach* is a tactical mission task in which a unit breaks through or establishes a passage through an enemy obstacle (FM 3-90). As a tactical mission task, a breach is an action by a friendly force conducted to allow maneuver despite the presence of obstacles. During maneuver, the commander attempts to bypass and avoid obstacles and enemy defensive positions to the maximum extent possible to maintain tempo and momentum. Breaching enemy defenses and obstacle systems is normally the last choice. The breach begins when friendly forces detect an obstacle and begin to apply the breaching fundamentals, and ends when battle handover has occurred between follow-on forces and a unit conducting the breach. See ATP 3-21.8 for information on the conduct of breaching within the Infantry rifle platoon and squad and Battle Drill 8 (07 PLT-D9412).

F-2. A *breach* is a synchronized combined arms activity under the control of the maneuver commander conducted to allow maneuver through an obstacle (ATP 3-90.4). When breaching operations are required to support an attack along the continuum from a deliberate to a hasty attack, regardless of where the attack falls along the continuum, the breaching tenets apply. Breaching activities include shaping of the OE, the reduction of minefields, other explosive hazards, and other obstacles. Breaching at battalion and above (and to a lesser degree at company level) requires significant combat engineering support to accomplish.

F-3. *Reduction* is the creation of lanes through a minefield or obstacle to enable passage of the attacking ground force (JP 3-15). A *lane* is a route through, over, or around an enemy or friendly obstacle that provides passage of a force (ATP 3-90.4). The route may be reduced and proofed as part of breaching, constructed as part of the obstacle, or marked as a bypass. The number and width of lanes vary depending on the enemy situation, the size and composition of the assaulting force and the scheme of movement and maneuver.

F-4. *Proof* is the verification that a lane is free of mines or explosive hazards and that the width and trafficability at the point of breach are suitable for the passing force (ATP 3-90.4). Proofing can be conducted visually, electronically, or mechanically. Some mines are resistant to reduction assets and may require a combination of breaching techniques; for example, magnetic and double impulse mines may resist a mine clearing line charge (also called MICLIC) blast. Proofing is an important component of breaching considering the wide variety of explosive obstacle threats in use today.

F-5. Most combined arms breaching is conducted by an MBCT or a battalion-sized task force as a tactical mission, but higher echelons may also execute operational-level combined arms breaching tasks. Engineer augmentation is typically required to enable an MBCT breach or a battalion task force deliberate or hasty breach. (See ATP-3-90.4 for additional information.)

TYPES OF BREACH

F-6. Maneuver forces are task-organized specifically for an operation to provide a fully synchronized combined arms team. Most operations lie somewhere along a continuum between two extremes—deliberate operations and hasty operations. Attacks take place along this continuum (commonly referred to as a deliberate attack or hasty attack) based on the knowledge of enemy capability and disposition and the intentions and details of friendly force planning and preparation. Deliberate attack and hasty attack refer to the opposite ends of that continuum and describe characteristics of the attack as breaching may be required to support an attack anywhere along this continuum. Breaching activities must be adapted to exploit the situation. The level and type of planning distinguish which of the three general types of breaching (deliberate, hasty, and covert) are used to meet mission variables.

DELIBERATE BREACH

F-7. A *deliberate breach* is the systematically planned and executed creation of a lane through a barrier or obstacle (ATP 3-90.4). A deliberate breach is used against a strong defense or complex obstacle system. It is like a deliberate attack, requiring detailed knowledge of the defense and obstacle systems. It is characterized by the planning, preparation, and buildup of combat power on the near side of obstacles. Subordinates are task-organized to accomplish the breach. The breach often requires securing the far side of the obstacle with an assault force before or during reduction. Amphibious breaching is an adaptation of the deliberate breach intended to overcome anti-landing defenses to allow a successful amphibious landing.

HASTY BREACH

F-8. *Hasty breach* is the creation of lanes through enemy minefields by expedient methods such as blasting with demolitions, pushing rollers or disabled vehicles through the minefields when the time factor does not permit detailed reconnaissance, deliberate breaching, or bypassing the obstacle (JP 3-15). A hasty breach is an adaptation to the deliberate breach and is conducted when less time is available. It may be conducted during a deliberate or hasty attack due to lack of clarity on enemy obstacles or changing enemy situations, including the emplacement of scatterable mines.

F-9. An in-stride breach is a type of hasty breach used to describe the situation when a subordinate unit is expected to be able to organize for and conduct a hasty breach with its organic or task-organized assets, without affecting the higher unit's scheme of movement and maneuver or commander's intent. For example, an MBCT is conducting an in-stride breach when a subordinate battalion can organize for the breach (support, breach, assault forces) and breach an obstacle without affecting the MBCT scheme of movement and maneuver or the commander's intent. In-stride breach is generally not used below the company level.

COVERT

F-10. A covert breach is the creation of lanes through minefields or other obstacles that is planned and intended to be executed without detection by an adversary. Its primary purpose is to reduce obstacles in an undetected fashion to facilitate the passage of maneuver forces. A covert breach is conducted when surprise is necessary or desirable and when limited visibility and terrain present the opportunity to reduce enemy obstacles without being seen. A covert breach uses elements of deliberate and hasty breaching, as required.

F-11. A covert breach is characterized by using stealth to reduce obstacles, with support and assault forces executing their mission only if reduction is detected. Through surprise, the commander conceals their capabilities and intentions and creates the opportunity to position support and assault forces to strike the enemy while unaware or unprepared. The support force does not usually provide suppressive fire until the initiation of the assault or if the breach force is detected. Covert breaches are usually conducted during periods of limited visibility. A battalion is the principal unit to conduct a covert breach. The covert breach requires a level of detailed planning, information collection, and C2 that is normally beyond the capability of a company. The MBCT is usually too large to maintain the level of stealth necessary to conduct a covert breach. The covert breach is ideally suited for foot-mobile forces.

BREACH AREA

F-12. The *breach area* is a defined area where a breach occurs (ATP 3-90.4). It is established and fully defined by the higher HQ of the unit conducting the breach. Within the breach area is the POB, the reduction area, the far side objective, and the point of penetration.

F-13. *Point of breach* is the location at an obstacle where the creation of a lane is being attempted (ATP 3-90.4). Initially, POBs are planned locations only. Normally, the breach force determines the actual POBs during the breach.

F-14. *Reduction area* is a number of adjacent points of breach that are under the control of the breaching commander (ATP 3-90.4). The commander conducting the attack determines the size and location of the reduction area that supports the seizure of a point of penetration. The reduction area is indicated by the area located between the arms of the control graphic for breach. The length and width of the arms extend to include the entire depth of the area that must be reduced.

F-15. *Far side objective* is a defined location oriented on the terrain or on an enemy force that an assaulting force seizes to eliminate enemy direct fires to prevent the enemy from interfering with the reduction of obstacles and allows follow-on forces to move securely through created lanes (ATP 3-90.4). A far side objective can be oriented on the terrain or on an enemy force. The higher HQ assigns the objective; however, the attacking unit normally subdivides the objective into smaller objectives to assign responsibilities and to control and focus the assault of subordinate forces. When breaching as part of a larger force, seizing the far side objective provides the necessary maneuver space for the higher unit follow-on forces to move securely through the lanes, assemble or deploy, and continue the attack without enemy interference.

F-16. *Point of penetration* is the location, identified on the ground, where the commanders concentrate their efforts to seize a foothold on the far side objective (ATP 3-90.4). This is achieved along a narrow front through maneuver and direct and indirect fires that are accurately placed against enemy forces. A commander conducting a breach establishes a point of penetration that supports planning locations for the reduction area and the seizure of the far side objective.

F-17. The breach area must be large enough to allow the attacking unit to deploy its support force and extend far enough on the far side of the obstacle to allow follow-on forces to deploy before leaving the breach area (see figure F-1 on page 230). One technique is to establish the breach area using PLs or unit boundaries. The PL defining the far side of the breach area may be established as a BHL.

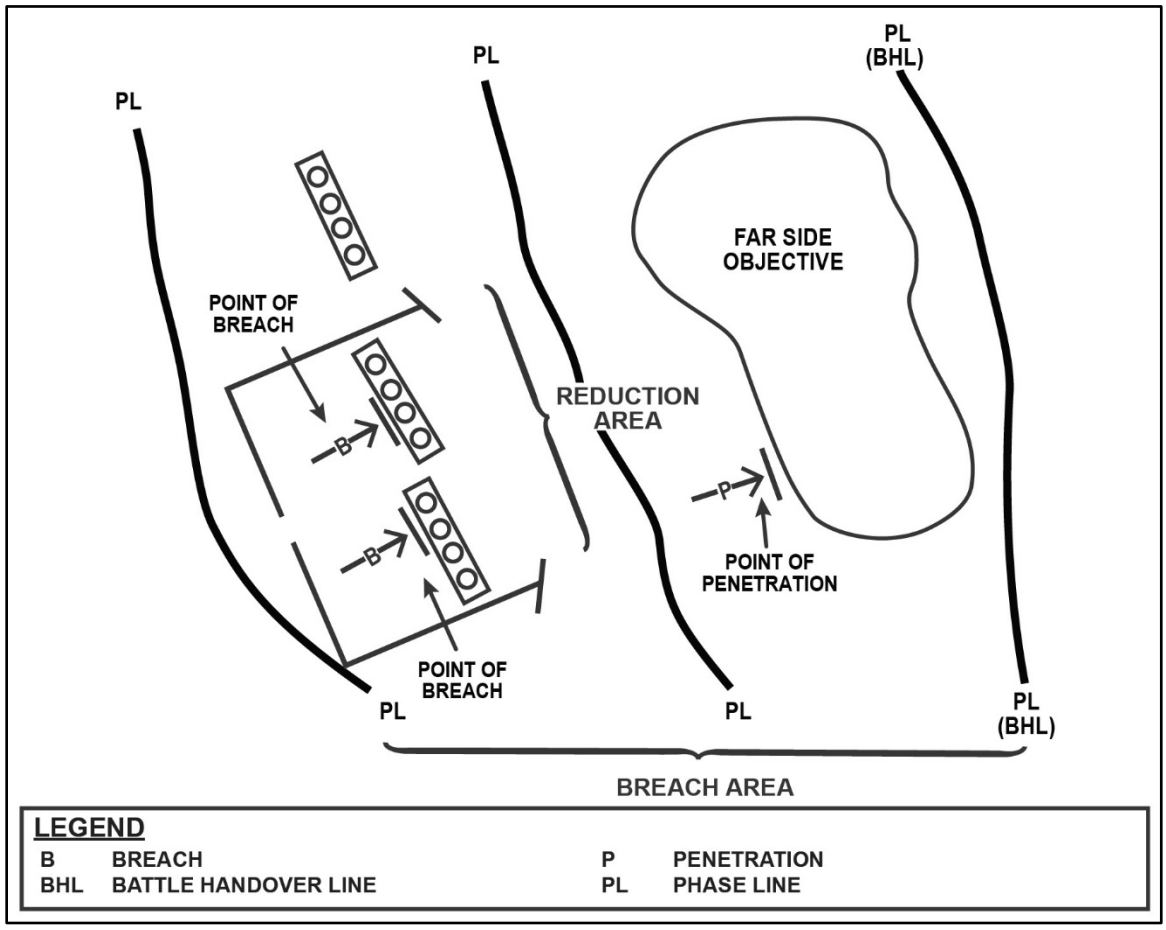


Figure F-1. Breach area

SECTION II – BREACHING TENETS

F-18. Breaching missions are characterized by applying breaching tenets. Breaching tenets apply whenever an obstacle is encountered, whether friendly forces are conducting an attack or route clearance operations. (See ATP 3-90.4.) These tenets are integrated during planning. (Table 3-1 on page 91 provides a detailed listing of planning actions within each breaching tenet.) The tenets are—

- Intelligence.
- Breaching fundamentals.
- Breaching organization.
- Mass.
- Synchronization.

INTELLIGENCE

F-19. When the Infantry rifle company conducts a breach as part of a battalion attack, the ability to identify how the enemy applies obstacles to the terrain is critical to the company's success. To assist the company commander's IPOE, the battalion conducts its IPOE to develop initial SITEMPs and PIRs. *Priority intelligence requirement is* the intelligence component of commander's critical information requirements used to focus the employment of limited intelligence assets and resources against competing demands for intelligence support (JP 2-0).

F-20. Intelligence gathered by battalion reconnaissance forces, and surveillance assets above the battalion, is essential to developing a finalized SITEMP and final POB locations. Unverified enemy SITEMPs may

cause the company to deploy-to-reduce obstacles early, waste time trying to locate nonexistent obstacles, develop COAs using ineffective obstacle reduction methods, and fail to locate bypasses or become surprised by an obstacle.

TEMPLATED ENEMY OBSTACLES

F-21. Templated enemy obstacles on the SITEMPs provided to the company are based on—

- Threat patterns based on past operations and emerging tactics, techniques, and procedures.
- Enemy countermobility capabilities (based on manpower, equipment, materials, and time available), including scatterable mines.
- Terrain and weather effects.
- The range of enemy weapons systems covering obstacles and emplacing scatterable mines.

OBSTACLE INFORMATION

F-22. Augmentation of reconnaissance forces with engineer reconnaissance teams may be used as part of the battalion's information collection effort. Examples of information used to produce products for subordinate companies within the battalion include—

- Location of existing or reinforcing obstacles.
- Orientation and depth of obstacles.
- Soil conditions, which determine the ability to use mine plows, if available.
- Lanes or bypass locations.
- Composition of minefields (buried or surface laid AT and antipersonnel mines).
- Types of mines and fuses after determining the effectiveness of mechanical or explosive.
- Reduction techniques.
- Composition of complex obstacles.
- Location of enemy direct and indirect fire systems and small UASs overwatching obstacles.

BREACHING FUNDAMENTALS

F-23. Breaching fundamentals are integrated into the planning process and always apply when reducing a defended obstacle. This includes breaching, gap crossing, and route clearance missions. The breach fundamentals: suppress, obscure, secure, reduce, and assault (also called SOSRA).

SUPPRESS

F-24. *Suppress* is a tactical mission task in which a unit temporarily degrades a force or weapon system from accomplishing its mission (FM 3-90). Suppression protects friendly forces reducing and maneuvering through an obstacle. Successful suppression generally triggers the rest of the actions at the POB. Fire control measures ensure that all fires are synchronized with other actions at the POB. The mission of the support force is to suppress the enemy overwatching the obstacle. The breach force also provides additional suppressive fires as the situation dictates; however, its primary focus is on reducing the obstacle. In many situations, the Infantry assault platoon may be ideal to provide suppression, under different conditions suppression may be provided by an Infantry rifle platoon or weapons squad, or an entire rifle company.

OBSCURE

F-25. Obscuration degrades observation and target acquisition of the enemy forces while concealing friendly force reduction and assault activities. Obscuration planning factors include wind direction, type of obscuration systems available (mechanical smoke, artillery delivered, mortar delivered, smoke pots), and the capabilities and limitations of these systems. In urban areas, indirect delivered obscuration and suppressive fires are more restricted. In some situations, using mortars (because of the ability to fire high-level trajectory), smoke pots, and smoke grenades rather than artillery-fired obscurants may be more effective. Obscuration normally starts with smoke delivered by indirect fire that builds quickly, followed by mechanical or smoke pots that have a longer duration but take more time to place and build. Typically, the most effective placement of obscuration is between the obstacle and the overwatching enemy forces. (See ATP 3-11.50 for additional information on obscuration.)

SECURE

F-26. *Secure* is a tactical mission task in which a unit prevents the enemy from damaging or destroying a force, facility, or geographical location (FM 3-90). Identifying the extent of the enemy defense is critical in selecting the appropriate technique to secure the POB. The POB must be secured before reducing the obstacle. Friendly forces secure the POB to prevent enemy forces from interfering with the reduction of lanes and passage of assault forces. The breach force must be resourced with sufficient maneuver assets to provide local security against the enemy that the support force cannot adequately engage. Elements within the breach force that secure the reduction area may also be used to suppress the enemy once reduction is complete.

REDUCE

F-27. *Reduce* is a mobility task to create and mark lanes through, over, or around an obstacle to allow the attacking force to accomplish its mission (FM 1-02.1). Reduction cannot be accomplished until effective suppression and obscuration is achieved and the POB is secured. The breach force reduces, proofs, and marks the required number of lanes to pass the assault force through the obstacle. The number and width of lanes needed depends on the enemy situation, terrain, size and composition of the assault force, and scheme of movement and maneuver. Follow-on forces continue to improve and reduce the obstacle when required. When possible, the breach force should also try to secure a foothold to assist in the passage of the assault force.

Note. See ATP 3-21.8 for information on the types and reduction of enemy obstacles.

ASSAULT

F-28. The assault force's primary mission is to seize terrain on the far side of the obstacle to prevent the enemy from placing or observing direct and indirect fires on the reduction area. If planned, the battle handover with follow-on forces occurs.

BREACHING ORGANIZATION

F-29. Establishing the breach organization facilitates the application of the breaching fundamentals. Commanders develop COAs that organize friendly forces into a support force, a breach force, and an assault force to quickly, and effectively execute the breach fundamentals. Table F-1 shows the relationship between the breach organization as well as the responsibilities of each force.

Table F-1. Breaching organization and responsibilities

BREACH ORGANIZATION	***RESPONSIBILITIES***
Support Force	Suppress an enemy capable of placing direct fires on the reduction area to protect the breach force as it reduces the obstacle and the assault force as it passes through the created lane. Fix enemy forces to isolate the reduction area. Control obscuration.
Breach Force	Reduce, proof, and mark the necessary number of lanes through the obstacle. Report the status and location of created lanes. Provide local security on the near side and far side of the obstacle. Provide additional suppression of enemy overwatching the obstacle. Provide additional obscuration in the reduction area. Assist the passage of the assault force through created lanes.

Table F-1. Breaching organization and responsibilities (continued)

BREACH ORGANIZATION	*RESPONSIBILITIES*
Assault Force	Seize the far side objective. Reduce the enemy protective obstacles. Provide clear routes from the reduction area to the battle handover line for follow-on forces. Prevent the enemy from placing direct fires on follow-on forces as they pass through the created lanes. Conduct battle handover with follow-on forces. Provide reinforcing fires for the support force. Destroy the enemy on the obstacle's far side that can place direct fires on the reduction area.

SUPPORT FORCE

F-30. Support force responsibilities are isolating the reduction area with direct and indirect fires and suppressing the enemy's direct and indirect fire at the POB. The support force controls friendly direct and indirect fires and obscuration within the breach area.

BREACH FORCE

F-31. The breach force must have sufficient combat power to secure the POB as well as sufficient reduction assets to reduce the required number of lanes through the obstacle. Critical friendly zones should be activated at the POB before commitment of the breach force to protect it from enemy indirect fires.

ASSAULT FORCE

F-32. The assault force's primary mission is the destruction of enemy forces on the far side of the obstacle to prevent the enemy from placing direct fires on the breach lanes. In complex or restrictive terrain, the assault force may be constrained to a single lane and the assault force commander must ensure that the sequencing of forces through the lane is appropriate to achieve the mission.

MASS

F-33. Breaching activities must concentrate the effects of overwhelming combat power against selected portions of the enemy force with a tempo and intensity that cannot be matched by the enemy. Breaching is conducted by rapidly applying concentrated efforts at a POB to reduce the obstacle and penetrate the defense. A POB is planned where the enemy can be isolated, fixed, or disrupted. The location selected for breaching depends largely on enemy weakness, where its covering fires are minimized. If friendly forces cannot find a natural weakness, they create one by fixing most of the enemy force and isolating a small portion of it for attack. Denying the enemy's ability to mass combat power against the breach is achieved by isolating, fixing, or disrupting the defending forces; synchronizing the application of friendly combat power; and simultaneously breaching at separate locations to prevent the enemy from concentrating fires and defeating a breaching force in detail.

SYNCHRONIZATION

F-34. Synchronization of operations elements through a combination of the five combat power dynamics to achieve the breach fundamentals is essential. The commander achieves synchronization through detailed reverse planning of offensive operations from the objective back to the assembly area, by issuing clear subordinate unit instructions, planning effective C2, and ensuring their forces are well-rehearsed. The commander may use an execution matrix to synchronize forces. An execution matrix lists subunit instructions sequentially in relation to key events or the sequence of the attack. It provides subordinate commanders and leaders with an understanding of how the mission and those of adjacent units fit into the plan. It allows subordinates to better track the battle and coordinate their own maneuver with that of adjacent units. (See ATP 3-90.4 for a sample execution matrix for a breaching mission.)

REVERSE BREACH-PLANNING PROCESS

F-35. The size and composition of the support, breach, and assault forces (breach organization) are determined during COA development using reverse planning. Reverse planning begins with actions on the objective and moves backward to the LD, since seizing an objective is typically the decisive point and directly tied to mission accomplishment. Using reverse planning and force ratios, the commander determines the size and composition of the force(s) that perform the tasks that support the main and supporting efforts for each COA. Reverse planning for breaching is performed using the following steps:

- Step 1—identifying available reduction assets.
- Step 2—templating enemy obstacles.
- Step 3—understanding the scheme of movement and maneuver.
- Step 4—identifying the number of required breach lanes.
- Step 5—identifying the assets required to reduce, proof, and mark lanes.
- Step 6—task-organizing reduction assets within the maneuver force.

F-36. When the company is part of the battalion's combined arms breaching operation, detailed reverse planning initiates during the IPOE and the development of enemy SITEMPs. The scheme of maneuver, engineer operations, fires, air defense, and actions at the obstacle are based upon this common SITEMP. The SITEMP, developed by the S-2 depicting enemy direct- and indirect-fire coverage of templated enemy obstacles, determines the size and composition of the support forces.

F-37. The enemy's ability to interfere with the breach force at the POB determines size and composition of the security element within the breach force. The enemy's ability to mass fires on the POB determines the amount of suppression required as well as the size and composition of the breach force. Lane requirements and the composition of obstacles drive the amount and type of reduction assets needed by the breach force. The engineer staff planner focuses on the allocation of reduction assets.

F-38. Actions on the objective drive the size and composition of the force that conducts the final assault onto the objective as part of an attack, which dictates lane requirements (the number and location of required lanes). The engineer staff planner for the battalion and other planners determine how best to allocate reduction assets within the arrayed forces to facilitate the scheme of movement and maneuver for each COA. (See figure F-2.)

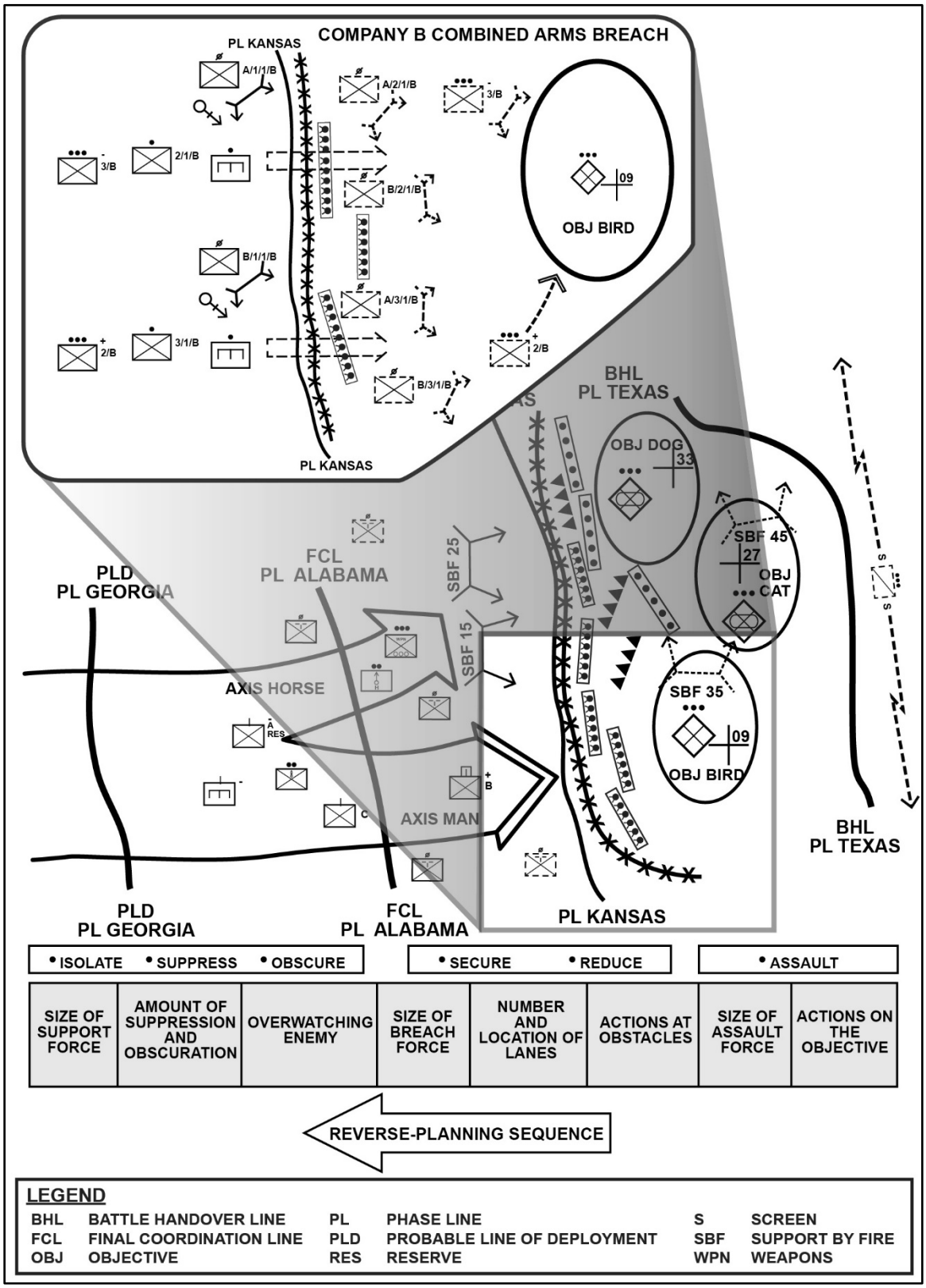


Figure F-2. Reverse breach-planning process

SECTION III – BREACHING ACTIVITIES

F-39. Breaching activities are planned by incorporating the breaching tenets within the planning steps of TLP. The need to conduct a breach is determined based on the identification of specified, implied, and essential tasks for mobility as part of mission analysis, within step 3–Make a Tentative Plan of TLP (see appendix B) at the company level. The company may be tasked to conduct a breach in support of the battalion's mission, the commander's intent, and the scheme of movement and maneuver; or it may be implied based on the enemy situation, the terrain (mobility corridors), and the commander's intent. (See ATP 3-90.4, table 3-4 for a detailed listing of breach planning considerations in relation to the MDMP.) (See table F-2 through page 237 for a listing of breach planning considerations in relation to TLP at the company level.)

Table F-2. Breaching considerations within troop leading procedures

STEPS TO TROOP LEADING PROCEDURES		***BREACH PLANNING CONSIDERATIONS***
Step 1 – Receive the Mission		Gather geospatial information and products (mobility corridors and combined obstacle overlays) for the area operation. Gather intelligence products on threat countermobility capabilities and patterns. Determine the availability of information on obstacles within the company's proposed area of operation. Determine status of breaching assets available to the company.
***Step 2 – Issue a Warning**		
Step 3 – Make a Tentative Plan	**Mission Analysis**	Understand the mission, commander's intent, and scheme of movement and maneuver (two levels up). Complete the following as part of the initial intelligence preparation of the operational environment— • Develop terrain products (mobility corridor and combined obstacle overlay). • Evaluate the effects of terrain and weather on friendly mobility and enemy countermobility and survivability capabilities. • Assess enemy countermobility capabilities (manpower, equipment, and materials), and template enemy obstacles based on threat patterns, terrain, and time available. • Identify specified and implied mobility (breaching) tasks and determine any obvious shortfalls in breaching assets, engineer forces, and special equipment and initiate requests for augmentation as early as possible. • Develop information requirements related to breaching (terrain restrictions and mobility restraints, necessary or desired obstacle information, enemy countermobility and survivability capabilities), and recommend draft requirements as possible commander's critical information requirements. • Integrate information collection tasks and engineer or other necessary specialized reconnaissance capabilities into the information collection plan.
	COA Development	Identify the need to conduct a breach for each course of action (COA) based on mobility corridors and template enemy obstacles. Allocate reduction assets (engineer units and breaching equipment) based on the results of reverse planning. Develop tasks that implement the breaching fundamentals suppress, obscure, secure, reduce, and assault. Determine breach organization requirements (support, breach, assault force) and ensure that arrayed forces have been adequately resourced.

Table F-2. Breaching considerations within troop leading procedures (continued)

STEPS TO TROOP LEADING PROCEDURES		*BREACH PLANNING CONSIDERATIONS*
Step 3 – Make a Tentative Plan	**COA Analysis**	War game the breach organization: • Force ratios against variances in the enemy disposition. • Array of breach assets based on losses or variances in the composition of obstacles. • War game changes in the planned point of breach, locations of support by fire positions, and wind effects on obscuration. • War game friendly reactions to enemy counterattacks within the breach area and enemy use of scatterable mines to isolate forces and repair breached obstacles. • Refine the plan based on results of war gaming.
	COA Comparison	Analyze and evaluate the advantages and disadvantages for each COA in relation to the ability to execute the breaching: • Ability (time-distance) to shift breaching assets between units beyond the line of departure. • Ability to reinforce the breaching forces or respond to enemy counterattacks within the breach area (use of a reserve).
	COA Selection	Gain approval for any changes to the essential tasks for mobility. Gain approval for recommended priorities of effort and support. Gain approval for requests for engineer augmentation to be sent to higher headquarters.
***Step 4 – Initiate Movement**		
***Step 5 – Conduct Reconnaissance**		
***Step 6 – Complete the Plans**		
Step 7 – Issue the Order		Ensure that the task organization of engineer forces and critical breach equipment is accurate and clear, to include the necessary instructions for effecting linkup (linkup should be as early as possible in the planning process). Ensure the quality and completeness of subunit instructions for performing breaching.
Step 8 – Supervise and Refine		
***See appendix B**		

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Appendix G

Chemical, Biological, Radiological, and Nuclear Defense

CBRN defense is actions taken to counter CBRN hazards; reduce their risks; and prepare for, respond to, and recover from CBRN incident. The commander integrates CBRN defense considerations into mission planning depending on the CBRN threat and hazard. CBRN doctrine is organized around the core functions of assess, protect and mitigate, and the integrating activity of hazard awareness and understanding. This appendix discusses CBRN defense tasks and countering WMD activities.

SECTION I – OVERVIEW

G-1. The likelihood of enemy WMD use increases during large-scale combat operations. All units must be prepared to conduct CBRN operations. *Chemical, biological, radiological, and nuclear operations* include the employment of capabilities that assess, protect against, and mitigate chemical, biological, radiological, and nuclear incidents (FM 3-11). CBRN operations support operational and strategic objectives to counter WMD and increase lethality, survivability, and readiness to operate in CBRN environments while executing combat operations no matter which inherent element (offense, defense, stability) of conventional and irregular warfare currently dominates. All units have some capability to assess, protect against, and mitigate CBRN threats and hazards. Some units are directly aligned to support countering weapons of mass destruction (CWMD) specialized activities and tasks. Tactically, CWMD is a combined arms mission that is task-organized and force-tailored to control, defeat, disable, and dispose of WMDs. Army forces must understand the threat to tailor a force capable of executing CWMD and the CBRN defense skills needed to support. (see FM 3-11 and ATP 3-90.40 for more information).

G-2. *Chemical, biological, radiological, or nuclear environment* is an operational environment that includes probable chemical, biological, radiological, or nuclear threats and hazards and their resulting effects (JP 3-11). CBRN environment conditions can be the result of deliberate enemy or terrorist actions or the result of an industrial accident. CBRN threats include the intentional employment of, or intent to employ, weapons or improvised devices to produce CBRN hazards. CBRN hazards include those created from accidental or intentional releases of toxic industrial materials, biological pathogens, or radioactive matter. Toxic industrial material is a generic term for toxic or radioactive substances in solid, liquid, aerosolized, or gaseous form that may be used or stored for industrial, commercial, medical, military, or domestic purposes. Toxic industrial material may be chemical, biological, or radiological.

G-3. Commanders and subordinate leaders charged with conducting operations in a CBRN environment must begin with a thorough understanding of the OE, the risks and opportunities associated with the OE, and the ways and means available for preserving combat power through protection. Tactical leaders continually analyze the OE through the mission variables of METT-TC (I) to provide an understanding that helps identify current, developing, and potential hazards and threats and enables the tasks to mitigate or eliminate them.

G-4. Through continuous analysis of the CBRN environment at higher echelons, for example, civil affairs staffs can provide analyzed and evaluated civil considerations data concerning the host nation and indigenous populations and institutions and CBRN; explosives forces can provide technical links to tactical level responses. Military and civil capabilities include CBRN defense and decontamination capabilities; general information regarding the existence or movement of CBRN materials; local expertise, resources, or technology related to CBRN operations; and industrial CBRN processing, storage, or experimental facilities.

UNDERSTANDING CBRN THREATS AND HAZARDS

G-5. The goal of the integrating activity of hazard awareness and understanding is gathering and interpreting data on CBRN hazards and using it to comprehend the implication, character, and nature of CBRN hazards and their impact on the OE, mission and force. A basic understanding of each of the CBRN threats and hazards aid in understanding associated risks and survivability in CBRN environments.

G-6. CBRN hazards are CBRN elements that pose a threat to humans, animals, plants, or the environment. CBRN hazards may result from WMD employment. The key distinction between WMD and CBRN hazards is that WMD refers to the actual weapon, while CBRN refers to the contamination or effects resulting from the employment of WMD and from the dispersal of CBRN materials either intentionally or accidentally.

CHEMICAL HAZARDS

G-7. A *chemical hazard* is any chemical manufactured, used, transported, or stored that can cause death or other harm through toxic properties of those materials, including chemical agents and chemical weapons prohibited under the Chemical Weapons Convention and toxic industrial chemicals (JP 3-11). Chemical hazards (see table G-1) which cause casualties, degrade performance, slow maneuver, restrict terrain, and disrupt operations, can be divided into the following categories:

- Chemical warfare agents—toxic chemicals specifically designed as a weapon to include traditional agents such as nerve and blister and agents newly added to the Chemical Warfare Convention (like fourth generation agents).
- Military chemical compounds (other than chemical warfare agents)—chemical compounds developed, in part, for military use (riot control agents, smokes, and obscurants), but not as weapons.
- Toxic industrial chemicals (chemicals that are developed or manufactured for use in industrial, agricultural, medical operations or research)—these same chemicals are considered plausible candidates for terrorist activities.

Table G-1. Characteristics of chemical hazards

Agent	***Nerve***	***Blister***	***Blood***	***Choking***
Protection	Mask and IPE	Mask and IPE	Mask	Mask
Detection	M256A2, M8/9, JCAD	M256A2, M8/9, JCAD	M256A2, M8/9, JCAD	JCAD
Symptoms	Difficult breathing, drooling, nausea, vomiting, convulsions, and blurred vision	Burning eyes, stinging skin, irritated nose	Convulsions and coma	Coughing, nausea, choking, headache, and tight chest
Effects	Incapacitates	Blisters skin, damages respiratory tract	Incapacitates	Floods and damages lungs
First Aid	ATNAA, AAS, and CANA DECON	Treat for 2nd and 3rd degree burns	None	Keep warm and avoid movement
Decontamination	RSDL and flush eyes with water	RSDL and flush eyes with water	RSDL	RSDL
Legend: AAS–advanced anticonvulsant system; ATNAA–antidote treatment nerve agent auto-injector; CAM–chemical agent monitor; CANA—convulsive antidote nerve agent; DECON–decontamination; IPE–individual protection equipment; JCAD–joint chemical agent detector; RSDL–reactive skin decontamination lotion				

BIOLOGICAL HAZARDS

G-8. Biological hazards may be biological weapons, naturally occurring endemic and zoonotic diseases, and natural emerging or reemerging disease outbreaks. Toxic industrial biological hazards include biological material manufactured, used, transported, or stored by industrial, agricultural, medical or commercial processes which could pose a hazard. Biological hazards are difficult to detect initially as most symptoms, upon onset, may mimic cold and flu symptoms.

RADIOLOGICAL HAZARDS

G-9. Radiological hazards include any electromagnetic or particulate radiation that can produce ions to cause damage, injury, or destruction. Radiological hazards are also included in toxic industrial materials. Enemies could disperse radioactive material in several ways, such as—

- Arming the warhead of a missile with radioactive material from a nuclear reactor.
- Releasing low-level radioactive material intended for use in industry or medicine.
- Disseminating material from a research or power-generating nuclear reactor.

NUCLEAR HAZARDS

G-10. Nuclear weapon effects are qualitatively different from biological or chemical weapon effects. The nature and intensity of nuclear detonation effects are determined by the type of weapon, its yield, and the physical medium in which the detonation occurs. The effects of a nuclear detonation include the following:

- The blast produces shockwaves that can cause critical injuries to personnel and destroy material.
- Thermal radiation causes severe burns and secondary fires.
- The electromagnetic pulse can cause widespread disruption of electrical and electronic equipment.
- Ionizing radiation is a significant threat to personnel and materiel.
- Fallout is residual radiation and may be a lingering, widespread hazard limiting military operations.

G-11. Cover and shielding offer the best protection from the immediate effects of a nuclear detonation; this includes cover in fighting positions with 18 inches overhead cover, culverts, and ditches. Soldiers should cover exposed skin and stay down until the blast wave passes and debris stops falling. Immediately after a nuclear detonation, continuous radiation monitoring should begin.

G-12. Operations in a nuclear environment are complicated by the necessity to control exposure of personnel to nuclear radiation. An operation exposure guide determines the maximum radiation dose to which units may be exposed and still accomplish a mission. Determination of this dose is based on the accumulated dose or radiation history of the unit.

ASSESSING CHEMICAL, BIOLOGICAL, RADIOLOGICAL, AND NUCLEAR HAZARDS

G-13. CBRN R&S is the detection, identification, reporting, and marking of CBRN hazards. CBRN reconnaissance consists of search, survey, surveillance, and sampling operations. Due to limited availability and number of the CBRN reconnaissance vehicles, consider alternate means of conducting CBRN reconnaissance such as reconnaissance elements, engineers, and maneuver units. (See ATP 3-11.37 for additional information.) At a minimum, consider the following actions when planning and preparing for CBRN R&S missions:

- Using the IPOE process to orient on CBRN enemy NAIs.
- Pre-positioning R&S assets to support requirements.
- Establishing command and support relationships.
- Assessing the time and distance factors for the conduct of CBRN R&S.
- Reporting all information rapidly and accurately.
- Planning for resupply activities to sustain CBRN R&S operations.
- Determining possible locations for post-mission decontamination.
- Planning for fire support requirements.
- Planning fratricide prevention measures.
- Establishing MEDEVAC procedures.
- Identifying CBRN warning and reporting system procedures and frequencies.

CHEMICAL, BIOLOGICAL, RADIOLOGICAL, AND NUCLEAR PROTECTION

G-14. Chemical biological, radiological, and nuclear protection is measures taken to keep chemical, biological, radiological, and nuclear threats and hazards from having an adverse effect on personnel, equipment, and facilities. Protecting Soldiers from CBRN hazards in an assigned area is essential to preserving combat power. Tasks that enable CBRN protection include the following:

- Employing individual protective equipment and other CBRN defense equipment.
- Establishing CBRN alarm conditions.
- Implementing the CBRN warning and reporting system.
- Exercising personal hygiene and force health protection programs.
- Utilizing shielding and protective cover.

G-15. CBRN protection is an integral part of all operations. CBRN protection involves providing filtration and/or hardening positions, and facilities. Protection against CBRN hazards also includes assuming appropriate MOPP levels (see table G-2), reacting appropriately to CBRN hazards, maintaining dispersion, overhead cover, employing alarms upwind, and having personnel trained to operate CBRN alarms, detection, and monitoring capabilities. Individual protective equipment includes a protective mask and suit, overboots, and gloves. (see ATP 3-11.32 for more details on CBRN protection).

G-16. Leaders determine the appropriate MOPP level by assessing mission variables and weighing the impact of increased protection levels on mission requirements. Generally, the higher HQ provides the minimum MOPP-level directives to subordinate units. Leaders understand that they can expect lower work rates in MOPP 4 than they achieved in MOPP 0. They reevaluate the ability to meet mission requirements and communicate impacts to higher HQ.

G-17. The joint service lightweight integrated suit technology provides protection for 45 days with up to six launderings or up to 120 days after being removed from packaging if not laundered. The joint service lightweight integrated suit technology provides protection for up to 24 hours after it is contaminated.

Table G-2. Mission-oriented protective posture levels

Level/Equipment	*MOPP Ready*	*MOPP0*	*MOPP1*	*MOPP2*	*MOPP3*	*MOPP4*	*Mask Only*
Mask	Carried	Carried	Carried	Carried	Worn	Worn	Worn ***
JSLIST	Ready*	Available**	Worn	Worn	Worn	Worn	
Overboots	Ready*	Available**	Available**	Worn	Worn	Worn	
Gloves	Ready*	Available**	Available**	Available**	Available**	Worn	
Helmet Cover	Ready*	Available**	Available**	Worn	Worn	Worn	
Note. *Items available to Soldier within 2 hours with replacement available within 6 hours. **Items must be positioned within arms-reach of the Soldier. ***Never “mask only” if nerve or blister agents are used in area of operation.							
Legend: JSLIST–joint service lightweight integrated suit technology; MOPP–mission-oriented protective posture							

G-18. Leaders determine the appropriate MOPP level by assessing mission variables and weighing the impact of increased protection levels. Higher HQ provide MOPP-level directives to subordinate elements. The higher-level commander establishes the minimum level of protection. Subordinate units may increase this level but may not decrease it. Regardless of the directed MOPP level, in the event of an actual or suspected chemical, biological and some radiological hazards, Soldiers immediately don their protective mask and then the remainder of their individual protective equipment to attain MOPP 4 (See ATP 3-11.32 for more information.)

G-19. When a CBRN attack is recognized, everyone in the company team must receive the warning and assume the appropriate MOPP level. Soldiers in immediate danger need warnings they can see or hear. The alarm or signal must be simple and unmistakable if it is to produce a quick and correct reaction.

G-20. If a CBRN hazard is located, the contaminated area should be marked. The CBRN warning and reporting system and standardized contamination markers contribute to orderly warning procedures. Warning methods include automatic alarms, vocal alarms (a shout of GAS is the most frequently used alarm), nonvocal alarms (horn blasts or banging of metal-to-metal objects), and visual alarms, most commonly the appropriate hand-and-arm signals.

G-21. Many factors may influence MOPP reduction decisions. Factors may include how has the threat changed if no attack has occurred, or what contamination mitigation measures have been completed if an attack did occur. Commanders must evaluate the situation and mission objectives. For example, the criticality of the current mission, potential effects of Soldier exposure, and the impact on the casualty care system.

CONTAMINATION MITIGATION

G-22. Mitigating a CBRN incident encompasses a range of tasks to mitigate hazard effects after a CBRN incident. Contamination mitigation consists of two subsets: contamination control and decontamination. Contamination control measures are designed to limit the vulnerability of forces to CBRN hazards and to avoid, contain, and control exposure to hazards. Decontamination is the process of absorbing, destroying, neutralizing, or removing hazards.

G-23. The focus of contamination mitigation is to quickly restore combat power. Implement prior planning to control exposure by establishing clean and dirty routes, warning and reporting of hazard areas, and employing protective measures. During continuous operations in areas of contamination, decontamination is essential in preventing casualties and severe combat degradation. The unit gains maximum benefit from the available time and decontamination resources by observing these considerations:

- Speed—the company should execute decontamination as soon as possible and as far forward as possible.
- Need—decontamination should be conducted only to the extent necessary to ensure the company's safety and operational readiness.
- Priority—decontaminate the most essential capabilities first.
- Limited area—decontaminate near the contaminated area to limit the spread of contamination.

G-24. The company develops SOPs to reinforce methods and priorities executed at company level to restore combat power, reduce risk, and sustain operations. Immediate and operational decontamination techniques are outlined in table G-3 and further described in ATP 3-11.33.

Table G-3. Immediate and operational decontamination techniques

Levels	*Purpose*	*Task*	*Best Start Time*	*Performed By*
Immediate	Saves lives	Skin decontamination	Before 1 Minute	Individual
	Stops agent from penetrating Limits agent spread	Personal wipe down	Within 15 minutes	Individual or buddy
		Operators wipe down	Within 15 minutes	Individual or crew
		Spot decontamination	Within 15 minutes	Individual or crew
Operational	Continues operations in a contaminated environment Limits agent spread	MOPP gear exchange CCS and/or CCA	Within 6 hours	Contaminated unit
			Within 6 hours (CARC)	
		Vehicle wash	Or within 1 hour (non-CARC)	Battalion or decontamination unit

Legend: CARC—chemical agent resistance coating; CCA—contamination control area; CCS—contamination control station; MOPP—mission-oriented protective posture

SECTION II – TASKS AND ACTIVITIES WITHIN A CHEMICAL, BIOLOGICAL, RADIOLOGICAL, AND NUCLEAR ENVIRONMENT

G-25. Effective C2 requires the integration with hazards planning, preparation, and execution—along with continuous assessment activities—to prevent CBRN incidents from occurring; to protect Soldiers, equipment, and information during a CBRN incident response; and to mitigate/recover from a CBRN incident that involves casualties and/or contamination. The company commander characterizes and manages through understanding the CBRN threats and hazards in a particular OE. (See ATP 3-11.36.) The commander applies this situational understanding during TLP to shape the OE involving CBRN threats and hazards and to better understand where and when to expect CBRN hazards. The commander ensures subordinate units and Soldiers prepare to operate in a CBRN environment. To do this, the commander ensures the company takes the proper protective measures including—

- CBRN vulnerability analysis and assessment.
- Dispersion and use of terrain as shielding.
- Continuous CBRN monitoring with detection equipment.
- Assumption of the appropriate MOPP level.

G-26. ATP 3-21.20 addresses key CBRN process and assessment tasks and activities the battalion commander and staff use to measure performance and the measures of effectiveness for activities at the battalion level. FM 3-96 addresses the CBRN working group, generally established at the MBCT main CP and led by the MBCT CBRN officer. It includes members from the protection-working group, higher HQ elements, host-nation agencies, unified action partners, and other representatives (CBRN representatives specifically) from subordinate battalions and other units. The CBRN working group disseminates CBRN operations information, including trend analysis, defense best practices and mitigating measures, operations, the status of equipment and training issues, CBRN logistics, and management consequence and remediation efforts and refines the CBRN threat, hazard, and vulnerability assessments. The working group helps to develop, train, and rehearse a CBRN defense plan to protect Soldiers and equipment from an attack or incident involving CBRN threats or hazards. CBRN threat and hazard assessments made by the working group help determine initial, individual protective equipment levels, and the positioning of decontaminants. Force health Soldiers maintain the medical surveillance of Soldiers' strength information for indications of force contamination, epidemic, or other anomalies apparent in force health trend data.

G-27. Unit leaders are responsible for the proficiency of their subordinates, subordinate leaders, and the whole unit to assess, protect, and mitigate CBRN hazards within the scope of their missions. Realistic training with limited resources demands that leaders focus their unit training efforts to maximize repetitions under varying conditions to build proficiency. Readiness is built on the ability to be proficient regardless of the environmental conditions, including CBRN. Environmental conditions in subterranean environments are another challenge that may also include CBRN conditions, adding even more complexity. (See ATP 3-21.51 for more information on subterranean environments.)

Glossary

The glossary lists acronyms and terms with Army or joint definitions. Where Army and joint definitions differ, (Army) precedes the definition. Terms for which ATP 3-21.10 is the proponent are marked with an asterisk (*). The proponent publication for other terms is listed in parentheses after the definition.

SECTION I – ACRONYMS AND ABBREVIATIONS

1SG	first sergeant
ADP	Army doctrine publication
AHS	Army Health System
AO	area of operations
AT	antitank
ATP	Army techniques publication
ATTP	Army tactics, techniques, and procedures
BAS	battalion aid station
BCT	brigade combat team
BHL	battle handover line
BP	battle position
BSMC	brigade support medical company
C2	command and control
CAS	close air support
CASEVAC	casualty evacuation
CBRN	chemical, biological, radiological, or nuclear
CCIR	commander’s critical information requirement
CCMS	close combat missile system
CCP	casualty collection point
CLC	combat logistics company
CLS	combat lifesaver
COA	course of action
CP	command post
CWMD	countering weapons of mass destruction
DA	Department of the Army
DD	Department of Defense
DLIC	detachment left in contact
EA	engagement area
EMCON	emission control
EP	electromagnetic protection
EPW	enemy prisoner of war

EW	electromagnetic warfare
FDC	fire direction center
FEBA	forward edge of the battle area
FIST	fire support team
FLOT	forward line of own troops
FO	forward observer
FM	field manual, frequency modulation
FPF	final protective fire
FPL	final protective line
FRAGORD	fragmentary order
FSEM	fire support execution matrix
FSO	fire support officer
GPS	Global Positioning System
GTA	graphic training aid
HQ	headquarters
IPOE	intelligence preparation of the operational environment
IR	infrared
ISV	Infantry squad vehicle
JP	joint publication
JTAC	joint terminal attack controller
LD	line of departure
LOA	limit of advance
LOGPAC	logistics package
LOGSTAT	logistics status
LRP	logistics release point
LZ	landing zone
MAAWS	Multi-role, Antiarmor, Antipersonnel Weapon System
MBA	main battle area
MBCT	mobile brigade combat team
MCRP	Marine Corps reference publication
MCTP	Marine Corps tactical publication
MCWP	Marine Corps warfighting publication
MDMP	military decision-making process
MEDEVAC	medical evacuation
METT-TC (I)	mission, enemy, terrain and weather, troops and support available, time available, civil considerations, and informational considerations
mm	millimeter
MOPP	mission-oriented protective posture
MTC	movement to contact
MTF	medical treatment facility
NAI	named area of interest
NCO	noncommissioned officer

NTTP	Navy tactics, techniques, and -procedures
OE	operational environment
OP	observation post
OPORD	operation order
ORP	objective rally point
PACE	primary, alternate, contingency, and emergency
PCC	precombat check
PCI	precombat inspection
PDF	principal direction of fire
PIR	priority intelligence requirement
PL	phase line
POB	point of breach
PSG	platoon sergeant
PZ	pickup zone
R&S	reconnaissance and surveillance
RED	risk estimate distance
RFL	restrictive fire line
ROE	rules of engagement
RTO	radiotelephone operator
S-1	battalion or brigade personnel staff officer
S-2	battalion or brigade intelligence staff officer
S-3	battalion or brigade operations staff officer
S-4	battalion or brigade logistics staff officer
SA	situational awareness
SITEMP	situation template
SUAS	small unmanned aircraft system
SOP	standard operating procedure
TAA	tactical assembly area
TC	training circular
TCCC	tactical combat casualty care
TLP	troop leading procedures
TM	technical manual
TOW	tube-launched, optically tracked, wire guided/wireless guided
TRP	target reference point
UAS	unmanned aircraft system
U.S.	United States
WARNORD	warning order
WCS	weapons control status
WMD	weapons of mass destruction
XO	executive officer

SECTION II – TERMS

actions on contact

A process to help leaders understand what is happening and to take action. (FM 3-90)

adversary

A party acknowledged as potentially hostile to a friendly party and against which the use of force may be envisaged. (JP 3-0)

air movement

Air transport of units, personnel, supplies, and equipment including airdrops and air landings. (JP 3-36)

airspace control

The exercise of delegated authority over designated airspace and users through control procedures and coordination measures to maximize operational effectiveness. (JP 3-52)

airspace management

The planning, coordination, integration, and regulation of airspace by airspace control elements in support of airspace control. (JP 3-52)

alternate position

A defensive position that the commander assigns to a unit or weapon system for occupation when the primary position becomes untenable or unsuitable for carrying out the assigned task. (FM 3-90)

ambush

A variation of attack from concealed positions against a moving or temporarily halted enemy. (FM 3-90)

approach march

The advance of a combat unit when direct contact with the enemy is intended. (FM 3-90)

area defense

A type of defensive operation that concentrates on denying enemy forces access to designated terrain for a specific time rather than destroying the enemy outright. (ADP 3-90)

area of influence

An area inclusive of and extending beyond an operational area wherein a commander is capable of direct influence by maneuver, fire support, and information normally under the commander's command or control. (JP 3-0)

area of interest

That area of concern to the commander, including the area of influence, areas adjacent to it, and extending into enemy territory. (JP 3-0)

area of operations

An operational area defined by a commander for the land or maritime force commander to accomplish their missions and protect their forces. (JP 3-0)

area reconnaissance

A form of reconnaissance operation that focuses on obtaining detailed information about the terrain or enemy activity within a prescribed area. (FM 3-90)

area security

A type of security operation conducted to protect friendly forces, lines of communications, installation routes and actions within a specific area. (FM 3-90)

area support

A task assigned to a sustainment unit directing it to support units in or passing through a specified location. (ATP 4-90)

assailable flank

A flank exposed to attack or envelopment. (ADP 3-90)

assault

(Army) A short and violent well-ordered attack against a local objective. (FM 3-90)

assault position

A covered and concealed position short of the objective from which final preparations are made to assault the objective. (ADP 3-90)

assembly area

An area a unit occupies to prepare for an operation. (FM 3-90)

assured mobility

A framework—of processes, actions, and capabilities—that assures the ability of a force to deploy, move, and maneuver where and when desired. (ATP 3-90.4)

attack

A type of offensive operation that defeats enemy forces, seizes terrain, or secures terrain. (FM 3-90)

attack by fire

A tactical mission task using direct and indirect fires to engage an enemy from a distance. (FM 3-90)

attack by fire position

The general position from which a unit performs the tactical task of attack by fire. (ADP 3-90)

attack position

(Army) The last position an attacking force occupies or passes through before crossing the line of departure. (ADP 3-90)

avenue of approach

A path used by an attacking force leading to its objective or to key terrain. Avenues of approach exist in all domains. (ADP 3-90)

battle handover

A coordinated mission between two units that transfers responsibility for fighting an enemy force from one unit to another. (FM 3-90)

battle handover line

A designated phase line where responsibility transitions from the stationary force to the moving force and vice versa. (ADP 3-90)

battle position

A defensive location oriented on a likely enemy avenue of approach. (ADP 3-90)

block

1. A tactical mission task that denies the enemy access to an area or an avenue of approach. 2. An obstacle effect that integrates fire planning and obstacle effort to stop an attacker along a specific avenue of approach or prevent the attacking force from passing through an engagement area. (FM 3-90)

boundary

A line that delineates surface areas for the purpose of facilitating coordination and deconfliction of operations between adjacent units, formations, or areas. (JP 3-0)

bounding overwatch

A movement technique used when contact with enemy forces is expected. (FM 3-90)

breach

1. A tactical mission task in which a unit breaks through or establishes a passage through an enemy obstacle. (FM 3-90) 2. A synchronized combined arms activity under the control of the maneuver commander conducted to allow maneuver through an obstacle. (ATP 3-90.4)

breach area

A defined area where a breach occurs. (ATP 3-90.4)

breakout

An operation conducted by an encircled force to regain freedom of movement or contact with friendly units. (ADP 3-90)

bypass

A tactical mission task in which a unit deliberately avoids contact with an obstacle or enemy force. (FM 3-90)

bypass criteria

Measures established by higher echelon headquarters that specify the conditions and size under which enemy units and contact may be avoided. (FM 3-90)

call for fire

A standardized request for fire containing data necessary for obtaining the required fire on a target. (FM 3-09)

canalize

(Army) A tactical mission task in which a unit restricts enemy movement to a narrow zone. (FM 3-90)

casualty collection point

A location that may or may not be staffed, where casualties are assembled for evacuation to a medical treatment facility. (ATP 4-02.2)

casualty evacuation

The movement of casualties aboard nonmedical vehicles or aircraft without en route medical care. (FM 4-02)

checkpoint

A predetermined point on the ground used to control movement, tactical maneuver, and orientation. (FM 3-90)

chemical agent

A chemical substance that is intended for use in military operations to kill, injure, or incapacitate through its physiological effects. (JP 3-11)

chemical, biological, radiological, or nuclear environment

An operational environment that includes probable chemical, biological, radiological, or nuclear threats and hazards and their resulting effects. (JP 3-11)

chemical biological, radiological, and nuclear operations

Chemical, biological, radiological, and nuclear operations include the employment of capabilities that assess, protect against, and mitigate chemical, biological, radiological, and nuclear incidents. (FM 3-11)

chemical, biological, radiological, or nuclear incident

Any accidental or intentional release of a chemical, biological, radiological, or nuclear hazard. (JP 3-11)

chemical hazard

Any chemical manufactured, used, transported, or stored that can cause death or other harm through toxic properties of those materials, including chemical agents and chemical weapons prohibited under the Chemical Weapons Convention and toxic industrial chemicals. (JP 3-11)

clear

A tactical mission task in which a unit eliminates all enemy forces within an assigned area. (FM 3-90)

close air support

Air action by aircraft against hostile targets that are in close proximity to friendly forces and that require detailed integration of each air mission with the fire and movement of those forces. (JP 3-09.3)

close combat

Warfare carried out on land in a direct-fire fight, supported by direct and indirect fires and other assets. (ADP 3-0)

close operations

Tactical actions of subordinate maneuver forces and the forces providing immediate support to them, whose purpose is to employ maneuver and fires to close with and destroy enemy forces. (ADP 3-0)

collaborative planning

Two or more echelons planning together in real time, sharing information, perceptions, and ideas to develop their respective plans simultaneously. (ADP 5-0)

collateral damage

A form of collateral effect that causes unintentional or incidental injury or damage to persons or objects that would not be lawful military targets in the circumstances ruling at the time. (JP 3-60)

column formation

A movement formation with elements arranged one behind another. (FM 3-90)

combat identification

The process of attaining an accurate characterization of detected objects in the operational environment sufficient to support an engagement decision. (JP 3-09)

combat information

A report that is gathered by or provided to the tactical commander which, due to its highly perishable nature or the criticality of the situation, cannot be processed into tactical intelligence before being used to support decision making. (FM 2-0)

combat outpost

A reinforced observation post capable of conducting limited combat operations. (FM 3-90)

combat power

The total means of destructive and disruptive force that a military unit/formation can apply against an enemy at a given time. (JP 3-0)

combined arms

The synchronized and simultaneous application of arms to achieve an effect greater than if each element was used separately or sequentially. (ADP 3-0)

command and control

The exercise of authority and direction by a properly designated commander over assigned and attached forces in the accomplishment of the mission. (JP 1, Volume 2)

command and control warfighting function

The related tasks and a system that enable commanders to exercise authority and direction to accomplish missions. (ADP 3-0)

commander's critical information requirement

Specific information identified by the commander as being essential to facilitate timely decision making. (JP 3-0)

commander's intent

A clear and concise expression of the purpose of an operation and the desired objectives and military end state. (JP 3-0)

company

A unit consisting of two or more platoons, usually of the same type, with a headquarters and a limited capacity for self-support. (ADP 3-90)

company team

A combined arms organization formed by attaching one or more nonorganic armor, mechanized Infantry, Stryker Infantry, or Infantry platoons to a tank, mechanized Infantry, Stryker, or Infantry company, either in exchange for, or in addition to, its organic platoons. (ADP 3-90)

complex terrain

A geographical area consisting of one or more of the following: an urban center larger than a village, or two or more types of restrictive terrain or environmental conditions occupying the same geographic location. (ATP 3-34.80)

concealment

Protection from observation or surveillance. (FM 3-96)

concept of operations

(Army) A statement that directs the manner in which subordinate units cooperate to accomplish the mission and establishes the sequence of actions the force will use to achieve the end state. (ADP 5-0)

consolidate

To organize and strengthen a captured position to use it against the enemy. (FM 3-90)

consolidate gains

Activities to make enduring any temporary operational success and to set the conditions for a sustainable strategic environment, allowing for a transition of control to other legitimate authorities. (ADP 3-0)

constraint

(Army) A restriction placed on the command by a higher command. (FM 5-0)

contain

A tactical mission task in which a unit stops, holds, or surrounds an enemy force. (FM 3-90)

control measure

A means of regulating forces or warfighting functions. (ADP 6-0)

conventional warfare

(Army) A violent struggle for domination between nation-states or coalitions of nation-states. (ADP 3-0)

cordon and search

A variation of movement to contact where a friendly force isolates and searches a target area. (FM 3-90)

counterattack

A variation of attack by a defending force against an attacking enemy force. (FM 3-90)

countering weapons of mass destruction

Efforts against actors of concern to curtail the conceptualization, development, possession, proliferation, use, and effects of weapons of mass destruction, related expertise, materials, technologies, and means of delivery. (JP 3-40)

countermobility

(Army/Marine Corps) A set of combined arms activities that use or enhance the effects of natural and man-made obstacles to prevent the enemy freedom of movement and maneuver. (ATP 3-90.8)

counterreconnaissance

A tactical mission task that encompasses all measures taken by a unit to counter enemy reconnaissance and surveillance efforts. (FM 3-90)

cover

(Army) A type of security operation done independent of the main body to protect them by fighting to gain time while preventing enemy ground observation of and direct fire against the main body. (ADP 3-90)

cyberspace operations

The employment of cyberspace capabilities where the primary purpose is to achieve objectives in or through cyberspace. (JP 3-0)

data

In the context of decision making, unprocessed observations detected by a collector of any kind (human, mechanical, or electronic). (ADP 6-0)

decision point

The latest time when the commander anticipates making a key decision concerning a specific course of action. (JP 5-0)

decisively engaged

A fully committed force or unit that cannot maneuver or extricate itself. (FM 3-90)

decisive point

Key terrain, key event, critical factor, or function that, enables commanders to gain a marked advantage or to achieve success. (JP 5-0)

decisive terrain

Key terrain whose seizure and retention is mandatory for successful mission accomplishment. (ADP 3-90)

deep operations

Tactical actions against enemy forces, typically out of direct contact with friendly forces, intended to shape future close operations and protect rear operations. (ADP 3-0)

defeat

To render a force incapable of achieving its objectives. (ADP 3-0)

defeat mechanism

A method through which friendly forces accomplish their mission against enemy opposition. (ADP 3-0)

defensive operation

An operation to defeat an enemy attack, gain time, and develop conditions favorable for offensive or stability operations. (ADP 3-0)

delay

When a force under pressure trades space for time by slowing down the enemy's momentum and inflicting maximum damage on enemy forces without becoming decisively engaged. (ADP 3-90)

delay line

A phase line over which an enemy is not allowed to cross before a specific date and time or enemy condition. (FM 3-90)

deliberate breach

The systematically planned and executed creation of a lane through a barrier or obstacle. (ATP 3-90.4)

deliberate operation

An operation in which the tactical situation allows the development and coordination of detailed plans, including multiple branches and sequels. (ADP 3-90)

demonstration

A variation of tactical deception used as a show of force in an area where a unit does not seek a decision and attempts to mislead an adversary. (FM 3-90)

denial operations

Actions to hinder or deny the enemy the use of terrain, supplies, or facilities. (FM 3-90)

deny

A task to hinder or prevent the enemy from using terrain, space, personnel, supplies, or facilities. (ATP 3-21.20)

depth

The extension of operations in time, space, or purpose to achieve definitive results. (ADP 3-0)

destroy

A tactical mission task that physically renders an enemy force combat-ineffective until reconstituted. (FM 3-90).

detachment left in contact

An element left in contact as part of the previously designated security force while the main body conducts its withdrawal. (FM 3-90)

direct fire

Fire delivered on a target using the target itself as a point of aim for either the weapon or the director. (JP 3-09.3)

directed obstacle

An obstacle directed by a higher commander as a specified task to a subordinate unit. (ATP 3-90.8)

disengage

A tactical mission task in which a unit breaks contact with the enemy to conduct another mission or to avoid becoming decisively engaged. (FM 3-90)

disengagement line

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 position. (ADP 3-90)

dismounted movement

A movement of troops and equipment mainly by foot, with limited support by vehicles. (FM 3-90)

domain

A physically defined portion of an operational environment requiring a unique set of warfighting capabilities and skills. (FM 3-0)

double envelopment

A variation of envelopment where forces simultaneously attack along both flanks of an enemy force. (FM 3-90)

echelon formation

A movement formation with elements arranged on an angle to the left or to the right of the direction of attack (echelon left, echelon right). (FM 3-90)

echeloned sustainment

An array of capabilities placed at critical locations to link and facilitate support between echelons in an area of operation. (ATP 4-90)

electromagnetic protection

Division of electromagnetic warfare that protects personnel, facilities, and equipment from any effects of friendly or enemy use of the electromagnetic spectrum. (JP 3-85)

electromagnetic warfare

Military action involving the use of electromagnetic energy to control the electromagnetic spectrum or to attack the enemy. (JP 3-85)

emergency medical treatment

The immediate application of medical procedures to the wounded, injured, or sick by specially trained medical personnel. (FM 4-02)

emission control

The controlled use of electromagnetic, acoustic, or other emitters to optimize command and control capabilities and minimize detection by enemy sensors, mutual interference among friendly systems, and enemy interference with the ability to execute a military deception plan. (JP 3-85)

encirclement operations

Operations where one force loses its freedom of maneuver because an opposing force is able to isolate it by controlling all ground lines of communications and reinforcement. (ADP 3-90)

end state

The set of required conditions that defines achievement of the commander's objectives. (JP 3-0)

enemy

A party identified as hostile against which the use of force is authorized. (ADP 3-0)

engagement area

An area where the commander masses effects to contain and destroy an enemy force. (FM 3-90)

engagement criteria

Protocols that specify those circumstances for initiating engagement with an enemy force. (FM 3-90)

engagement priority

Identifies the order in which the unit engages enemy systems or functions. (FM 3-90)

envelopment

A form of maneuver in which an attacking force avoids an enemy's principal defense by attacking along an assailable flank. (FM 3-90)

essential element of friendly information

A critical aspect of a friendly operation that, if known by a threat would subsequently compromise, lead to failure, or limit success of the operation and therefore should be protected from enemy detection. (ADP 6-0)

essential task

(Army) A specified or implied task that must be executed to accomplish the mission. (FM 5-0)

execution

The act of putting a plan into action by applying combat power to accomplish the mission and adjusting operations based on changes in the situation. (ADP 5-0)

exfiltrate

A tactical mission task in which a unit removes Soldiers or units from areas under enemy control by stealth, deception, surprise, or clandestine means. (FM 3-90)

exfiltration

The removal of personnel or units from areas under enemy control by stealth, deception, surprise, or clandestine means. (JP 3-50)

exploitation

(Army) A type of offensive operation that usually follows a successful attack and is designed to disorganize the enemy in depth. (ADP 3-90)

far side objective

A defined location oriented on the terrain or on an enemy force that an assaulting force seizes to eliminate enemy direct fires to prevent the enemy from interfering with the reduction of obstacles and allows follow-on forces to move securely through created lanes. (ATP 3-90.4)

feint

A variation of tactical deception that makes contact solely to deceive the adversary as to the location, time of attack or both. (FM 3-90)

field of fire

The area that a weapon or group of weapons may cover effectively from a given position. (FM 3-90)

final coordination line

A phase line close to the enemy position used to coordinate the lifting or shifting of supporting fires with the final deployment of maneuver elements. (ADP 3-90)

final protective fire

An immediately available, prearranged barrier of fire designed to impede enemy movement across defensive lines or areas. (JP 3-09.3)

final protective line

A selected line of fire where an enemy assault is to be checked by interlocking fire from all available weapons and obstacles. (FM 3-90)

fire and movement

The concept of applying fires from all sources to suppress, neutralize, or destroy the enemy, and the tactical movement of combat forces in relation to the enemy (as components of maneuver applicable at all echelons). At the squad level, fire and movement entails a team placing suppressive fire on the enemy as another team moves against or around the enemy. (FM 3-96)

fire plan

A tactical plan for using the weapons of a unit or formation so that their fire will be coordinated. (FM 3-09)

fires

The use of weapon systems or other actions to engage a target to create specific lethal or nonlethal effects. (JP 3-09)

fire superiority

The dominating fires of one force over another force that permits that force to maneuver at a given time and place without prohibitive interference by the other. (FM 3-90)

fire support

Fires that directly support joint forces that are engaged with enemy forces. (JP 3-09)

fire support plan

A plan that addresses each means of fire support available and describes how Army indirect fires, joint fires support, and target acquisition are integrated into operations to facilitate success. (FM 3-09)

fire support planning

The continuing process of analyzing, allocating, integrating, synchronizing, and scheduling fires to describe how the effects of fires facilitate supported force actions. (FM 3-09)

fires warfighting function

The related tasks and systems that create and converge effects in all domains against the threat to enable operations across the range of military operations. (ADP 3-0)

fix

1. A tactical mission task in which a unit prevents the enemy from moving from a specific location for a specific period. 2. An obstacle effect that focuses fire planning and obstacle effort to slow an attacker’s movement within a specified area, normally an engagement area. (FM 3-90)

fixing force

A force designated to supplement the striking force by preventing the enemy from moving from a specific area for a specific time. (ADP 3-90)

follow and assume

A tactical mission task in which a committed force follows and supports a lead force conducting an offensive operation and continues mission if lead force cannot continue. (FM 3-90)

follow and support

A tactical mission task in which a committed force follows and supports a lead force conducting an offensive operation. (FM 3-90)

force tailoring

The process of determining the right mix of forces and the sequence of their deployment in support of a joint force commander. (ADP 3-0)

forced march

A march longer or faster than usual or in adverse conditions. (FM 3-90)

forms of maneuver

Distinct tactical combinations of fire and movement with a unique set of doctrinal characteristics that differ primarily in the relationship between the maneuvering force and the enemy. (ADP 3-90)

forward air controller

An officer (aviator/pilot) member of the tactical air control party who, from a forward ground or airborne position, controls aircraft in close air support of ground troops. (JP 3-09.3)

forward air controller (airborne)

A specifically trained and qualified aviation officer, normally an airborne extension of the tactical air control party, who exercises control from the air of aircraft engaged in close air support of ground troops. (JP 3-09.3)

forward edge of the battle area

The foremost limits of a series of areas in which ground combat units are deployed to coordinate fire support, the positioning of forces, or the maneuver of units, excluding areas in which covering or screening forces are operating. (JP 3-09.3)

forward line of own troops

A line that indicates the most forward positions of friendly forces in any kind of military operation at a specific time. (FM 3-90)

forward observer

An individual operating with front line troops trained to adjust ground or naval gunfire and pass back battlefield information. (JP 3-09)

forward operating base

An airfield used to support tactical operations without establishing full support facilities. (JP 3-09.3)

forward passage of lines

Occurs when a unit passes through another unit’s positions while moving toward the enemy. (ADP 3-90)

fragmentary order

An abbreviated operation order issued as needed to change or modify an order or to execute a branch or sequel. (JP 5-0)

friendly force information requirement

Information the commander and staff need to understand the status of friendly force and supporting capabilities. (JP 3-0)

frontal attack

A form of maneuver in which an attacking force seeks to destroy a weaker enemy force or fix a larger enemy force in place over a broad front. (FM 3-90)

guard

A type of security operation done to protect the main body by fighting to gain time while preventing enemy ground observation of and direct fire against the main body. (ADP 3-90)

hasty breach

The creation of lanes through enemy minefields by expedient methods such as blasting with demolitions, pushing rollers or disabled vehicles through the minefields when the time factor does not permit detailed reconnaissance, deliberate breaching, or bypassing the obstacle. (JP 3-15)

hasty operation

An operation in which a commander directs immediately available forces, using fragmentary orders, to perform tasks with minimal preparation, trading planning and preparation time for speed of execution. (ADP 3-90)

high-value target

A target the enemy requires for the successful completion of the mission. (JP 3-60)

human dimension

Encompasses people and the interaction between individuals and groups, how they understand information and events, make decisions, generate will, and act within an operational environment. (FM 3-0)

implied task

A task that must be performed to accomplish a specified task or mission but is not stated in the higher headquarters' order. (FM 5-0)

indirect fire

The fire delivered at a target not visible to the firing unit; the fire delivered to a target that is not itself used as a point of aim for the weapons or the director. (TC 3-09.81)

infiltration

A form of maneuver in which an attacking force conducts undetected movement through or into an area occupied by enemy forces. (FM 3-90)

infiltration lane

A control measure that coordinates forward and lateral movement of infiltrating units and fixes fire planning responsibilities. (FM 3-90)

information

In the context of decision making, data that has been organized and processed in order to provide context for further analysis. (ADP 6-0)

informational considerations

Those aspects of the human, information, and physical dimensions that affect how humans and automated systems derive meaning from, use, act upon, and are impacted by information. (FM 3-0)

information dimension

The content and data that individuals, groups, and information systems communicate and exchange, as well as the analytics and technical processes used to exchange information within an operational environment. (FM 3-0)

information environment

The aggregate of social, cultural, linguistic, psychological, technical, and physical factors that affect how humans and automated systems derive meaning from, act upon, and are impacted by information, including the individuals, organizations, and systems that collect, process, disseminate, or use information. (JP 3-04)

information management

(Army) The science of using procedures and information systems to collect, process, store, display, disseminate, and protect data, information, and knowledge products. (ADP 6-0)

intelligence analysis

The process by which collected information is evaluated and integrated with existing information to facilitate intelligence production. (ADP 2-0)

intelligence operations

(Army) The tasks undertaken by military intelligence units through the intelligence disciplines to obtain information to satisfy validated requirements. (ADP 2-0)

intelligence warfighting function

The related tasks and systems that facilitate understanding the enemy, terrain, weather, civil considerations, and other significant aspects of the operational environment. (ADP 3-0)

interdict

A tactical mission task in which a unit prevents, disrupts, or delays the enemy's use of an area or route in any domain. (FM 3-90)

interdiction

An action to divert, disrupt, delay, or destroy the enemy's military surface capability before it can be used effectively against friendly forces or otherwise be used to achieve enemy objectives. (JP 3-03)

irregular warfare

(Army) The overt, clandestine, and covert employment of military and non-military capabilities across multiple domains by state and non-state actors through methods other than military domination of an adversary, either as the primary approach or in concert with conventional warfare. (ADP 3-0)

joint fires observer

A certified and qualified Service member who requests, controls, and adjusts surface-to-surface fires; provides targeting information in support of close air support; and performs terminal guidance operations. (JP 3-09.3)

joint terminal attack controller

A qualified (certified) Service member who, from a forward position, directs the action of combat aircraft engaged in close air support and other offensive air operations. (JP 3-09.3)

key terrain

(Army) An identifiable characteristic whose seizure or retention affords a marked advantage to either combatant. (ADP 3-90)

kill zone

The location where fires are concentrated in an ambush. (FM 3-90)

knowledge

In the context of decision making, information that has been analyzed and evaluated for operational implications. (ADP 6-0)

knowledge management

The process of enabling knowledge flow to enhance shared understanding, learning, and decision making. (ADP 6-0)

lane

(Army/Marine Corps) A route through, over, or around an enemy or friendly obstacle that provides passage of a force. (ATP 3-90.4)

large-scale combat operations

Extensive joint combat operations in terms of scope and size of forces committed, conducted as a campaign aimed at achieving operational and strategic objectives. (ADP 3-0)

leadership

The activity of influencing people by providing purpose, direction, and motivation to accomplish the mission and improve the organization. (ADP 6-22)

limit of advance

A phase line used to control forward progress of the attack. (ADP 3-90)

line formation

A movement formation in which elements move abreast of each other. (FM 3-90)

line of contact

A general trace delineating the location where friendly and enemy forces are engaged. (FM 3-90)

line of departure

In land warfare, a line designated to coordinate the departure of attack elements. (JP 3-31)

linkup

A type of enabling operation that involves the meeting of friendly ground forces, which occurs in a variety of circumstances. (FM 3-90)

linkup point

A designated place where two forces are scheduled to meet. (FM 3-90)

local security

The low-level security activities conducted near a unit to prevent surprise by the enemy. (ADP 3-90)

logistics package

A grouping of multiple classes of supply and supply vehicles under the control of a single convoy commander. (FM 3-90)

main battle area

The area where the commander intends to deploy the bulk of their unit to defeat an attacking enemy. (FM 3-90)

main effort

A designated subordinate unit whose mission at a given point in time is most critical to overall mission success. (ADP 3-0)

maneuver

(Army) Movement in conjunction with fires. (ADP 3-90)

manned unmanned teaming

The synchronized employment of Soldiers, manned and unmanned air and ground vehicles, robotics, and sensors to achieve an objective. (FM 3-04)

march column

All march serials using the same route for a single movement under control of a single commander. (FM 3-90)

march serial

A subdivision of a march column organized under one commander. (FM 3-90)

march unit

A subdivision of a march serial. (FM 3-90)

medical evacuation

The timely and effective movement of the wounded, injured, or ill to and between medical treatment facilities on dedicated and properly marked medical platforms with en route care provided by medical personnel. (ATP 4-02.2)

meeting engagement

A combat action that occurs when a moving force engages an enemy at an unexpected time and place. (FM 3-90)

mission

The essential task or tasks, together with the purpose, that clearly indicates the action to be taken and the reason for the action. (JP 3-0)

mission command

(Army) The Army's approach to command and control that empowers subordinate decision making and decentralized execution appropriate to the situation. (ADP 6-0)

mission orders

Directives that emphasize to subordinates the results to be attained, not how they are to achieve them. (ADP 6-0)

mission statement

A short sentence or paragraph that describes the organization's essential task(s), purpose, and action containing the elements of who, what, when, where, and why. (JP 5-0)

mission variables

Categories of specific information needed to conduct operations. (ADP 1-01)

mobile defense

A type of defensive operation that concentrates on the destruction or defeat of the enemy through a decisive attack by a striking force. (ADP 3-90)

mobility

A quality or capability of military forces which permits them to move from place to place while retaining the ability to fulfill their primary mission. (JP 3-36)

mounted movement

The movement of troops and equipment by combat and tactical vehicles. (FM 3-90)

movement

The positioning of combat power to establish the conditions for maneuver. (ADP 3-90)

movement and maneuver warfighting function

The related tasks and systems that move and employ forces to achieve a position of relative advantage with respect to the enemy. (ADP 3-0)

movement formation

An ordered arrangement of forces for a specific purpose and describes the general configuration of a unit on the ground. (ADP 3-90)

movement to contact

(Army) A type of offensive operation designed to establish or regain contact to develop the situation. (FM 3-90)

multidomain operations

The combined arms employment of joint and Army capabilities to create and exploit relative advantages to achieve objectives, defeat enemy forces, and consolidate gains on behalf of joint force commanders. (ADP 3-0)

mutual support

That support which units render each other throughout joint operations, because of their assigned tasks, their position relative to each other and to the enemy, or their inherent capabilities. (JP 3-31)

named area of interest

The geospatial area or systems node or link against which information that will satisfy a specific information requirement can be collected, usually to capture indications of enemy and adversary courses of action. (JP 2-0)

networked munitions

Remotely controlled, interconnected, weapons systems designed to provide rapidly emplaced ground-based countermobility and protection capability through scalable application of lethal and nonlethal means. (JP 3-15)

neutralize

A tactical mission task in which a unit renders the enemy incapable of interfering with an operation. (FM 3-90)

nontactical movement

A movement in which troops and vehicles are arranged to expedite their movement and conserve time and energy when no enemy ground interference is anticipated. (FM 3-90)

objective area

A geographical area, defined by competent authority, within which is located an objective to be captured or reached by the military forces. (JP 3-06)

objective rally point

An easily identifiable point where all elements of the infiltrating unit assemble and prepare to attack the objective. (ADP 3-90)

observation post

A position from which observations are made or fires are directed and adjusted. (FM 3-90)

obstacle

Any barrier designed or employed to disrupt, fix, turn, or block the movement and maneuver, and to impose additional losses in personnel, time, and equipment. (JP 3-15)

obstacle belt

A brigade-level command and control measure, normally depicted graphically, to show where within an obstacle zone the ground tactical commander plans to limit friendly obstacle employment and focus the defense. (JP 3-15)

obstacle control measures

Specific measures that grant obstacle-emplacing authority. (FM 3-90)

obstacle group

One or more individual obstacles that provide a specific obstacle effect. (FM 3-90)

obstacle restricted areas

A command and control measure used to limit the type or number of obstacles within an area. (JP 3-15)

obstacle zone

A division-level command and control measure to designate specific land areas where lower echelons are allowed to employ tactical obstacles. (JP 3-15)

offensive operation

An operation to defeat or destroy enemy forces and gain control of terrain, resources, and population centers. (ADP 3-0)

operation

A sequence of tactical actions with a common purpose or unifying theme. (JP 1, Volume 1)

operational approach

A broad description of the mission, operational concepts, tasks, and actions required to accomplish the mission. (JP 5-0)

operational environment

The aggregate of the conditions, circumstances, and influences that affect the employment of capabilities and bear on the decisions of the commander. (JP 3-0)

operational framework

A cognitive tool used to assist commanders and staffs in clearly visualizing and describing the application of combat power in time, space, purpose, and resources in the concept of operations. (ADP 1-01)

operational variables

A comprehensive set of information categories used to describe an operational environment. (ADP 1-01)

operation order

A commander's directive that defines the mission and the subordinate commanders' roles and responsibilities for the operation. (JP 5-0)

operations process

The major command and control activities performed during operations: planning, preparing, executing, and continuously assessing the operation. (ADP 5-0)

***overwatch**

A task that positions an element to support the movement of another element with immediate fire.

parallel planning

Two or more echelons planning for the same operations nearly simultaneously facilitated by the use of warning orders by the higher headquarters. (ADP 5-0)

passage of lines

An operation in which a force moves forward or rearward through another force's combat positions with the intention of moving into or out of contact with the enemy. (JP 3-18)

penetration

A form of maneuver in which a force attacks on a narrow front. (FM 3-90)

personnel recovery

The sum of military, diplomatic, and civil efforts to prepare for and execute the recovery and reintegration of isolated personnel. (JP 3-50)

phase

(Army) A planning and execution tool used to divide an operation in duration or activity. (ADP 3-0)

physical dimension

The material characteristics and capabilities, both natural and manufactured, within an operational environment. (FM 3-0)

planning

The art and science of understanding a situation, envisioning a desired future, and determining effective ways to bring that future about. (ADP 5-0)

planning horizon

A point in time commanders use to focus the organization's planning efforts to shape future events. (ADP 5-0)

point of breach

The location at an obstacle where the creation of a lane is being attempted. (ATP 3-90.4)

point of departure

The point where the unit crosses the line of departure and begins moving along a direction of attack. (ADP 3-90)

point of penetration

Point of penetration is the location, identified on the ground, where the commanders concentrate their efforts to seize a foothold on the far side objective. (ATP 3-90.4)

preparation

Those activities performed by units and Soldiers to improve their ability to execute an operation. (ADP 5-0)

preparation fire

A brief, intense bombardment on selected targets or a prolonged effort over time covering a large number of targets. (FM 3-09)

primary position

The position that covers the enemy's most likely avenue of approach into the assigned area. (FM 3-90)

priority intelligence requirement

The intelligence component of commander's critical information requirements used to focus the employment of limited intelligence assets and resources against competing demands for intelligence support. (JP 2-0)

priority target

A target, based on either time or importance, on which the delivery of fires takes precedence over all the fires for the designated firing unit or element. (FM 3-09)

probable line of deployment

A phase line that designates the location where the commander intends to deploy the unit into assault formation before beginning the assault. (ADP 3-90)

proof

The verification that a lane is free of mines or explosive hazards and that the width and trafficability at the point of breach are suitable for the passing force. (ATP 3-90.4)

protection warfighting function

The related tasks, systems, and methods that prevent or mitigate detection, threat effects, and hazards to preserve the force, deny the enemy freedom of action, and enable commanders to apply combat power. (FM 3-0)

pursuit

A type of offensive operation to catch or cut off a disorganized hostile force attempting to escape, with the aim of destroying it. (FM 3-90)

quartering party

A group dispatched to a new assigned area in advance of the main body. (FM 3-90)

quick reaction force

A commander designated force to respond to threat attacks or emergencies. (FM 3-90)

raid

(Army) A variation of attack to temporarily seize an objective with a planned withdrawal. (FM 3-90)

rally point

An easily identifiable point on the ground at which units can reassemble and reorganize if they become dispersed. (FM 3-90)

rear operations

Tactical actions behind major subordinate maneuver forces that facilitate movement, extend operational reach, and maintain desired tempo. (ADP 3-0)

rearward passage of lines

Occurs when a unit passes through another unit's positions while moving away from the enemy. (ADP 3-90)

reconnaissance

A mission undertaken to obtain information about the activities and resources of an enemy or adversary, or to secure data concerning the meteorological, hydrographic, geographic, or other characteristics of a particular area, by visual observation or other detection methods. (JP 2-0)

reconnaissance by fire

A technique in which a unit fires on a suspected enemy position. (FM 3-90)

reconstitution

An operation that commanders plan and implement to restore units to a desired level of combat effectiveness commensurate with mission requirements and available resources. (ATP 3-94.4)

reduce

A mobility task to create and mark lanes through, over, or around an obstacle to allow the attacking force to accomplish its mission. (FM 1-02.1)

reduction

The creation of lanes through a minefield or obstacle to enable passage of the attacking ground force. (JP 3-15)

reduction area

A number of adjacent points of breach that are under the control of the breaching commander. (ATP 3-90.4)

rehearsal

A session in which the commander and staff or unit practices expected actions to improve performance during execution. (ADP 5-0)

release point

A designated place on a route where elements are released from centralized control. (FM 3-90)

relative advantage

A location or condition, in any domain, relative to an adversary or enemy that provides an opportunity to progress towards or achieve an objective. (ADP 3-0)

reorganization

All measures taken by the commander to maintain unit combat effectiveness or return it to a specified level of combat capability. (ATP 3-94.4)

reserve

(Army) That portion of a body of troops that is withheld from action at the beginning of an engagement to be available for a decisive movement. (ADP 3-90)

reserved obstacle

(Army) Obstacles of any type, for which the commander restricts execution authority. (ATP 3-90.8)

restricted operations zone

Airspace reserved for specific activities in which the operations of one or more airspace users is restricted. (JP 3-52)

retirement

When a force out of contact moves away from the enemy. (ADP 3-90)

retrograde

(Army) A type of defensive operation that involves organized movement away from the enemy. (ADP 3-90)

risk management

The process to identify, assess, and mitigate risks and make decisions that balance risk cost with mission benefits. (JP 3-0)

route reconnaissance

A form of reconnaissance operation to obtain detailed information of a specified route and all terrain from which the enemy could influence movement along that route. (FM 3-90)

scheme of fires

The detailed, logical sequence of targets and fire support events to find and engage targets to support the commander's objective. (JP 3-09)

screen

A type of security operation that primarily provides early warning to the protected force. (ADP 3-90)

search

In personnel recovery, a systematic reconnaissance of a defined area. (JP 3-50)

search and attack

A variation of a movement to contact where a friendly force conducts coordinated attacks to defeat a distributed enemy force. (FM 3-90)

sector

An operational area assigned to a unit in the defense that has rear and lateral boundaries and interlocking fires. (ADP 3-0)

sector of fire

That area assigned to a unit or weapon system in which it will engage the enemy according to the established engagement priorities. (FM 3-90)

secure

A tactical mission task in which a unit prevents the enemy from damaging or destroying a force, facility, or geographical location. (FM 3-90)

security

Measures taken by a military unit, activity, or installation to protect itself against all acts designed to, or which may, impair its effectiveness. (JP 3-10)

security area

That area occupied by a unit's security elements and includes the areas of influence of those security elements. (ADP 3-90)

security operations

Those operations performed by commanders to provide early and accurate warning of enemy operations, to provide the forces being protected with time and maneuver space within which to react to the enemy, and to develop the situation to allow commanders to effectively use their protected forces. (ADP 3-90)

security sector reform

A comprehensive set of programs and activities undertaken by a host nation to improve the way it provides safety, security, and justice. (JP 3-07)

seize

(Army) A tactical mission task in which a unit takes possession of a designated area by using overwhelming force. (FM 3-90)

single envelopment

A variation of envelopment where a force attacks along one flank of an enemy force. (FM 3-90)

site exploitation

(Army) The synchronized and integrated application of scientific and technological capabilities and enablers to answer information requirements, facilitate subsequent operations, and support host-nation rule of law. (ATP 3-90.15)

situational obstacle

An obstacle that a unit plans and possibly prepares prior to starting an operation, but does not execute unless specific criteria are met. (ATP 3-90.8)

situational understanding

The product of applying analysis and judgment to relevant information to determine the relationships among the operational and mission variables. (ADP 6-0)

special reconnaissance

Reconnaissance and surveillance actions conducted as a special operation in hostile, denied, or politically sensitive environments. (JP 3-05)

specified task

(Army) A task specifically assigned to a unit by its higher headquarters. (FM 5-0)

spoiling attack

A variation of an attack employed against an enemy preparing for an attack. (FM 3-90)

stability mechanism

The primary method through which friendly forces affect civilians in order to attain conditions that support establishing a lasting, stable peace. (ADP 3-0)

start point

A designated place on a route where elements fall under the control of a designated march commander. (FM 3-90)

stay-behind operation

An operation in which a unit remains in position to conduct a specified mission while the remainder of the force withdraws or retires from an area. (FM 3-90)

striking force

A dedicated counterattack force in a mobile defense constituted with the bulk of available combat power. (ADP 3-90)

strong point

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. (ADP 3-90)

subsequent position

A position that a unit expects to move to during the course of battle. (FM 3-90)

supplementary position

A defensive position located within a unit's assigned area 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. (FM 3-90)

support area

The portion of the commander's area of operations that is designated to facilitate the positioning, employment, and protection of base sustainment assets required to sustain, enable, and control operations. (FM 3-94)

support area operations

Tactical actions that secure lines of communications, bases, and base clusters that enable an echelon's sustainment and command and control. (ADP 3-0)

support by fire

A tactical mission task in which a unit engages the enemy by direct fire in support of another maneuvering force. (FM 3-90)

support by fire position

The general position from which a unit performs the tactical mission task of support by fire. (ADP 3-90)

supporting distance

The distance between two units that can be traveled in time for one to come to the aid of the other and prevent its defeat by an enemy or ensure it regains control of a stability or defense support of civil authorities situation. (ADP 3-0)

supporting effort

A designated subordinate unit with a mission that supports the success of the main effort. (ADP 3-0)

supporting range

The distance one unit may be geographically separated from a second unit yet remain within the maximum range of the second unit's weapons systems. (ADP 3-0)

suppress

A tactical mission task in which a unit temporarily degrades a force or weapon system from accomplishing its mission. (FM 3-90)

suppression

Temporary or transient degradation by an opposing force of the performance of a weapons system below the level needed to fulfill its mission objectives. (JP 3-01)

surveillance

The systematic observation of aerospace, cyberspace, surface, or subsurface areas, places, persons, or things by visual, aural, electronic, photographic, or other means. (JP 3-0)

survivability

(Army/Marine Corps) A quality or capability of military forces which permits them to avoid or withstand hostile actions or environmental conditions while retaining the ability to fulfill their primary mission. (ATP 3-37.34)

survivability operations

Those protection activities that alter the physical environment by providing or improving cover, camouflage, and concealment. (ATP 3-37.34)

sustainment

The provision of logistics, financial management, personnel services, and health service support necessary to maintain operations until successful mission completion. (ADP 4-0)

sustainment warfighting function

The related tasks and systems that provide support and services to enable freedom of action, extend operational reach, and prolong endurance. (ADP 3-0)

tactical assembly area

An area that is generally out of the reach of light artillery and the location where units make final preparations (precombat checks and inspections) and rest, prior to moving to the line of departure. (JP 3-35)

tactical deception

A friendly activity that causes enemy commanders to take action or cause inaction detrimental to their objectives. (FM 3-90)

tactical mission task

The specific activity a unit performs while executing a tactical operation or form of maneuver. (FM 3-90)

tactical movement

A movement in which troops and vehicles are arranged to protect combat forces during movement when a threat of enemy interference is possible. (FM 3-90)

tactical road march

A rapid movement used to relocate units within an assigned area to prepare for combat operations. (FM 3-90)

tactics

The employment, ordered arrangement, and directed actions of forces in relation to each other. (ADP 3-90)

target

An entity that performs a function for the adversary or enemy considered for possible engagement. (JP 3-60)

target acquisition

The detection, identification, and location of a target in sufficient detail to permit the effective employment of capabilities that create the required effects. (JP 3-60)

target area of interest

The geographical area where high-value targets can be acquired and engaged by friendly forces. (JP 2-0)

target reference point

A predetermined point of reference, normally a permanent structure or terrain feature that can be used when describing a target location. (JP 3-09.3)

task

A clearly defined action or activity specifically assigned by an appropriate authority to an individual or organization, or derived during mission analysis, that must be accomplished. (JP 1, Volume 1)

task organization

(Army) A temporary grouping of forces designed to accomplish a particular mission. (ADP 5-0)

task-organizing

The act of designing a force, support staff, or sustainment package of specific size and composition to meet a unique task or mission. (ADP 3-0)

tempo

The relative speed and rhythm of military operations over time with respect to the enemy. (ADP 3-0)

terminal attack control

The authority to control the maneuver of and grant weapons release clearance to attacking aircraft. (JP 3-09.3)

terminal guidance operations

Actions using electronic, mechanical, voice, or visual communications that provide approaching aircraft or weapons additional information regarding a specific target location. (JP 3-09)

terrain management

The process of allocating terrain by specifying locations for units and activities to deconflict activities that might interfere with each other. (FM 3-90)

threat

Any combination of actors, entities, or forces that have the capability and intent to harm United States forces, United States national interests, or the homeland. (ADP 3-0)

traffic control post

A manned post that is used to preclude the interruption of traffic flow or movement along a designated route. (FM 3-39)

trail party

The last march unit in a march column. (FM 3-90)

traveling

A movement technique used when speed is necessary and contact with enemy forces is not likely. (FM 3-90)

traveling overwatch

A movement technique used when contact with enemy forces is possible. (FM 3-90)

trigger line

A phase line located on identifiable terrain used to initiate and mass fires into an engagement area at a predetermined range. (FM 3-90)

troop leading procedures

A dynamic process used by small-unit leaders to analyze a mission, develop a plan, and prepare for an operation. (ADP 5-0)

troop movement

The movement of Soldiers and units from one place to another by any available means. (FM 3-90)

turning movement

A form of maneuver in which the attacking force seeks to avoid the enemy's principal defensive positions by attacking to the rear of their current positions forcing them to move or divert forces to meet the threat. (FM 3-90)

understanding

In the context of decision making, knowledge that has been synthesized and had judgment applied to comprehend the situation's inner relationships, enable decision making, and drive action. (ADP 6-0)

unified action

The synchronization, coordination, or integration of the activities of governmental and nongovernmental entities with military operations to achieve unity of effort. (JP 1, Volume 1)

unified action partners

Those military forces, governmental and nongovernmental organizations, and elements of the private sector with whom Army forces plan, coordinate, synchronize, and integrate during the conduct of operations. (ADP 3-0)

unity of effort

Coordination and cooperation toward common objectives, even if the participants are not necessarily part of the same command or organization that is the product of successful unified action. (JP 1, Volume 2)

vee formation

A movement formation with two elements abreast and one or more elements trailing. (FM 3-90)

vehicle distance

The clearance between vehicles in a column, which is measured from the rear of one vehicle to the front of the following vehicle. (ATP 3-21.20)

vertical envelopment

A variation of envelopment where air-dropped or airlanded troops attack an enemy force's rear, flank, or both. (FM 3-90)

warfighting function

A group of tasks and systems united by a common purpose that commanders use to accomplish missions and training objectives. (ADP 3-0)

warning order

A preliminary notice of an order or action, or a planning directive that initiates the development and evaluation of courses of action by a commander. (JP 5-0)

wedge formation

A movement formation with one lead element and the trail elements are paired off abreast of each other on the flanks. (FM 3-90)

withdraw

To disengage from an enemy force and move in a direction away from the enemy. (ADP 3-90)

zone

An operational area assigned to a unit in the offense that only has rear and lateral boundaries. (ADP 3-0)

zone reconnaissance

A form of reconnaissance operation that involves a directed effort to obtain detailed information on all routes, obstacles, terrain, and enemy forces within a zone defined by boundaries. (FM 3-90)

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01 June 2026

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