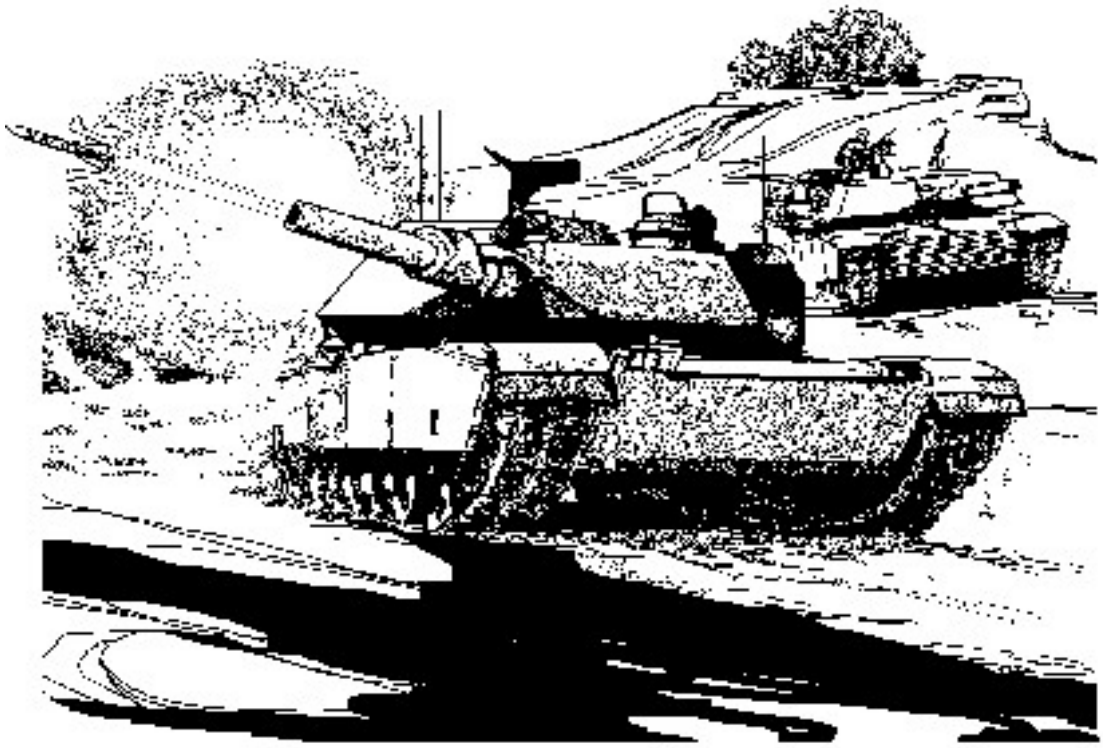
FM 17-15

TANK PLATOON



Headquarters
Department of the Army

April 1996

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This publication supersedes FM 17-15, 7 October 1987.

PREFACE

This manual describes how the tank platoon fights. It focuses on the principles of platoon operations and the tactics, techniques, and procedures (TTP) the platoon uses to exploit its combat power and minimize its vulnerabilities while conducting move, attack, and defend operations.

FM 17-15 is for tank platoon leaders and members of M60A3, M1, M1A1, M1A2, and M8-AGS crews. Because weapons and equipment vary among units, users should adapt information to fit their specific situations. Where capabilities of the various systems differ significantly, this manual examines alternative considerations and techniques for their use.

In addition to FM 17-15, three publications are critical reference sources for the tank platoon. ARTEP 17-237-10-MTP, the mission training plan for the tank platoon, contains collective platoon tasks and outlines training procedures and exercises. The other two manuals are published as Fort Knox Supplementary Material (FKSM). FKSM 17-15-1 contains information on TTP for platoons equipped with a variety of enhanced technologies. Included are the latest updates on systems covered in FM 17-15, such as the intervehicular information system (IVIS), and on newly developed equipment like the missile countermeasure device (MCD). FKSM 17-15-3 contains a detailed example of tactical standing operating procedures (TSOP). Each tank platoon can modify the TSOP to meet its unique mission requirements. For information on obtaining FKSM publications, call (502) 624-2987/5848 (commercial) or 464-2987/5848 (DSN).

The proponent of FM 17-15 is HQ TRADOC. Record comments and recommendations on DA Form 2028, and send the form directly to Commander, 2d Squadron, 16th Cavalry Regiment, United States Army Armor School, ATTN: ATSB-SBB-D, Fort Knox, Kentucky 40121-5200.

Unless otherwise stated, masculine nouns and pronouns do not refer exclusively to men.

CHAPTER 1

INTRODUCTION

The fundamental mission of the tank platoon is to close with and destroy the enemy. The platoon's ability to move, shoot, communicate, and provide armored protection is a decisive factor on the modern battlefield. It moves, attacks, defends, and performs other essential tasks to support the company team or troop mission. In accomplishing its assigned missions, the platoon uses fire, maneuver, and shock effect, synchronized with other maneuver elements and with combat support (CS) and combat service support (CSS) assets. When properly supported, it is capable of conducting sustained operations against any sophisticated threat.

The tank platoon can survive and win in battle, however, only if it is well trained, effectively led, and highly motivated. Crews must be aggres-sive, and their tactics must reflect the tempo and intensity of maneuver warfare. Platoon training must prepare them to operate in hostile territory with the enemy to their front, flanks, and rear.

CONTENTS

Section I. ORGANIZATIONS

The Tank Platoon

By itself, any tank can be vulnerable in the face of diverse battlefield hazards (such as enemy forces or unfavorable terrain) and situations; these vulnerabilities are significantly reduced when tanks are employed as units.

The tank platoon is the smallest maneuver element within a tank com-pany. Organized to fight as a unified element, the platoon consists of four main battle tanks organized into two sections, with two tanks in each section. The platoon leader (Tank 1) and platoon sergeant (Tank 4) are the section leaders. Tank 2 is the wingman in the platoon leader's section, and Tank 3 is the wingman in the platoon sergeant's section (see Figure 1-1).

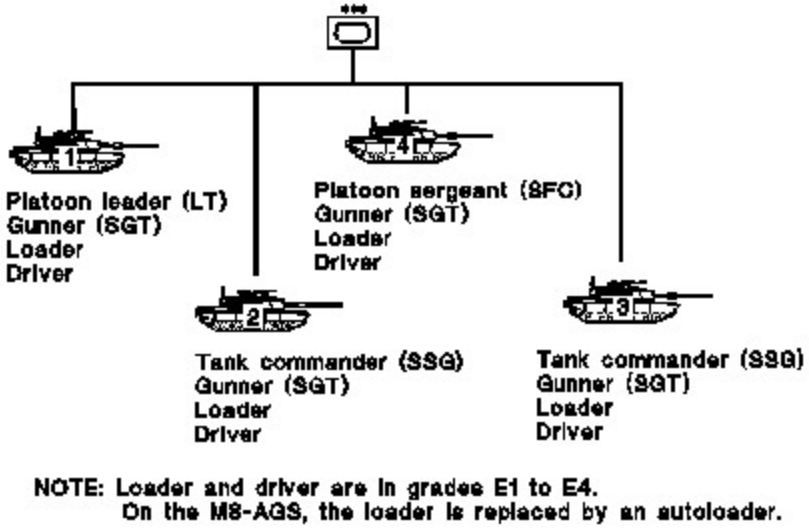


Figure 1-1. Tank platoon organization.

The tank platoon is organic to tank companies and armored cavalry troops. The platoon may be cross-attached to a number of organizations, commonly a mechanized infantry company, to create company teams. It may also be placed under operational control (OPCON) of a light infantry battalion.

Under battlefield conditions, the wingman concept facilitates control of the platoon when it operates in sections. The concept requires that one tank orient on another tank on either its left or right side. In the absence of specific instructions, wingmen move, stop, and shoot when their leaders do. In the tank platoon, Tank 2 orients on the platoon leader's tank, while Tank 3 orients on the platoon sergeant's tank. The platoon sergeant (PSG) orients on the platoon leader's tank. (See Figure 1-2.)

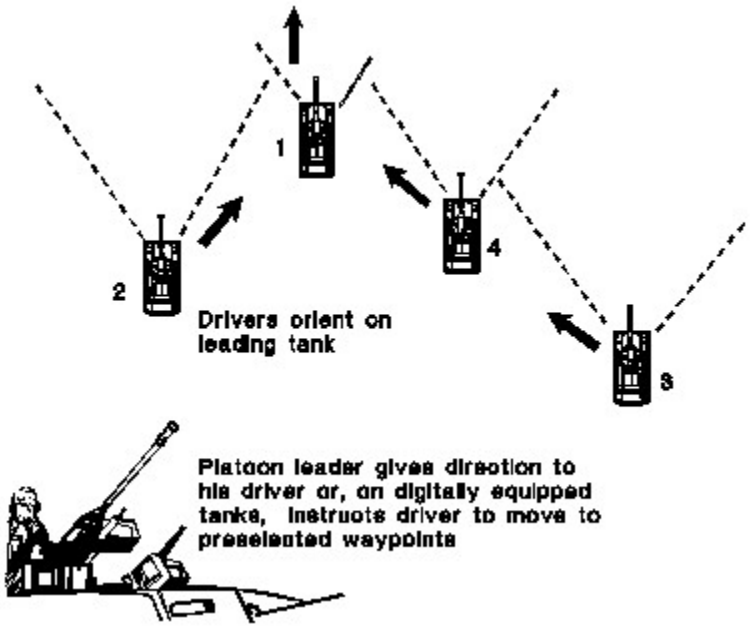


Figure 1-2. The wingman concept.

The Tank Company

The tank company is organized, equipped, and trained to fight pure; it can also be task organized by higher headquarters to fight with infantry as a company team. The tank company consists of a headquarters and three tank platoons. The company headquarters is equipped with two tanks, one M113A2 armored personnel carrier (APC), two M1025 or M998 high-mobility multipurpose wheeled vehicles (HMMWV), and one cargo truck with a 400-gallon water trailer (see Figure 1-3, page 1-4). A maintenance section from the battalion maintenance platoon is normally attached to the tank company. The maintenance section consists of one APC, one heavy recovery vehicle, and one utility truck with trailer carrying spare parts based on the prescribed load list (PLL). A medic, normally attached from the battalion medical platoon, travels in another APC.

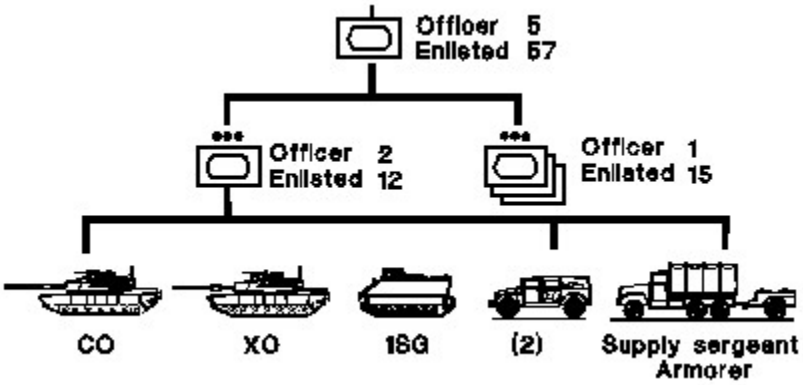


Figure 1-3. Tank company organization.

The Armored Cavalry Troop

The cavalry troop is organized, equipped, and trained to protect and conserve the combat power of other combined arms forces. While its primary missions are reconnaissance and security, the cavalry troop may be called upon to execute attack, defend, and delay missions as part of squadron and regimental missions.

The armored cavalry troop consists of a headquarters, two tank pla toons, two scout platoons, and mortar and maintenance sections. The headquarters section is equipped with one main battle tank, one command post (CP) carrier, one APC, one cargo truck, and two utility trucks. The scout platoons consist of six M3 cavalry fighting vehicles (CFV). Equipment in the mortar and maintenance sections includes two 107-mm mortars mounted in self-propelled carriers, one APC, one heavy recovery vehicle, ers. (See Figure 1-4.)

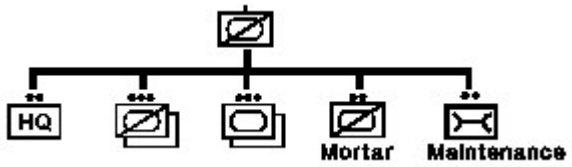


Figure 1-4. Armored cavalry troop organization.

The light armored cavalry troop has the same basic configuration. The main battle tanks are replaced by the M8 armored gun system (M8-AGS); instead of M3s, there are 10 M1025 or M1026 HMMWVs in each platoon. The mortars are towed by M1025 HMMWVs. For additional information, refer to FM 17-97.

NOTE: For information on light infantry organizations, refer to Appendix B of this manual and to FM 7-20. Additional information concerning task organized company teams is in Appendix B and in FM 71-1.

Section II. RESPONSIBILITIES

The tank crew is a tightly integrated team. Though all members have primary duties, success depends on their effectiveness as a crew. They must work together to maintain and service their tank and equipment, and they must function as one in combat. Crews must cross-train so each member can function at any of the other crew positions.

Platoon Leader

The platoon leader is responsible to the commander for the discipline and training of his platoon, the maintenance of its equipment, and its success in combat. He must be proficient in the tactical employment of his section and of the platoon in concert with a company team or troop. He must have a solid understanding of troop-leading procedures and develop his ability to apply them quickly and efficiently on the battlefield.

The platoon leader must know the capabilities and limitations of the platoon's personnel and equipment; at the same time, he must be well versed in enemy organizations, doctrine, and equipment. He must serve as an effective tank commander (TC). Most important of all, the platoon leader must be flexible, using sound judgment to make correct decisions quickly and at the right times based on his commander's intent and the tactical situation.

Platoon leaders must know and understand the task force mission and the task force commander's intent. They must be prepared to assume the duties of the company commander in accordance with the succession of command.

Platoon Sergeant

The PSG is second in command of the platoon and is accountable to the platoon leader for the training, discipline, and welfare of the soldiers in the platoon. He coordinates the platoon's main tenance and logistics requirements and handles the personal needs of individual soldiers. The PSG is the most experienced TC in the platoon. His tactical and technical knowledge allow him to serve as mentor to crewmen, other NCOs, and the platoon leader. His actions on the battlefield must complement those of the platoon leader. He must fight his section in concert with the platoon leader's section.

Tank Commander

The TC is responsible to the platoon leader and signed equipment, the reporting of logistical needs, and the tactical employment of his tank. He briefs his crew, directs the movement of the tank, submits all reports, and supervises initial first-aid treatment and evacuation of wounded crewmen. He is an expert in using the tank's weapon systems, requesting indirect fires, and executing land navigation.

The TC must know and understand the company mission and company commander's intent. He must be prepared to assume the duties and responsibilities of the platoon leader or PSG in accordance with the succession of command. These requirements demand that the TC maintain situational awareness by using all available optics for observation, by eavesdropping on radio transmissions, and by monitoring the intervehicular information system (IVIS) or appliqué digital screen (if available).

Gunner

The gunner searches for targets and aims and fires both the main gun and the coaxial machine gun. He is responsible to the TC for the maintenance of the tank's armament and fire control equipment. The gunner serves as the assistant TC and assumes the responsibilities of the TC as required. He also assists other crewmembers as needed. Several of his duties involve the tank's communications and internal control systems: logging onto and monitoring communications nets; maintaining digital links if the tank is equipped with the IVIS or appliqué digital system; inputting graphic control measures on digital overlays; and monitoring digital displays during the planning and preparation phases of an operation.

Driver

The driver moves, positions, and stops the tank. While driving, he constantly searches for covered routes and for covered positions to which he can move if the tank is engaged. He maintains his tank's position in formation and watches for visual signals. If the tank is equipped with a steer-to indicator, the driver monitors the device and selects the best tactical route. During engagements, he assists the gunner and TC by scanning for targets and sensing fired rounds. The driver is responsible to the TC for the automotive maintenance and refueling of the tank. He assists other crewmen as needed.

Loader

The loader loads the main gun and the coaxial machine gun ready box; he aims and fires the loader's machine gun (if the vehicle is equipped with one). He stows and cares for ammunition and is responsi ble to the TC for the maintenance of communications equipment. Before engagement actions are initiated, the loader searches for targets and acts as air or antitank guided missile (ATGM) guard. He also assists the TC as needed in

directing the driver so the tank maintains its position in forma tion. He assists other crewmembers as necessary. Because the loader is ideally positioned both to observe around the tank and to monitor the tank's digital displays, platoon leaders and TCs should give strong consid eration to assigning their second most experienced crewman as the loader.

NOTE: On the M8-AGS, the function of loading the main gun is handled by the autoloader. Loading of the coaxial machine gun, as well as the stowage and care of ammunition, becomes the duty of the gunner. The absence of a loader also means the TC assumes a greater degree of responsibility for air and ATGM watch.

Section III. CAPABILITIES AND LIMITATIONS

To win in battle, leaders must have a clear understanding of the capabilities and limitations of their equipment. Figures 1-5 through 1-9, pages 1-9 through 1-13, list the specifications, characteristics, and significant features of the M60A3 and M1-series main battle tanks and the M8-AGS. These listings will assist the platoon leader in evaluating transportability, sustainment, and mobility considerations for his own vehicles and for those with which the platoon may operate as part of a company team or troop.

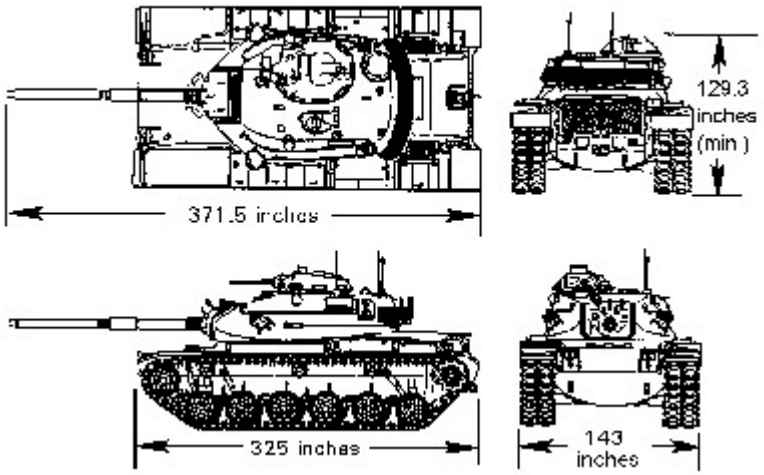
Capabilities

Tanks offer an impressive array of capabilities on the modern battlefield: excellent cross-country mobility, sophisticated communica tions, enhanced target acquisition, lethal firepower, and effective armor protection. In combination, these factors produce the shock effect that allows armor units to close with and destroy the enemy in most weather and light conditions. Tanks can move rapidly under a variety of terrain conditions, negotiating soft ground, trenches, small trees, and limited obstacles. In addition, global positioning systems (GPS) and inertial position navigation (POSNAV) systems allow today's tanks to move to virtually any designated location with greater speed and accuracy than ever before. Use of visual signals and the single channel ground/airborne radio system (SINCGARS) facilitates rapid and secure com munication of orders and instructions. This capability allows tank crews to quickly mass the effects of their weapon systems while remaining dispersed to limit the effects of the enemy's weapons. On-board optics and sighting systems enable the crews to acquire and destroy enemy tanks, armored vehicles, and fortifications using the main gun or to use machine guns to suppress enemy positions, personnel, and lightly armored targets. The tank's armor protects crewmembers from small arms fire, most artillery, and some antiarmor systems.

Limitations

Tanks require extensive maintenance, proficient operators, and skilled mechanics, as well

as daily resupply of large quantities of bulky petroleum products such as fuel, oil, and grease. They are vulnerable to the weapons effects of other tanks, attack helicopters, mines, ATGMs, antitank guns, and close attack aircraft. When tanks operate in built-up areas, dense woods, or other close terrain, reduced visibility leaves them vulnerable to dismounted infantry attacks as well. In such situations, they are usually restricted to trails, roads, or streets; this severely limits maneuverability and observation. Existing or reinforcing obstacles can also restrict or stop tank movement.

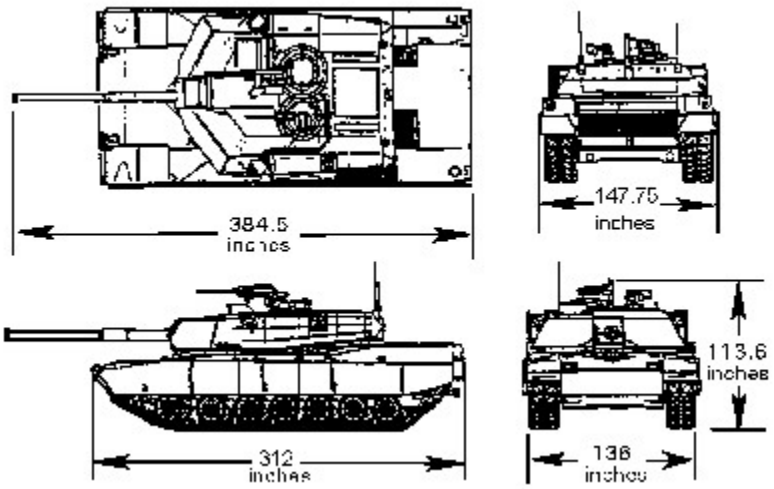


Weight	56.6 tons	Main gun capacity	63
Engine	750 hp	Cal .50 capacity	900
Fuel	Diesel	7.62-mm capacity	6,000
Fuel capacity	385 gal	9-mm capacity	360
Miles per gallon	.78	LSA1 (smoke grenades)	24
Idle (gal/hr)	7.6	Hand grenades	8
Cruising range	280 miles		
Transmission	1 reverse		
(gears)	2 forward		
Fording depth	48 inches		
Speed			
Low	10 mph		
High	30 mph		
Reverse	7 mph		
Grade %	60%		
Side slope %	30%		
Ground pressure	12.1 psi		
Ground clearance	18 inches		
Main armament	M68 105-mm rifle bore		

SIGNIFICANT FEATURES

- Stabilized turret
- Tank thermal sight (TTS)
- Laser range finder (LRF)
- Limited smoke screen capabilities
- NBC gas/particulate filtration
- Water fording capability enhanced with kit

Figure 1-5. M60A3 characteristics.

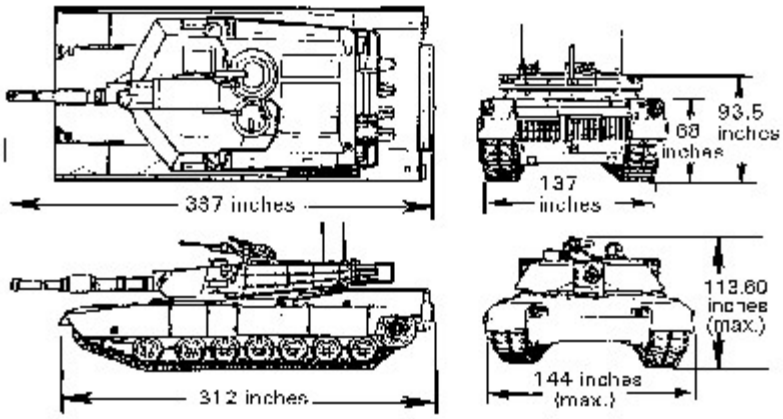


Weight	60 tons	Speed	
Engine	1,500 hp Turbine	Maximum	45 mph
		Cross-country	30 mph
Fuel	Diesel, Mogas, Jet fuel	Grade %	60%
		Side slope %	40%
Fuel capacity	504.4 gal	Ground pressure	13.50 psi
Miles per gallon	.65	Main armament	M68A1 105-mm
Idle (gal/hr)	11.2		
Tac idle (gal/hr)	30.6	Main gun capacity	55
Cruising range	310 miles	Cal .50 capacity	900
Transmission (gears)	2 reverse 4 forward	7.62-mm capacity	11,400
		5.56-mm capacity	210
Fording depth		LSA1 (smoke grenades)	24
Without kit	48 inches	Hand grenades	8
With kit	Turret roof		

SIGNIFICANT FEATURES

- Improved survivability
- Improved armor
- High agility
- Speed
- Low silhouette
- Advanced suspension (torsion bars/rotary shock absorbers)
- Hydraulically stabilized turret/gun system
- Ballistic computer
- Laser range finder (LRF)
- Thermal imaging night sight (TIS)
- NBC gas/particulate filtration

Figure 1-6. M1 characteristics.

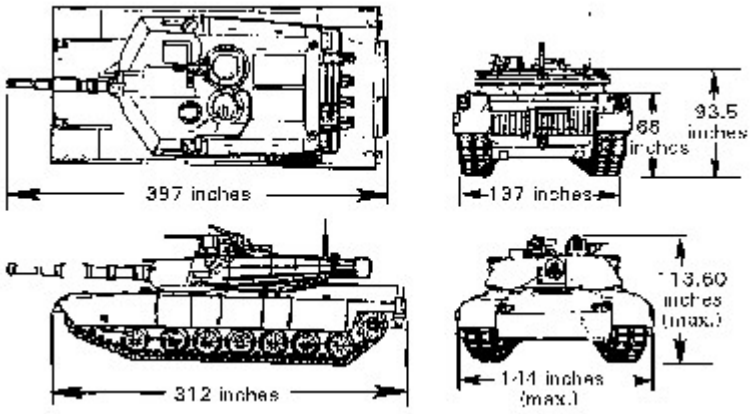


Weight	63 tons	Speed	
With 158 track	68.0 tons	Maximum	42 mph
Engine	1,500 hp Turbine	Cross-country	30 mph
		Grade %	60%
Fuel	Diesel, Mogas, Jet fuel	Side slope %	40%
		Ground pressure	15.00 psi
Fuel capacity	504.4 gal	Main armament	M256 120-mm smooth bore
Miles per gallon	.59		
Idle (gal/hr)	6.5		
Tac idle (gal/hr)	30.6	Main gun capacity	40
Cruising range	298 miles	Cal .50 capacity	900
Transmission (gears)	2 reverse 4 forward	7.62-mm capacity	11,400
		5.56-mm capacity	210
Fording depth		L8A1 (smoke grenades)	24
Without kit	48 inches		
With kit	Turret roof	Hand grenades	6

SIGNIFICANT FEATURES

- Improved survivability
- Improved armor
- High agility
- Speed
- Ease of maintenance
- Advanced suspension (torsion bars/rotary shock absorbers)
- Onboard malfunction detection system
- Automatic shift/steering transmission
- Single channel ground/air radio system (SINCGARS)
- NBC overpressure system
- Hydraulically stabilized turret/gun system
- Digital ballistic computer
- Laser range finder (LRF)
- Thermal imaging night sight (TIS)
- Compartmented fuel/ammunition
- Increased external stowage
- Low silhouette

Figure 1-7. M1A1 characteristics.

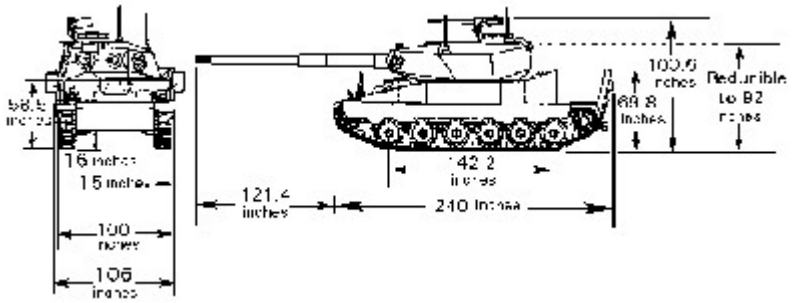


Weight	68 tons	Speed	
Engine	1,500 hp Turbine	Maximum	42 mph
		Cross-country	30 mph
Fuel	Diesel, Mogas, Jet fuel	Grade %	60%
		Side slope %	40%
Fuel capacity	504.4 gal	Ground pressure	15.5 psi
Miles per gallon	.59	Main armament	M256 120-mm smooth bore
Idle (gal/hr)	8.5		
Tac idle (gal/hr)	30.6		
Cruising range	298 miles	Main gun capacity	42
Transmission (gears)	2 reverse 4 forward	Cal .50 capacity	900
		7.62-mm capacity	11,400
Fording depth		5.56-mm capacity	210
Without kit	48 inches	L8A1 (smoke grenades)	24
With kit	Turret roof		
		Hand grenades	8

SIGNIFICANT FEATURES

- Improved armor
- Increased lethality
- High agility
- Low silhouette
- Thermal imaging night sight (TIS)
- Fully stabilized sight
- Ease of maintenance
- Onboard malfunction detection system
- Advanced torsion bars/rotary shock absorbers
- Automatic shift/steering transmission
- Compartmented fuel/ammunition
- Increased external stowage
- NBC overpressure system
- Digital electronic control unit
- Single channel ground/air radio system (SINCGARS)
- Intervehicular information system (IVIS)
- Driver's thermal viewer (DTV)
- Commander's independent thermal viewer (CITV)
- Position navigation system (POSNAV)
- Improved commander's weapon station (CWS)
- Commander's integrated display
- Driver's integrated display
- Gunner's control and display panel

Figure 1-8. M1A2 characteristics.



Weight		Grade %	60%
Level 1	19.25 tons	Side slope %	40%
Level 2	22.25 tons	Ground pressure	
Level 3	24.75 tons	Level 1	9 psi
Engine	550 hp Diesel	Level 2	10.4 psi
		Level 3	11.6 psi
Fuel	Diesel or JP 8	Main armament (soft recoil)	M35 105-mm
Fuel capacity	150 gal	Main gun capacity	30
Miles per gallon	2	Cal .50 capacity	600
Cruising range	300	7.62-mm capacity	4,500
Transmission	Hydromechanical	5.56-mm capacity	210
Fording depth	40 inches	L8A1 (smoke grenades)	16
Speed		Hand grenades	8
Maximum	45 mph		
Cross-country	30 mph		

SIGNIFICANT FEATURES

- Lethality
- Mobility
- Firepower
- Low silhouette
- Laser range finder (LRF)
- Stabilized day/night thermal imaging sight (TIS)
- Fire control computer
- Ballistic and nonballistic protection
- Autoloader
  - Firing rate: 12 rds/min
  - Automated round selection: 21 ready rounds
- System reliability
- System maintainability
- Single channel ground/air radio system (SINCGARS)

Figure 1-9. M8-AGS characteristics.

CHAPTER 2

BATTLE COMMAND

Battle command is the process of assimilating thousands of bits of information and using the data to visualize the battlefield, assess the situation, and direct military action required to achieve victory. Thinking and acting are simultaneous activities for leaders in battle.

The command and control of combat elements are the biggest chal lenges faced by combat leaders on the modern battlefield. Command involves directing various combat, CS, and CSS elements; control entails the measures taken to ensure these directions are carried out. Even the most knowledgeable tactician will be ineffective if he cannot properly use the techniques available to direct and control his combat elements.

The tank platoon leader, assisted by the PSG, employs a variety of techniques to prepare for operations, issue orders, employ the platoon, and communicate. The success of this command and con trol process rests mainly on leadership, training, thoroughly understood standing operating procedures (SOP), and the effective use of communications equipment. For maximum efficiency, the platoon leader must keep the process as simple as possible while ensuring that he provides the platoon with all required

information and instructions.

CONTENTS

Section I. COMMAND

Command has two vital components: decision-making and lead ership. This section examines in detail how the platoon leader and his subordinate leaders use these elements to develop the flexible, productive command structure that is the catalyst for success on the battlefield.

Decision-making

Decision-making is a conscious process for selecting a course of action from two or more alternatives. At platoon level, many decisions are based on SOPs and standard unit drills. SOPs and drills cover an array of routine and emergency actions, such as evacuation of wounded soldiers, rearming and resupply procedures, and individual crew responsi bilities; they allow the platoon to operate quickly and efficiently without constant guidance from the platoon leader. SOPs are especially critical in helping to maintain combat preparedness when leaders are tired or under stress as a result of con tinuous operations. Because of this, it is absolutely necessary that everyone in the platoon thoroughly understand all applicable SOPs. FKSM 17-15-3 contains a sample SOP that can be adapted for use in various tank platoon organizations.

Troop-leading Procedures

Most tactical decisions are made by the commander, who then an nounces them in the form of orders that include his intent and concept of the operation. Based on these orders, the platoon leader uses troop-leading procedures to organize his time during planning and preparation and to translate the operation into instructions his soldiers can understand. He can then lead the platoon more effectively in the execution of the mission.

Troop-leading is a dynamic process that begins when the unit receives a new mission or is notified by warning order (WO) that a new mission is imminent. Whenever possible, troop-leading procedures are integrated and accomplished concurrently rather than sequentially. Time management is the key. The platoon leader normally uses one-third of the available time to plan, prepare, and issue the order; his TCs then have the remaining two-thirds of the time available to prepare their tanks and crews for the operation.

The following discussion focuses on the eight steps of troop-leading procedures:

Receive and analyze the mission.
Issue a warning order.
Make a tentative plan.
Initiate movement.

Conduct reconnaissance and coordination.
Complete the plan.
Issue the order.
Supervise and refine.

Receive and analyze the mission. The platoon leader normally receives his orders as an oral operation order (OPORD) or as a fragmen tary order (FRAGO) updating a previously issued OPORD. Graphics may be copied from the commander's overlay or sent by digital transmission (see the discussion on pages 2-23 through 2-25). Initial coordination with other platoon leaders and the company FIST should be accomplished upon receipt of the mission. (**NOTE:** Before the OPORD or FRAGO arrives, the platoon leader may receive a series of WOs from the company commander providing advance notice of an impending operation. The platoon leader should disseminate all pertinent information con tained in the WOs as quickly as possible after they are received.)

Upon receipt of the order, the platoon leader's first task is to extract his mission from the commander's overall plan. The key to understanding the platoon mission as part of the company team or troop mission lies in two elements of the plan: the commander's intent and the purpose he envisions for the company and for each platoon. One platoon will be designated as
the company's main effort. This platoon's performance is critical to the company's success. The other platoons are supporting efforts; their purpose will be to assist the main effort in some way.

The platoon leader's knowledge of the intent and purpose allows him to use his initiative, exploit battlefield opportunities, and accomplish the commander's plan. If he does not understand the intent or purpose, he should ask the commander for clarification.

The platoon leader analyzes the mission using the factors of METT-T: mission, enemy, terrain (and weather), troops, and time available. These factors allow the platoon leader to identify the platoon's purpose; the specified, implied, and essential tasks it must perform; and the timeline by which the platoon will accomplish those tasks. The following outline of METT-T factors will assist the platoon leader in analyzing the mission and creating a timeline.

Mission.

What is the battalion commander's intent?
What is the company commander's intent and purpose?
What tasks did the commander say I must accomplish (specified tasks)? In the OPORD, specified tasks are contained in paragraphs 3, 4, and 5.
What other tasks must be accomplished to ensure mis sion success (implied tasks)? Implied tasks are those that are not specified in the OPORD but that must be done to complete the mission. They do not include tasks that are covered in the unit SOP. The platoon leader identifies implied tasks by analyzing the enemy, the terrain, friendly troops available, and the operational graphics. As an example, the commander may direct the platoon to occupy a support by fire position near a known enemy ob servation post (OP). The platoon leader will immediately recognize that he must occupy the designated position (the specified task);

through his analysis, he will probably determine that the platoon must also destroy or neutralize the enemy OP because it can affect the platoon and/or company mission (the implied task). If time is available, the platoon leader should confirm implied tasks with the commander.

Enemy.

What have been the enemy's recent activities?
What is the composition of the enemy's forces?
What are the capabilities of his weapons?
What is the location of current and probable enemy positions?
What is the enemy's most probable course of action? The platoon leader must apply knowledge of the enemy's doctrine and his most recent activities and locations to answer the following questions:

- Will the enemy attack or defend?
- What is the enemy's objective?
- What formations will he use?
- Where are his engagement areas?
- Where and when will he execute his operations?

Enemy information is included in paragraph 1 of the OPORD. It is important that the platoon leader analyze this information in terms of the platoon's role in the operation. For example, if the company commander only identifies platoon-size center-of-mass locations for a defending enemy, the platoon leader should identify probable enemy vehicle locations based on the terrain and the enemy's doctrine.

Terrain (and weather). The platoon leader analyzes the terrain using the factors of OAK-OC (obstacles; avenues of approach; key terrain; observation and fields of fire; and cover and conceal ment). Elements of this analysis include the following:

Obstacles.

- Where are natural and existing obstacles located, and how can they affect maneuver?
- Where are likely areas for enemy-emplaced obstacles, and how can they affect maneuver?
- Are there bypasses, or must obstacles be breached?

Avenues of approach. Where are the best avenues of approach (mounted and dismounted) for enemy and friendly forces?
Key terrain.

- Where is the key terrain?
- How can key terrain be used to support the mission?

Observation and fields of fire. These are influenced by key terrain that dominates avenues of approach.

- Where can the enemy observe and engage my platoon (danger areas)?

- Where are the natural firing positions my platoon can use to observe and engage the en emy, including locations for battle positions (BP), support by fire and attack by fire positions, and overwatch positions?

Cover and concealment.

- What routes within the area of operations offer cover and concealment for my platoon or for enemy elements?

- Do the natural firing positions in the area of operations offer cover and concealment for the platoon or enemy?

Weather. The platoon leader can use these questions as he analyzes the impact of weather on the mission:

- What are the light conditions (including percentage of night illumination) and visibility? What are the times for beginning of morning nautical twilight (BMNT), sunrise, sunset, end of evening nautical twilight (EENT), moonrise, and moonset?

- How has recent weather affected the area of operations?

- sion?

- How will fog, rain, dust, heat, snow, wind, or blowing sand affect my men and equipment during the mission?

NOTE: The effects of weather on smoke or NBC weapons should also be considered.

Troops.

What is the supply status of ammunition, fuel, and other necessary items?
What is the present physical condition of the soldiers, as well as of vehicles and equipment?
What is the training status of the platoon?
What is the state of morale?
How much sleep have the men had?
How much sleep will they be able to get before the operation begins?
Does the platoon need any additional assets to support or accomplish its mission?
What attachments are available to help the platoon accomplish its mission?

Time available.

What times were specified by the commander in the OPORD for such activities as movement, reconnais sance, rehearsals, and logistics package (LOGPAC) operations?
What priorities of work can the platoon accomplish (examples include security, maintenance, resupply, coordination, rehears als, inspections, and sleep)?

The platoon leader conducts reverse planning to ensure that all specified, implied, and essential tasks can be accomplished in the time available. He develops a reverse planning

schedule (timeline) **beginning with actions on the objective and working backward through each step of the operation and preparation to the present time**. This process also helps the platoon in making efficient use of planning and preparation time.

Once his METT-T analysis is complete, the platoon leader can then write the platoon mission statement answering the questions of WHO, WHAT, WHEN, WHERE, and WHY. This is a clear, concise statement of the pur pose of the operation and the essential task(s) that will be crucial to its success. The essential tasks (the WHAT) should be stated in terms that relate to enemy forces, friendly forces, and/or the terrain (for example, "SUPPRESS THE ENEMY"; "OVERWATCH 2D PLATOON"; or "SEIZE AN OBJECTIVE"). The purpose (the WHY) explains how the platoon mission supports the commander's intent. The elements of WHO, WHERE, and WHEN add clarity to the mission statement.

NOTE: Simultaneous planning and preparation are key factors in effective time management during the troop-leading procedures. The next five steps (issue a warning order; make a tentative plan; initiate movement; conduct reconnaissance and coordination; and complete the plan) may occur simultaneously and/or in a different order.

Issue a warning order. The platoon leader alerts his platoon to the upcoming operation by issuing a WO that follows the five-paragraph OPORD format (see Appendix A). WOs maximize subordinates' planning and preparation time by providing essential details of the impending operation and detailing major timeline events that will support mission execution. The amount of detail included in a WO depends on the available time, the platoon's communications capability, and the information subordinates need to initiate proper planning and preparation. The WO may include the following information:

Changes to task organization.
Updated graphics (platoons equipped with IVIS or appliqué digital systems send new overlays).
Enemy situation.
Company mission.
Commander's intent (if available).
Platoon mission.
A tentative timeline, to include the following:
Earliest time of movement.
Readiness condition (REDCON) and vehicle preparation schedule. See Appendix C for a discussion of REDCON levels.
Reconnaissance.
Training/rehearsal schedule. (**NOTE:** Some individ ual and collective training may be initiated by the platoon leader before he issues the OPORD; this technique maximizes preparation time and allows the platoon to focus on tasks that will support the anticipated operations. For example, a tank platoon equipped with a plow tank may practice the crew task of dropping the plow as well as platoon-level actions at an obstacle.)
Time and location at which the platoon OPORD will be issued.
Service support instructions (if not included in the timeline).

As critical information is received or updated, the platoon leader should issue subsequent or updated WOs to keep the platoon informed.

Make a tentative plan. The platoon leader begins developing his maneuver plan as he listens to the commander issue the company OPORD. Based on the commander's plan and the results of his mission analy sis, the platoon leader develops a tentative plan that addresses all specified, implied, and essential tasks using the OPORD format (see Appendix A). The tentative plan also covers reconnaissance and coordination requirements between the platoon and adjacent and supporting units. The PSG and TCs are excellent sources of ideas concerning the platoon plan. A more detailed discussion of planning considerations is in Chapters 3 and 4 of this manual.

Initiate movement. Many company-level operations require movement to forward assembly areas and BPs during the planning phase of an operation. The platoon leader addresses movement in his timeline; he orders the platoon to begin moving in accordance with the company plan. Activities may include send ing platoon representatives to an assembly area with the company quartering party or beginning priorities of work.

Conduct reconnaissance and coordination. Effective reconnaissance takes into account the factors of METT-T and OAK-OC from both friendly and enemy perspectives. As a minimum, the platoon leader conducts a detailed map reconnaissance. If time and security considerations permit and authorization is obtained from higher headquarters, an on-site ground reconnaissance is the best way to survey the area of operations. The platoon leader should take as many TCs as possible on his recon naissance.

For offensive operations, the platoon leader should attempt to find a vantage point that will al low him to see as much of the objective as possible. Ground reconnaissance for offensive operations usually is limited to checking routes to the start point (SP), the line of departure (LD), and the axis just beyond the LD. For defensive operations, the platoon leader should conduct a reconnaissance of the engagement area, all platoon BPs, and the routes to be used.

During the reconnaissance (or during company-level rehearsals), the platoon leader or his representative should coordinate routes, movement speed, and sectors of observation and fires with other platoon leaders.

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

Issue the order. If possible, the platoon leader issues the order from a vantage point overlooking the terrain on which the platoon will maneuver. If not, he uses a terrain model, sand table, sketches, or his map to orient the platoon. He can also build a model of the area of operations using a briefing kit that contains such items as engineer tape, colored yarn, 3-by-5-inch index cards, and "micro" armor vehicle models.

When time and security permit, the platoon leader issues the order to as many members of the platoon as possible. As a minimum, he assembles the TCs and his gunner. He briefs the platoon using the five-paragraph OPORD format (see Appendix A).

To ensure complete understanding of the operation, the platoon leader and TCs conduct confirmation briefings immediately after the OPORD is issued. The TCs brief the platoon leader to confirm their understanding of his intent, the specific tasks their crews must perform, and the relationship between their tasks and those of other units in the operation. If time permits, the platoon leader should lead the TCs in a walk-through using a sand table.

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

Crew orders, back-briefs, rehearsals, and inspections are essential elements of the supervision process as the platoon prepares for the mission. The following paragraphs discuss these procedures in detail.

Crew orders. The platoon leader and PSG make sure all crewmembers have been briefed by their TCs and understand the platoon mission and concept of the operation.

Back-briefs. The back-brief is, in effect, a reverse briefing process; those who receive an OPORD confirm their understanding of the order by repeating and explaining details of the operation for their leader or com mander. In the tank platoon, the platoon leader should conduct back-briefs after the TCs have had a chance to review the OPORD but before the platoon rehearsal begins. The TCs brief the platoon leader on **how** their crews will accomplish the specific tasks assigned to them in the order.

NOTE: Although the back-brief is an effective means of clarifying the specifics of the plan, it does not require tank crews to practice or perform their assigned tasks. By itself, therefore, it is not an ideal rehearsal technique.

Rehearsals. A rehearsal is a practice session conducted to prepare units for an upcoming operation or event. The tank platoon leader should never underestimate the value of rehearsals. Many units, in fact, consider rehearsals as a separate (ninth) step of troop-leading procedures. The platoon leader uses well-planned, efficiently run rehearsals to accomplish the following:

Reinforce training and increase proficiency in critical tasks.
Reveal weaknesses or problems in the plan.
Synchronize the actions of subordinate elements.
Confirm coordination requirements between the platoon and adjacent units.
Improve 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.

Effective rehearsals require crewmen to **perform** required tasks, ideally under conditions that are as close as possible to those expected for the actual operation. Participants maneuver their actual vehicles or use vehicle models or simulations while interactively verbalizing their elements' actions. In a platoon-level rehearsal, the platoon leader will select the tasks to be practiced and will control execution of the rehearsal. He will usually

designate someone to role-play the enemy elements he expects to face during the operation. (**NOTE:** A rehearsal is different from the process of talking through what is supposed to happen. For example, in a rehearsal, TCs should actually send SPOTREPs when reporting enemy contact, rather than simply saying, "I would send a spot report now.")

The platoon can prepare for operations using reduced-force rehearsals and/or full-force rehearsals. The platoon leader conducts reduced-force rehearsals when time is limited or the tactical situation does not permit everyone to attend. Platoon members who can take part practice their actions on mock-ups, sand tables, or actual terrain (usually over a smaller area than in the actual operation). The full-force rehearsal is the most effective, but con sumes the most time and resources. It involves every soldier who will participate in the operation. If possible, it should be conducted under the same conditions (such as weather, time of day, and terrain) that the platoon expects to encounter during actual operations.

The platoon leader can choose among several techniques in conducting rehearsals, which should follow the crawl-walk-run training methodology
to prepare the platoon for increasingly difficult condi tions. Rehearsal techniques include the following:

Special **rehearsal.** Individual and/or crew tasks that will be critical to the success of the operation are re hearsed as necessary. The platoon leader may initiate special rehearsals when he issues the WO.

Map **rehearsal.** This is usually conducted as part of a back-brief involving the TCs or a complete crew. The leader uses the map and overlay to guide participants as they back-brief their role in the operation. If necessary, he can use a sketch map.

Communications **rehearsal.** This reduced-force or full-force rehearsal is conducted when the situation does not allow the platoon to gather at one location. Crewmen check their vehicles' communications systems and rehearse key elements of the platoon fire plan.

Key **leader rehearsal.** Usually conducted as part of a larger force, this rehearsal involves leaders mov ing over the key terrain in wheeled vehicles while discussing the mission.

Sand **table or terrain model.** This reduced-force or full-force technique employs a small-scale table or model that depicts graphic control measures and important terrain features for reference and orientation. Participants walk or move "micro" armor around the table or model to practice the actions of their own vehicles in relation to other members of the platoon.

Force **on force.** This is used during a full-force rehearsal. The platoon may rehearse with sections or individual tanks going "force on force" against each other, or the entire platoon may go against another platoon in the company. Platoons should first rehearse with good visibility over open terrain. Rehearsals be come increasingly realistic until conditions approximate those expected in the area of operations.

Inspections. Inspections allow the platoon leader to check the platoon's operational readiness. The key goal is to ensure that soldiers and vehicles are fully prepared to

execute the upcoming mission. Inspections also contribute to improved morale.

It is essential that the entire platoon chain of command know how to conduct precom bat checks in accordance with FKSM 17-15-3, the platoon SOP, or ARTEP 17-237-10-MTP. Procedures for a comprehensive inspection include the following:

Perform before-operation maintenance checks; report or repair deficiencies.
Perform prepare-to-fire checks for all weapons; report or repair deficiencies. Weap ons are boresighted, and all sights are referred. Machine guns are test-fired, if possible.
tems.
· Upload vehicles in accordance with platoon SOP. The standardization of load plans al lows the platoon leader and PSG to quickly check accountability of equipment. It also ensures standard locations of equipment in each vehicle; this can be an important advantage if the platoon leader is forced to switch to a different vehic le during an operation.
Review the supply status of rations, water, fuel, oil, all types of ammunition, pyrotechnics, first-aid kits, and batteries
(for such items as flashlights, night vision devices, and NBC alarms). Direct resupply operations as necessary.

Ensure vehicles are correctly camouflaged so they match the area of operations.

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

Abbreviated Troop-leading Procedures

When there is not enough time to conduct all eight troop-leading steps in detail, such as when a change of mission occurs after an operation is in progress, the platoon leader must understand how to trim the procedures to save time. Most steps of these abbreviated troop-leading procedures are done mentally, but the platoon leader skips none of the steps. Once the order is received, the platoon leader conducts a quick map reconnaissance, ana lyzes the mission using the factors of METT-T, and sends for the TCs. He makes sure the TCs post the minimum required control measures on their maps and issues a FRAGO covering the key elements of the enemy and friendly situations, the platoon mission, and the concept of the operation. The service support and command and signal paragraphs can be deleted if they are unchanged or covered by SOP. FRAGOs are discussed in Appendix A. The platoon leader and TCs may also conduct a quick walk-through rehearsal of critical elements of the maneuver plan using a hastily prepared terrain model or sand table.

In some cases, there may not be enough time even for these shortened procedures. The platoon may have to move out and receive FRAGOs by radio or at the next scheduled

halt. It then be comes critical for the platoon leader to send FRAGOs of his own to the TCs explaining the platoon's pur-pose within the overall company maneuver plan.

Digital and global positioning systems are valuable tools when the platoon is forced to use abbreviated troop-leading procedures and FRAGOs. They allow the platoon leader to designate waypoints to assist in navigation and target reference points (TRP) to assist in weapons orientation.

Other keys to success when abbreviated procedures are in effect include a well-trained platoon; clearly developed, thoroughly understood SOPs; and an understanding by all members of the platoon of the current tacti cal situation (situational awareness). The platoon leader and PSG must keep the platoon informed of the ever-changing enemy and friendly situations. They accomplish this by monitoring the company net and issuing frequent updates to the other crews using the radio and digital information systems.

Whenever time is available, however, there is no substitute for effective, thorough troop-leading procedures. The odds of success increase still further when detailed planning and rehearsals are con ducted prior to an operation, even if time is limited. Successful platoon leaders make the most of every available minute.

Leadership

Competent, confident leadership inspires soldiers, instilling in them the will to win and providing them with purpose, direction, and motivation in combat. Leadership involves numerous important personal principles and traits: taking responsibility for decisions; exemplifying and demanding loyalty; inspiring and directing the platoon toward mission accomplishment; fostering a climate of teamwork that will engender success; demonstrating moral and physical courage in the face of adversity. FM 22-100 and FM 100-5 describe the qualities of effective leadership. The following are the five characteristics of successful combat leaders, as described in the 1984 study titled *Leadership in Combat: An Historical Appraisal* conducted by the History Department at the United States Military Academy:

Terrain sense. Understand terrain; match tactics and weaponry with the terrain at hand.

Single-minded tenacity. This is the quality that compels the successful platoon leader to harness the combat power neces sary to overwhelm the enemy. The platoon leader sees the mission through and never gives up.

Practical, **practiced judgment.** Common sense and con stant practice allow the platoon leader to prioritize effectively, enabling him to separate critical tasks from the noncritical and preventing him from being overwhelmed by the demands of the information-rich battlefield.

Ferocious audacity. Risk-taking is a must if the platoon is to exploit enemy weaknesses as they present themselves.

Physical **confidence.** Leaders can maintain their ability to meet the demanding requirements of leader ship only if they are in top physical condition.

Section II. CONTROL

Situational Awareness

Situational awareness is the ability to maintain a constant, clear mental "picture" of the tacti cal situation. This picture includes an understanding of relevant terrain and of the relationship between friendly and enemy forces. It also includes the ability to correlate battlefield events as they develop. For platoon leaders and PSGs, situational awareness is the key to making sound, quick tactical decisions. It allows them to form logical conclusions and to make decisions that anticipate future events and information. A critical bene fit of situational awareness on the part of TCs is a reduction in fratricide incidents. Situational awareness also gives leaders the ability to compress the time necessary to conduct troop-leading procedures; this is especially critical when there is limited time to plan and prepare for an operation.

The commander will structure the battlefield based on his intent and the conditions of METT-T. How he does this affects the tank platoon leader's mission planning and his ability to maintain situational awareness. The framework of the battlefield can vary from a highly rigid extreme, with obvious front and rear boundaries and closely tied adjacent units, to a dispersed and decentralized structure with few secure areas and unit boundaries and no definable front and/or rear boundary.

Between these extremes is an unlimited number of possible variations. Maintaining situational awareness becomes more difficult as the battlefield becomes less structured. Modern, highly mobile opera tions involving small forces lend themselves to a less rigid framework that challenges the platoon leader's ability to maintain an accurate picture of the battlefield.

“Seeing” the Battlefield

To "see" the battlefield accurately, the platoon leader must have virtually perfect knowledge of the friendly situation one level higher than his own (the company team or troop situation). It is also important that he update the TCs periodically regarding the higher situation. The platoon leader must also have a relatively complete knowledge of the terrain and the enemy situation. He must be able to visualize enemy and friendly elements through time and to picture how the terrain will affect their actions. (**NOTE:** This requirement to maintain a real-time awareness of the battlefield one level higher does not relieve the platoon leader of his responsibility to understand the situation and commander's intent two levels higher than his own. The difference is that his understanding of the situation two levels higher does not have to be as specific or as timely.)

Most of the information the platoon leader requires comes from what he can observe from his tank and from reports he receives through his communications systems. Although few voice and digital reports are specifically addressed to him, particularly on

the company team net, the platoon leader must monitor them by eavesdropping. He then can track enemy and friendly elements and plot all movement on his map and/or IVIS display. This allows him to adjust his own movement so the platoon makes contact with the enemy from positions of advantage, which are identified during the map/ground reconnaissance step of troop-leading procedures.

How effectively the platoon leader can keep track of events on the battlefield is, to some degree, experience-dependent. No matter what his experience level, however, he is responsible for learning techniques that allow him to relate the information he is receiving to his map or display and thereby track the tactical situation.

Battle Space

The ability to see the battlefield provides the platoon leader with important tactical informa tion, including friendly and enemy positions and relevant terrain. In turn, complete understanding of the military significance of this picture requires knowledge of the concept of battle space; this is the key element in the intellectual process of visualizing the battlefield.

At the most fundamental level, battle space is the three-dimensional area in which the platoon can acquire enemy forces and influence them with effective fires. This space is defined by several battlefield factors: the locations of friendly forces, including the platoon's individual tank crews and OPs; the effects of terrain, weather, and movement; and the ranges of all available platoon weapons and sensing systems. Each tank crew has its own battle space (see Figure 2-1). The platoon's total battle space is the sum of the individual tanks' battle spaces. Platoon battle space is not restricted by boundaries; it can overlap the battle space of adjacent units.

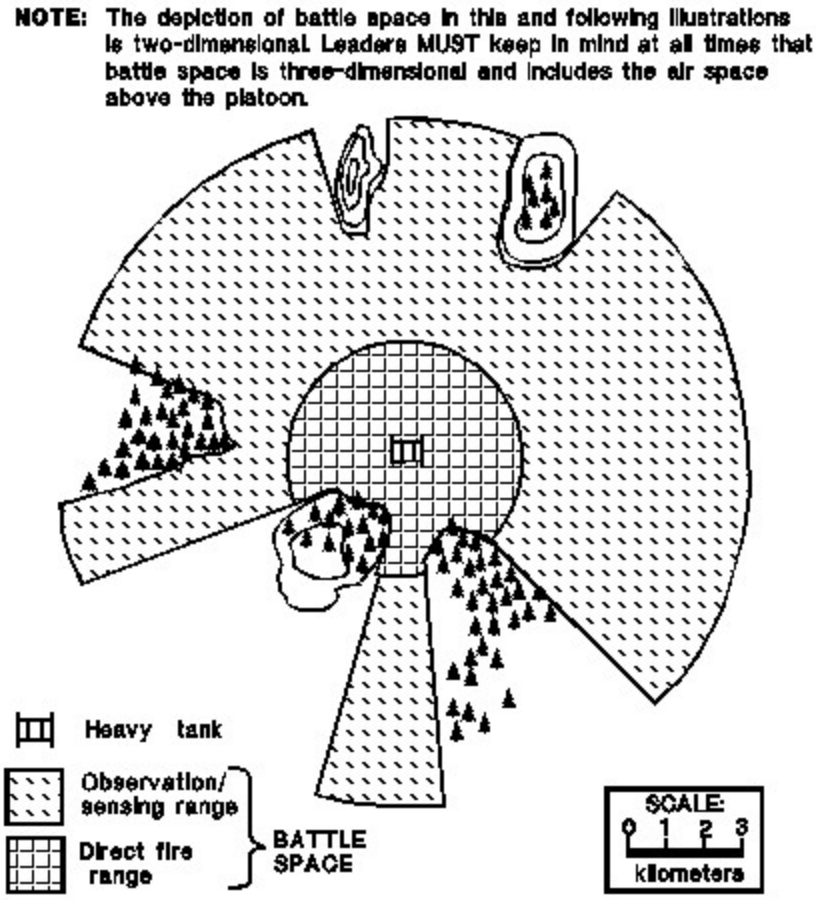


Figure 2-1. Individual tank's battle space (two-dimensional view).

Battle space has applications in all phases of mission planning, preparation, and execution. During the planning process, it is a critical factor in the selection of routes, tentative positions, and potential engagement areas. In the preparation phase, battle space information aids in the synchronization of tactical movement and overwatch. Once mission execution begins, the platoon leader's knowledge of his battle space is critical to his ability to issue timely and effective orders as the situation changes.

The importance of battle space demands that the platoon leader direct most of his battle command effort toward managing and enhancing his space. He must be aware at every moment of how battle space is changing as friendly and enemy forces move and as terrain and visibility conditions change (see Figures 2-2A and 2-2B). As the operation progresses, the platoon leader must take active measures to shape the battle space to his best advantage.

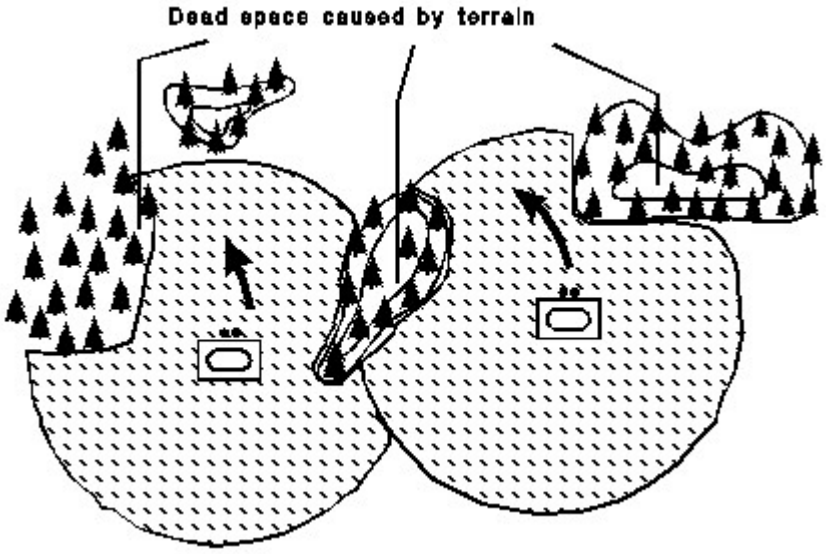


Figure 2-2A. Effects of movement and terrain on battle space.

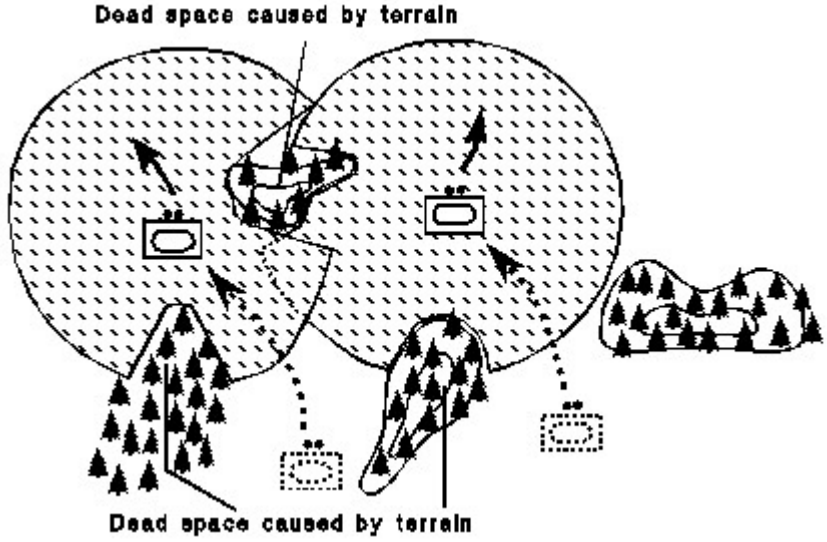


Figure 2-2B. Effects of movement and terrain on battle space (continued).

One vital step in this process is to eliminate or reduce any gaps, or dead space, that exist within the platoon's battle space. The platoon leader can accomplish this in several ways. In the offense, for example, he can maintain a section in overwatch during movement through a choke point or a danger area. In the defense, he can emplace OPs or reposition individual tanks to cover potential gaps in the platoon's battle space (see Figures 2-3A and 2-3B, page 2-22). In all cases, the platoon's position in relation to other friendly elements is an important factor in defining and enhancing the battle space. The platoon leader can shape his space more effectively if he applies the principles of mutual support and thorough coordination with adjacent units.

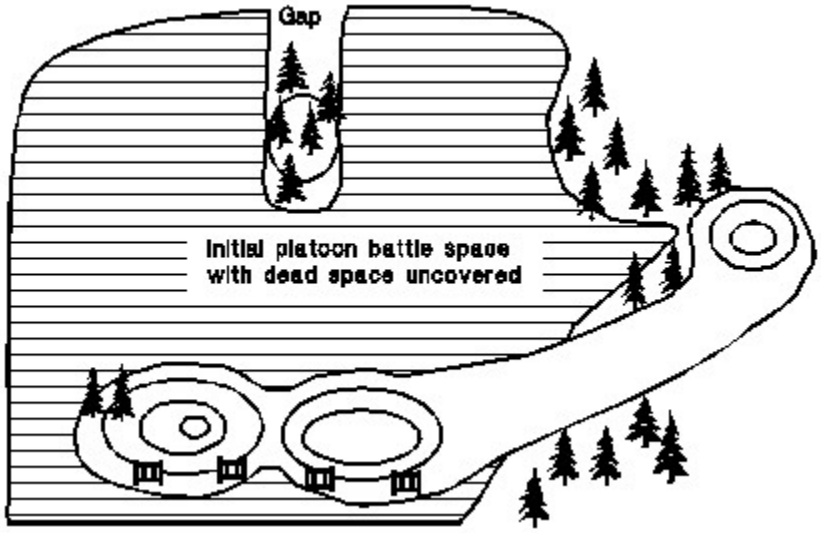


Figure 2-3A. Reshaping the battle space.

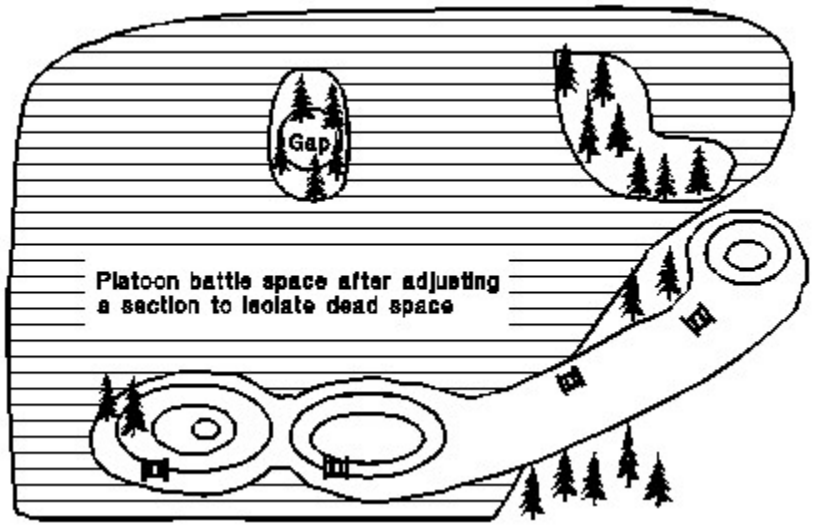


Figure 2-3B. Reshaping the battle space (continued).

Maps, overlays, graphic control measures, and navigation

Maps and Overlays

The most important role of maps and the accompanying overlays is in helping the platoon to understand and visualize the scheme of maneuver. They are the primary tool the platoon leader uses to organize information concerning the battlefield and to synchronize his assets once the battle begins. They also provide TCs with a visual reference they can consult as needed. The platoon leader must ensure that each TC has an updated map with

the latest graphic control measures posted on the overlay.

The map and overlay also assist the platoon leader in performing a variety of other functions. He consults them constantly during reconnaissance operations, which can vary in complexity from a quick map reconnaissance to a fully mounted ground reconnaissance of the area of operations. The map and overlay help him to communicate the company commander's concept while he is issuing the OPORD or briefing the TCs on the plan. During mission execution, the map and overlay play an invaluable role in helping leaders to maintain situational awareness.

Overlays can be prepared either in traditional fashion (written out by hand) or digitally. The platoon leader may receive one or more types of overlays from the commander covering such areas as maneuver, enemy forces, obstacles, fire support, and CSS. All of the informa tion is important; the key for the platoon leader is to combine, augment, and declutter the overlays so the information needed for a specific situation is readily available to the platoon on one simple, combined overlay.

Traditional overlays. Copied on acetate, these display graphic control measures as illustrated in Figure 2-4, page 2-24. Traditional overlays should be prepared even if a platoon is equipped with IVIS or appliqué digital systems in case the platoon loses digital data or has its digital link broken.

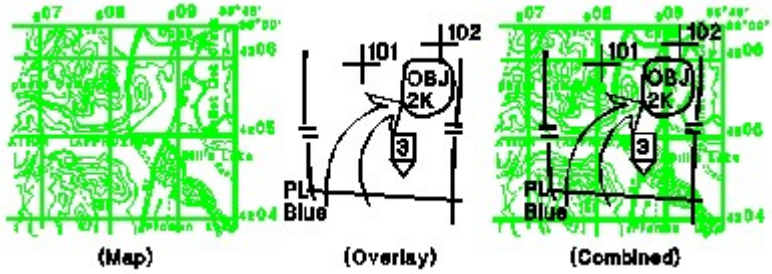


Figure 2-4. Traditional overlay.

Digital overlays. The IVIS and appliqué digital systems allow the platoon leader to receive and transmit graphics virtually on a real-time ba sis within the platoon and to and from higher headquarters. When these systems are integrated with automatic position/location updates, the platoon leader has a nearly perfect situational awareness "link." His display shows the positions of his platoon and adjacent unit leaders as well as the most current enemy disposition. These positions and locations are displayed on a menu of overlays using the most recent graphics. The platoon leader can combine, augment, and declutter the overlays as needed; when appropriate, he can choose not to display any of them on his digital screen. Figure 2-5 illustrates a sample IVIS-generated overlay.

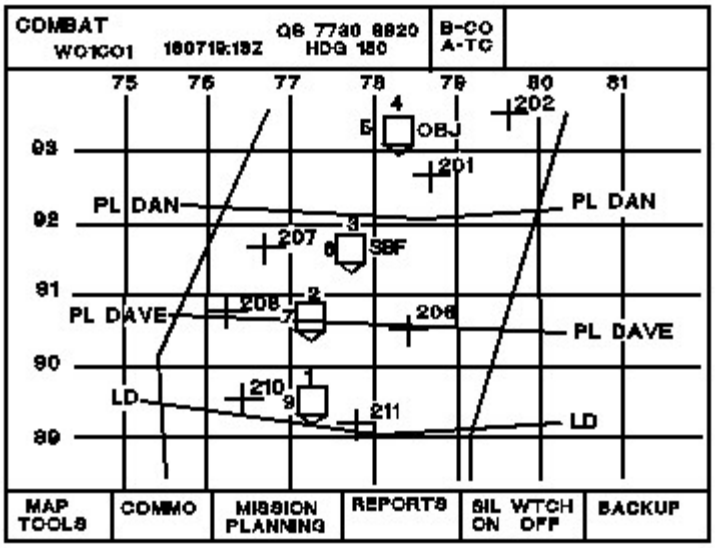


Figure 2-5. Sample IVIS overlay.

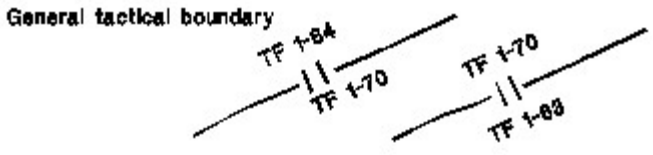
Although fairly accurate, digital systems suffer from minor flaws that detract from their effectiveness as a stand-alone battle command tool. Until these systems become more reliable and less cumbersome and can display terrain relief features, they will serve as an enhancement to, not a substitute for, the platoon leader's map with traditional, handwritten overlays. Refer to FKSM 17-15-1 for a detailed discussion of techniques and procedures for using the IVIS.

Graphic Control Measures

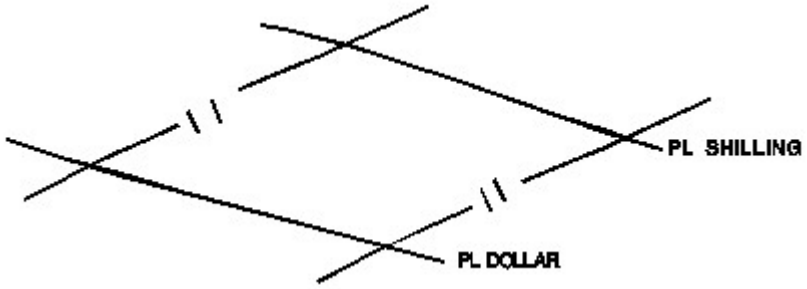
The following paragraphs explain and illustrate graphic control measures commonly used at the company and platoon level. They are entered on overlays to illustrate the commander's intent and scheme of maneuver. In addition, they provide clarity when an order is issued and assist in the battle command process once the tank platoon begins executing the operation. Exact definitions are found in FM 101-5-1.

Unless they are specified as such, graphic control measures are not considered rigid and unchangeable. For example, if the map location of a support by fire position does not allow the pla toon leader to mass direct fires on the enemy, he can, in most situations, inform the commander and adjust the position as needed to accomplish the platoon mission. Control measures do not restrict the platoon's battle space; instead, they assist the platoon leader in identifying the necessary coordination that must be accomplished with adjacent platoons.

Boundary. Boundaries delineate areas of tactical responsibility between units. They are usually designated down to task force level. Coordination with adjacent units along boundaries is the key to en hancing synchronization and decreasing the risk of fratricide. The platoon leader must be aware of adjacent platoons within his company, adjacent companies within the battalion, and adjacent units along the task force boundary that may operate in the platoon's battle space.



Phase line. Phase lines are used to control and coordinate movement and synchronize tactical actions. Platoons may report crossing phase lines, but they normally do not halt unless directed to do so. The abbreviation on overlays is "PL."



Assembly area. Abbreviated "AA" on overlays, this is a location at which the platoon gathers (usually as part of the company) to conduct maintenance and resupply activities and to make other preparations for future operations. The platoon must be able to defend from the assembly area.

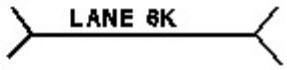
Route. This is the prescribed course of travel from a specific point of origin (the SP) to a specific destination (the RP). The route should be named, and checkpoints should be designated at key locations. The abbreviation on overlays is "RTE."

Checkpoint. Checkpoints are used to control and direct the maneuver of the tank platoon and tank section. They are usually placed on identifiable terrain features.

Attack position. This is the last position the platoon occupies or passes through before crossing the LD. The platoon assumes the proper formation and performs last-minute checks of its weapon systems. The abbreviation on overlays is "ATK POS."

Contact point. A contact point is a designated location, usually an easily identifiable terrain feature, where two or more units are re quired to physically meet. The headquarters assigning the contact point must specify what sort of activity is required when the units meet. The platoon leader may be tasked to man or move to a contact point for coordination.

Passage lane. This is the area or route through which a passing unit moves to avoid stationary units and obstacles. Tank platoons may move on a lane or serve as the overwatch for a passing unit moving through a lane.

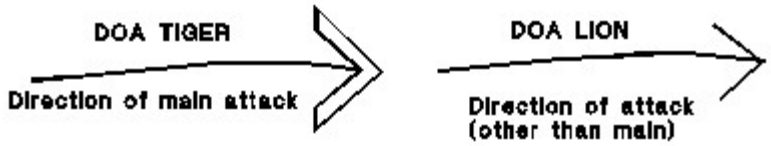


Passage point. This is the place where a unit physically passes through another unit. Tank platoons may move through a passage point or overwatch other units moving through a passage point. The abbreviation for a passage point is "PP."

Objective. cupy some portion of the company objective. The abbreviation on overlays is "OBJ."

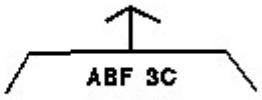
Axis of advance. This is the general route and direction of advance extending toward the enemy. It graphically portrays the commander's intent, such as envelopment of the enemy. The unit may maneuver and shoot supporting fires to either side of the axis provided it remains oriented on the axis and the objective. For example, platoons may maneuver on or to the side of the axis assigned to their company as long as deviations do not interfere with the maneuver of adjacent units.

Direction of attack. This is the specific direction and route that the main attack or center of mass of the unit will follow. Tank platoons move along directions of attack specified by the com mander to take advantage of terrain or to ensure maximum control of the moving unit. The abbreviation on overlays is "DOA."

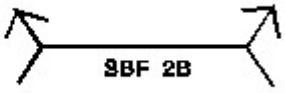


Assault position. This is the location from which a unit assaults the Tank platoons may occupy an assault position or serve as overwatch for the occupation of the position by the assault force. The abbreviation on overlays is "ASLT POS."

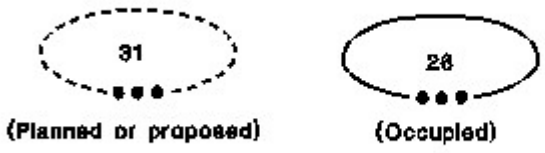
Attack by fire position. This is the location from which a unit employs direct fire to destroy the enemy from a distance. Tank platoons occupy an attack by fire position alone or as part of the company. From this position, the platoon can attack the enemy on the objective when occupation of the objective is not advisable; the position can also be used in an attack on a moving enemy force. In addition, this type of position can serve as a counterattack option for a reserve force. The overlay abbreviation is "ABF."



Support by fire position. This is another type of position from which a maneuver element can engage the enemy by direct fire, with the fires providing support for operations by other units. The tank platoon usually occupies a support by fire position when providing supporting fires for an assault or breach force or when serving as the overwatch for a moving force. The overlay abbreviation is "SBF."



Battle position. This is a defensive location, oriented on the most likely enemy avenue of approach, from which a unit defends. Tank platoon BPs and direct fire orientations are designated in the OPORD.



Target reference point. This is an easily recognizable point on the ground (either natural or man-made) used to locate enemy forces or control fires. TRPs can designate either the center of an area on which the platoon can mass its fires or the left or right limit of such an area. The tank platoon leader controls platoon fires by designating platoon TRPs as necessary to supplement company TRPs issued by the commander. When designated with target numbers issued by the FIST or FSO, TRPs become indirect fire targets.

Navigation

To protect his platoon, the platoon leader must learn to use terrain to his advantage. Land navigation of armored vehicles requires him to master the technique of terrain associa tion. This entails the ability to identify terrain
features on the ground by the contour intervals depicted on the map. The platoon leader analyzes the terrain using the factors of OAK-OC and identifies major terrain features, contour changes, and man-made structures along his axis of advance. As the platoon advances, he uses these features to orient the platoon and to associate ground positions with map locations.

The intellectual concept of battle space is vital to the platoon's sur vival during navigation and movement. The platoon leader must constantly be aware of key terrain and enemy fields of observation and fire that may create **danger areas** as the platoon advances. This allows him to modify movement techniques, formations, and routes and to maintain cross-talk with overwatch elements to ensure the platoon is not surprised by the enemy.

Navigation under limited visibility conditions is especially challenging. Vehicle thermal sights and night vision goggles provide assistance, but leaders nonetheless can easily confuse terrain features and become disoriented. See Appendix C for a discussion of limited visibility operations.

The platoon can employ a variety of techniques and equipment to assist in navigation.

These are summarized in the following paragraphs.

Compass and odometer. This method of navigation entails use of a dismounted compass and the vehicle's odometer. Follow these steps:

Divide the route or operation into legs or parts, each with a unique direction and distance and a checkpoint at both ends.
Measure the map distance of each leg or part.
Determine the magnetic azimuth of each leg or part.
Develop a chart listing the legs or parts, azimuths, and distances. Write a description of each leg or part. Refer to Figure 2-6, page 2-32, for an example.
For each leg or part, move the gun tube to the direction of the magnetic azimuth. Maintain turret stabilization at all times; do not traverse the turret except at the start of the next leg or part.
Use the odometer to measure the distance traveled for each leg or part.
Review the written description of the route to help prevent navigational errors.

LEG/PART	AZIMUTH	DISTANCE	DESCRIPTION OF ROUTE TRAVELED
AA BLUE to SP	180°	2.5 miles	From AA Blue, travel downhill to the SP, a three-way, hardtop intersection.
SP to RP	90°	5.5 miles	At the SP, turn left and travel on a flat hardtop road for about 4 miles. The road becomes uphill as you approach the four-way intersection (RP). A downhill grade on azimuth will mean the RP has been passed.
RP to PP1	183°	6.3 miles	At the RP, turn right and travel downhill for 6.3 miles, linking up with the XO at PP1. The PP is 400 meters past a bridge and is near two houses.
PP1 to 12	92°	7.4 miles	At PP1, turn left and travel a flat, cross-country stretch for 7.4 miles until you reach three houses (12). Reaching an uphill grade or a hard-top road along the same azimuth will mean 12 has been passed.
12 to 5	60°	5.5 miles	From 12, travel on a 60° azimuth uphill for about 5.5 miles, crossing a dirt road and a hardtop road. At hill (5), tanks will be oriented on a 90° azimuth.

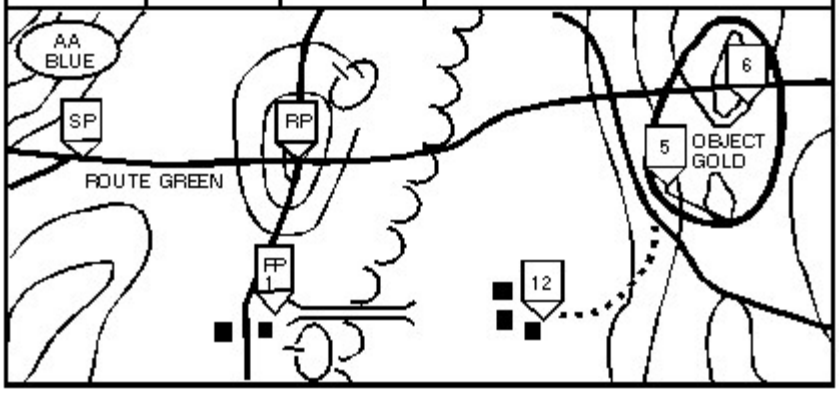


Figure 2-6. Route chart for compass and odometer navigation method.

Fires. Using artillery or mortars to fire smoke (during the day) or ground-burst illumination (day or night) can provide a useful check on estimated locations or preplanned targets.

Global positioning systems. These systems receive signals from satellites or land-based transmitters. They calculate and display the position of the user in military grid coordinates as well as in degrees of latitude and longitude. Most GPS navigation readings are based on waypoints, the known positions entered into the system's memory. The platoon leader identifies points along the route or at the destination and designates them as waypoints. Once waypoints are entered in the GPS,

the device can display information such as distance and direction from point to point. Leaders must still know how to employ terrain association while navigating in case satellite or land signals are inoperative or unavailable. For more information on GPS, see FKSM 17-15-1.

Inertial navigation systems. Based on an initial calculation of the vehicle's location from a known point, inertial navigation systems use the rotation of the track to determine the location of the vehicle. The M1A2's POSNAV system is an example. POSNAV allows the TC to determine his exact location and gives him the ability to plot up to 99 waypoints. Tank drivers can then use the steer-to function on their driver's integrated display as they move toward the designated waypoints. To compensate for track slippage that could affect the accuracy of the inertial system, TCs should reinitialize their systems often using a GPS or a known point. For more information on POSNAV, see FKSM 17-15-1.

NOTE: In using the GPS or POSNAV, the platoon leader must remember that waypoints are only one of several navigational tools he can use. He must still be prepared to use terrain association and map-reading skills in case of digital system failures. In addition, the platoon leader must not disregard the effects of terrain on the direction of movement. Terrain features that do not show up on the digital display (such as hills, valleys, and cliffs) may cause deviations in the route the platoon must take to reach the next waypoint.

Shift from a known point. Shifting from a known point is a convenient tool for the platoon leader to use as he maneuvers the platoon and
disseminates control measures. The known point is usually a previously distributed graphic control measure. Referencing a location from a known point is done in kilometers. For example, 500 meters is given as "POINT FIVE," 1,000 meters as "ONE," and 3,500 meters as "THREE POINT FIVE." Cardinal directions are used. Shifts to the east or west are given first, sion: "RED SET FROM CHECKPOINT SEVEN - EAST ONE POINT EIGHT - NORTH ONE POINT SEVEN." This means, "We (the Red element)
are set at a position 1,800 meters east and 1,700 meters north from checkpoint 7." Figure 2-7 illustrates this example.

Figure 2-7. Example of shifting from a known point.

Shifts from known points are used routinely to control combat operations. They make

report ing of current platoon and enemy positions easier. The platoon leader could report his location by referencing a graphic control measure, such as a checkpoint as shown in Figure 2-8, or a grid location. The enemy, however, will quickly figure out the known points if they are continually used in the clear on a nonsecure net. The platoon leader should avoid using the same point more than twice. Instead, he should use a different known point to reference the same location. Enemy locations are identified only by using shifts from TRPs (see Figure 2-9).

NOTE: Many units routinely use the terrain index reference system (TIRS) or the grid index reference system (GIRS) to make shifts from a known point. TIRS identifies locations based on terrain points previously designated on an overlay; GIRS uses intersections of four grid squares as the known points.

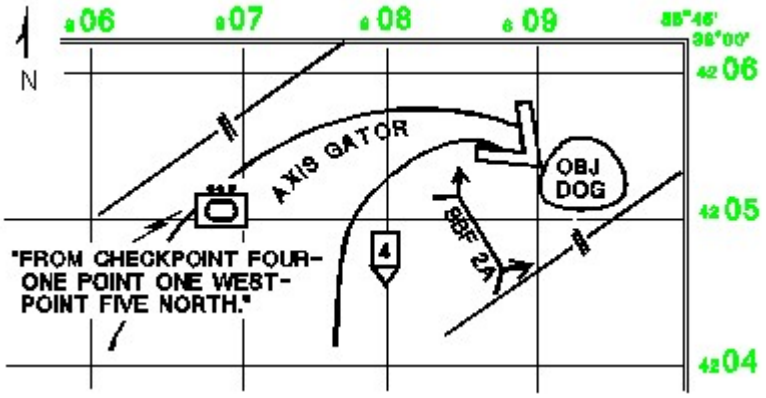


Figure 2-8. Platoon reports own position using shift from a known point (checkpoint).

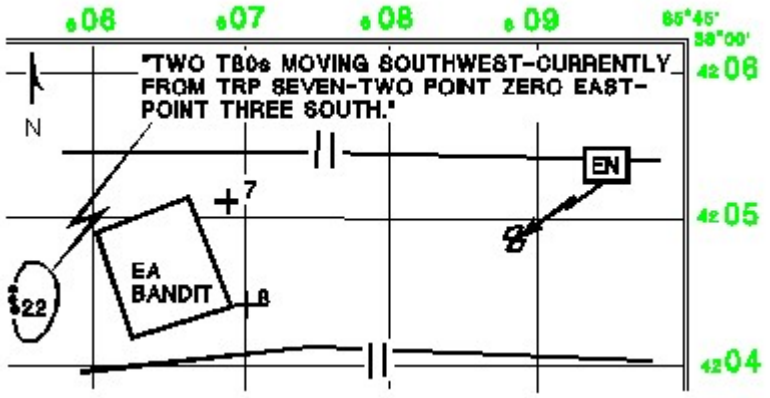


Figure 2-9. Platoon reports enemy position using shift from a known point (TRP).

COMMUNICATIONS

During virtually all maneuver and combat operations, dispersion will force the tank platoon to rely heavily on effective communications by means of wire, visual signals, radio, and digital systems. The platoon must under-stand the proper procedures for using

the available systems, the proper application of operational terms, and procedures for constructing and sending effective, concise messages using each type of system. The platoon leader is responsible for the planning, training, and employment related to use of the platoon's communications systems. He is also responsible for maintaining communications within the company communications system.

Means of Tactical Communications

The tank platoon has several available means of communications. Whether it is using messenger, wire, visual, sound, radio, or digital communications, the platoon must remain flexible enough to react quickly to new situations. The platoon leader must carefully plan the use of these resources, ensuring there is redundancy in the platoon's communications systems while avoiding dependence on any single means.

SOPs play a critical role in ensuring that platoon communications enhance situational aware ness and contribute to mission accomplishment. They prescribe hand-and-arm and flag signals that can aid in platoon movement and clear, concise radio transmissions that help to reduce transmission times. On digitally linked vehicles, crews can monitor the commander's integrated display, with its standardized graphics; this significantly reduces the need to send voice updates of friendly vehicle positions.

Messenger. Messenger service is the most secure means of communi-cations available to the tank platoon. When security conditions and time permit, it is the preferred means. It is generally very flexible and reliable. A messenger can be used to deliver platoon fire plans, status reports, or lengthy messages. When possible, lengthy messages sent by messenger should be written to prevent mistakes and confusion.

Wire. This method of communications is especially effective in static positions. The platoon will frequently employ a hot loop in initial defensive positions, OPs, and assembly areas. Unit SOPs, tailored to counter the enemy's electronic warfare capability, will dictate the use of wire. M60A3 and AGS crews can communicate directly with dismounted infantry by means of the vehicle's external field phone. On M1-series tanks, the crew can route wire from the AM-1780 through the loader's hatch or vision block to a field phone attached to the outside of the tank.

Visual. Visual communications are used to identify friendly forces or to transmit prearranged messages quickly over short distances. These signals must be clearly understood by TCs as they operate across the battlefield; each TC must be ready to pass on visual signals from the platoon leader to other vehicles in the platoon. Standard hand-and-arm or flag signals work well during periods of good visibility. Crews can use thermal paper, flashlights, chemical lights, or other devices during periods of limited visibility, but they must exercise extreme care to avoid alerting the enemy to friendly intentions. See STP 17-19K1-SM (the skill level 1 soldier's manual for MOS 19K) and FM 21-60 for a description of hand-and-arm signals.

Pyrotechnics. Pyrotechnic ammunition can be used for visual signaling. The meaning of these signals is identified in paragraph 5 of the OPORD and in the signal operation instructions (SOI). The main advantage of pyrotech nics is the speed with which signals

can be transmitted. The main disadvantage is the enemy's ability to detect and imitate them.

Sound. This form of communications is used mainly to attract attention, transmit prear ranged messages, and spread alarms. Sound signals, however, carry only short distances, and their range and clarity are greatly reduced by battle noise. In addition, since they are open to enemy inter ception, use of sound signals may be restricted for security reasons. They must be kept simple to avoid creating confusion. Prearranged meanings for sound signals are covered in the unit SOP and SOI.

Radio. The radio is the platoon's most flexible, most frequently used, and least secure means of communications. It can quickly transmit information over long distances with great accuracy. Secure equip ment and the ability of the SINCGARS to frequency-hop provide the platoon with communications security against most enemy direction-finding, interception, and jamming capabilities. Sophisticated direction-finding equipment, how ever, can trace almost any radio signal; the transmitter then can easily be destroyed. Survival of the tank platoon depends on good communications habits, especially when it is using the radio; the platoon leader must strictly enforce radio discipline. The most effective way to use the radio is to follow standard radiotele phone procedures (RTP), including brevity and proper use of authentication tables and approved operational terms.

Digital. IVIS and appliqué digital systems enable the platoon leader to transmit digitally encoded information over the SINCGARS radio to other similarly equipped vehicles. Linkup refers to the ability of the tank's radio to transmit and receive digital information. When properly "linked," the platoon leader receives continuously updated position location information for the platoon's vehicles, as well as for those of adjacent platoon leaders and PSGs, the company commander, and the executive officer (XO). Using the digital link with other platoon vehicles and the company commander, the platoon leader can also send and receive preformatted reports and overlays with graphic control meas ures. FKSM 17-15-3 discusses the use of digital systems, including IVIS-specific log-on and linkup procedures.

Tank Platoon Nets

The platoon leader, PSG, TCs, and crewmen employ and/or monitor the following radio nets.

Platoon. This net is used to conduct all platoon operations. All tanks within the platoon must have the ability to monitor and transmit on this net at all times. Some units do not use platoon radio nets; in such a situation, it is critical that all platoon vehicles adhere to communications SOPs and observe strict radio discipline. Every crewman should understand the net control guidelines, including proper RTP and techniques for effective communications, discussed later in this section.

Company/troop command. This net is used to maneuver the company as well as to process routine administrative/logistical (A/L) reports. Platoon leaders and PSGs monitor this net to keep abreast of the current tactical situation from the reports of the commander, XO, and other platoon leaders. They transmit on it to keep the commander

in formed and to talk to other platoon leaders to coordinate the tactical actions of their platoons. Both the platoon leader and PSG must always have the ability to monitor and transmit on this net. All TCs must be able to switch to this net to send re ports and receive guidance if they are unable to contact their platoon leader or PSG.

Net Control

The tank platoon net is the key to command and control of the platoon. The smooth functioning of this net allows accurate information to be passed quickly to and from the platoon leader. This information flow is critical in maintaining the platoon leader's situational awareness. Every soldier in the platoon must be trained how to provide the platoon leader with essen tial information efficiently and without redundancy. This becomes especially important when contact has been made and the volume of traffic on the platoon and company nets increases drastically. The following techniques and sugges tions will help to ensure that information flowing over the net is organized and controlled in a manner that permits the platoon leader both to understand it and to issue orders in response to it.

Digital traffic. Digital traffic may precede, replace, or follow voice transmissions; in many cases, it will reduce the need for and redundancy of voice traffic. Do not duplicate digital traffic with voice messages if digital transmissions precede or can replace voice traffic in a timely manner. Because digital systems are not totally reliable, it may be necessary to verify the receipt of critical digital traffic.

Routine traffic. The PSG normally receives and consolidates A/L reports and other routine communications from the TCs and passes the reports to the platoon leader or higher headquarters using the procedures prescribed in unit SOPs.

Initial contact. Any vehicle can alert the platoon to a threat. The section leader in contact (platoon leader or PSG) deploys and fights his section according to the platoon leader's intent. The section leader not in contact forwards the report to higher headquarters. If the entire platoon is in contact, the platoon leader fights the platoon while the PSG reports the contact to the commander.

Reporting. In keeping the platoon leader informed, TCs must avoid redundant voice and digital reports. They monitor the platoon net so they can avoid reporting information the platoon leader has already received from other TCs. The PSG pays close attention to the company net while the platoon net is active; he then relays critical information to the platoon. This technique allows the platoon leader to concentrate on fighting the platoon. Once the platoon leader begins to develop the situation, he is responsible for reporting the platoon's tactical situation to the commander using spot reports (SPOTREP) and situation reports (SITREP). Refer to FKSM 17-15-3 for information on report formats.

Radiotelephone procedure. Proper RTP is the cornerstone of effective command and control in the tank platoon. Every platoon member must be an expert in communications procedures. This ensures efficient communi cations within the platoon and allows members of the platoon to communicate effectively with outside elements such as other platoons or the company or troop headquarters.

Depending on the enemy's electronic warfare capability, the company commander may elect to use standardized call signs to simplify RTP. These call signs allow all users of a net to instantly recognize the calling station. Examples would be the use of RED, WHITE, and BLUE to designate 1st, 2d, and 3d platoons, respectively, and the use of bumper numbers to identity tanks within a platoon.

Techniques of effective communications. The platoon leader and PSG must ensure that every member of the platoon understands and adheres to the following techniques and guidelines, which can contribute to more effective, more secure tactical communications.

Minimize duration. All messages sent within or from the tank platoon must be short and informative. The longer the message, the greater the opportunity for enemy elements to use electronic detection to pinpoint the platoon's location. Message length can be controlled in several ways:

Write down the message and then eliminate all unnecessary words from the written message before sending it.
Read the message as written when sending it.
Use brevity codes that reduce the need to explain the tactical picture in detail.
Break long messages into several parts and send each part separately.

Minimize signature. When sending a message, every tanker must be conscious of the size and nature of the electronic signature that he is emitting. To reduce the size of the signature, he can use terrain to mask his transmissions from known or suspected enemy positions. He should set the transmitter to the lowest possible power that will provide sufficient range.

Know the system. Each crewman must be an expert in the technical aspects of his voice and digital communi cations systems. In particular, he must understand how to maintain each system, how to place it into operation, and how to troubleshoot it whenever he suspects it is not functioning properly.

Fire Distribution and Control

To maximize the effects of its fires, the platoon must know how to effectively focus, distribute, and control them. Depending on the situation, fire distribution and control may be ac complished by individual tanks, by section leaders' tanks and their wingmen, or by the platoon as a whole. On many occasions, particularly in defensive operations, the platoon leader will be in a position to direct the fires of the entire platoon. At other times, especially during offensive operations, fire distribution and control may begin with the PSG or a wingman; as the situation develops, the platoon leader then takes control of the platoon fires and distributes them effectively. Refer to FM 17-12-1-1 and FM 17-12-1-2 for a complete discussion of target acquisition and destruction procedures during direct fire engagements.

Focus

The platoon's ability to focus fires on the enemy is critical to combat survival. Proper scanning techniques and the violent execution of battle drills (refer to the discussion in Chapter 3) will initially orient the platoon toward the enemy. At that point, the platoon leader must supplement the drills by using TRPs to mass the platoon's fires at one location.

The platoon leader identifies and references each TRP using a terrain feature or by means of a digital overlay. When TRPs are used to delineate the left and right planning limits for the center of the sector. The center TRP roughly divides the left and right sectors in which each section will scan and engage targets. Each section should have the ability to engage targets in the other section's sector of fire from its primary, alternate, or supplementary position. This allows the pla toon leader to distribute fires in response to changes in the enemy situation.

One section will then scan for and engage targets to the left of the TRP while the other section does the same to the right of the TRP. (**NOTE:** If he has M1A2 target-designation capabil ity, each TC can lase in the vicinity of the TRP and orient his main gun on the TRP using the commander's digital display.)

The outer limits of the sector of fire can be supplemented with TRPs identified by the section leader or can be left to the discretion of individual TCs based on the tactical situation.

Distribution

The entire platoon must thoroughly understand the three basic fire patterns: frontal, cross, and depth. In most situations, these allow the platoon leader to distribute platoon fires rapidly and effectively. Regard less of the fire pattern used, the goal is to engage near and flank targets first, then shift to far and center targets. Tanks should engage **near to far** and **most dangerous to least dangerous** in their sector. A "most dangerous" threat is any enemy antitank system preparing to engage the platoon. The platoon sector is defined by TRPs, which are used to mass platoon fires at specific locations and to mark the left and right planning limits for platoon fires.

Frontal pattern. The frontal pattern is used when all tanks within the platoon can fire to their front (see Figure 2-10). Flank tanks engage targets to their front (right tank shoots right target, left tank shoots left target) and shift fires toward the center as targets are destroyed. The frontal fire engagement rule is "near to far, flank to center."

Cross pattern. The cross pattern is used when obstructions prevent some or all tanks within the platoon from firing to the front or when the enemy's frontal armor protection requires use of flank shots to achieve penetration. In this pattern, each tank engages targets on the flank of its position. The right flank tank engages the left portion of the target area while the left flank tank en gages the right portion. As targets are destroyed, tanks shift fires inward. The cross fire engagement rule is "outside in, near to far." An example of the cross pattern is shown in Figure 2-11.

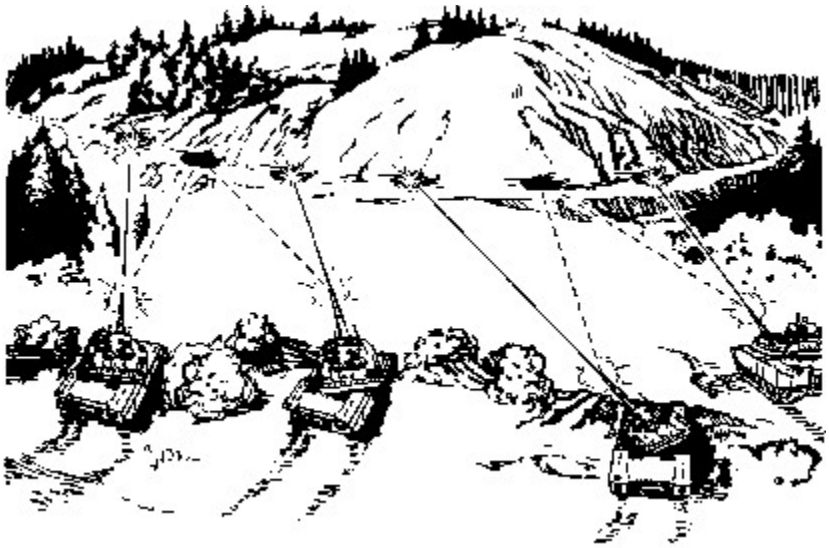


Figure 2-10. Frontal fire pattern.

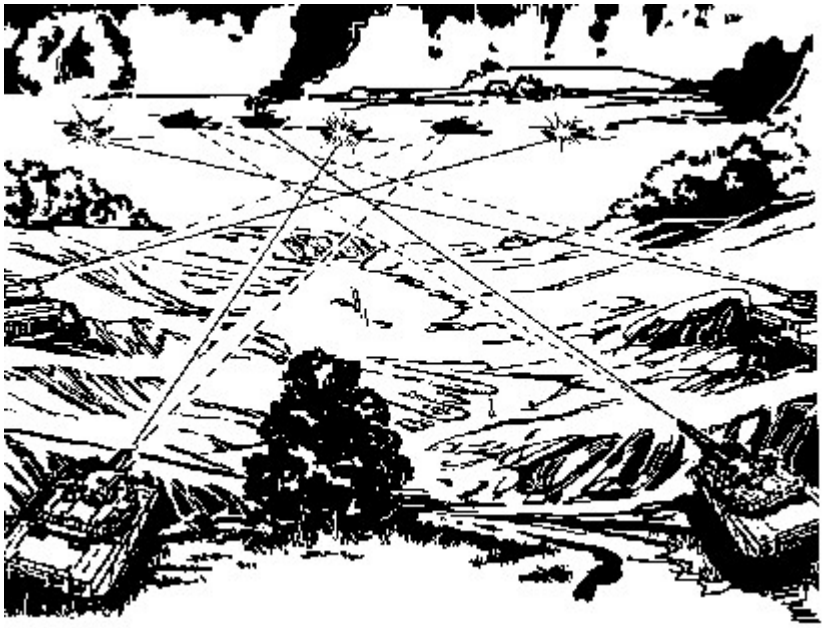


Figure 2-11. Cross fire pattern.

Depth pattern. The depth fire pattern is used when targets are exposed in depth. Employment of depth fire is dependent on the position and formation of both the engaging platoon and the target. For example, the entire platoon may be required to fire on a column formation in depth; in other cases, individual tanks engaging in their sector may have to fire in depth. If the whole platoon is firing, it may be possible for each 12). The far left tank engages the far target and shifts fire toward the center of the formation as targets are destroyed; the left center tank engages the center target and shifts fire toward the rear as targets are destroyed. The right center tank engages the closest (front) target and shifts fire to the rear as targets are destroyed; the far right tank engages the center target and shifts fire to the front as targets are destroyed.

Figure 2-12. Depth fire pattern.

Control

ning and fire commands. He decides how to control fires based on the factors of METT-T.

Fire planning. The more thoroughly the platoon leader can plan an operation, the more effective the platoon's fires are likely to be. The amount of time available for fire planning, however, depends almost entirely on the collective factors of METT-T. For example, some defensive operations may allow the platoon leader hours or days to conduct fire planning. Intelligence assets may be able to acquire, track, and report enemy elements as they move toward the platoon. The platoon leader can then initi ate fires with a platoon fire command or a predetermined event (such as the enemy crossing a trigger line). In other situations, especially during offensive operations, a member of the platoon may acquire and engage a "most dangerous" target before the platoon leader has an opportunity to initiate a fire command. Offensive and defensive fire planning is discussed in detail in Chapters 3 and 4.

In the absence of adequate planning time, the platoon leader must initially rely on preestablished, well-rehearsed SOPs to distribute and control fires and ensure fast, predictable engagement by all tanks. No matter what kind of situation it expects to face, the platoon must learn and rehearse target acquisition responsibilities, use of TRPs and fire patterns, and procedures for initiating, shifting, and stopping fires. Its survival depends on it.

Platoon fire commands. The battlefield situation and/or platoon SOP dictate the number

of elements used in a fire command. The standard platoon fire command includes up to six elements, transmitted in the following order:

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

Alert. The alert element addresses the tanks that are being directed to fire; it does not require the individual initiating the fire command to identify himself. (**NOTE:** Wingman tanks or sections not designated to engage should sense the target effects and be prepared to engage targets as necessary.)

Platoon or company SOP code words may be used to standardize the alert element, as in the following example:

RED--Entire platoon prepare to fire.
ALPHA--Platoon leader and his wingman prepare to fire.
BRAVO--PSG and his wingman prepare to fire.

Weapon or ammunition (optional). The weapon is not announced unless specific control measures are required. Ammunition is not announced unless a specific type is dictated by the situation. The TC selects ammunition based on the platoon SOP, the number and type of enemy targets, and the supply status of ammunition (how much of each type is on hand).

Target description. This element briefly describes the target in terms of number, type, and activity ("THREE TANKS MOVING EAST TO WEST").

Orientation. Target location is described using one of two methods:

Reference **point or terrain feature.** This method is used for most defensive engagements and can also be applied to of fensive situations. If the platoon leader designates separate targets for each section, he assigns responsibility and clarifies target location in the orientation element. For example: "ALPHA - TWO TANKS - TRP 3126 - BRAVO - BMPs AND TROOPS - ROAD JUNCTION."
Direction **of target.** This method is used most often in the offense when no TRP or definitive terrain feature is near the target. Direction is indicated from the projected line of movement (LOM) of the platoon in the of fense or from the center of sector (COS) in the defense (for example, "LEFT FRONT" or "RIGHT FLANK"). The clock option indicates direction starting with the LOM or COS at 12 o'clock (examples: "TWO O'CLOCK"; "NINE O'CLOCK"). The cardinal direction may also be used ("NORTHWEST" or "SOUTHWEST"). When using the direction method, the pla toon leader will announce a range to help his TCs locate the targets, for example, "RIGHT FRONT - ONE EIGHT HUNDRED" or "TEN O'CLOCK - TWO FOUR HUNDRED."

Control (optional). The control element tells the platoon what type of fire pattern (frontal, cross, or depth) the platoon leader has selected based on his plan for fire distribution. If the control element is omitted, the platoon engages targets using the frontal pattern. All tanks normally engage simultaneously. If the platoon leader wishes to designate a firing tank or section, he specifies which tanks will fire in the alert element of the fire command. Additionally, the platoon leader may designate the amount or type of ammunition or weapons to be fired. For example, he might direct four bursts from the coax machine gun for every two main gun rounds fired.

Execution. The execution element indicates when firing will begin. Normally, this is simply the command "FIRE." If simultaneous fire is desired or if the platoon's fire is to be coordinated with other direct or indirect fires, the execution element "AT MY COMMAND" is given first. The resulting delay allows the coordination of all fires to be completed; the individual crews select their targets, issue their own fire commands, and prepare to engage. The platoon leader must remember that tanks have to occupy hull-down positions before firing. A proword can be used to signal this move.

During execution, the platoon leader controls fires by issuing subsequent fire commands or individual elements of the fire command; this serves to focus and distribute the fires of individual tanks, a section, or the entire platoon. The engagement is terminated when all targets are "CEASE FIRE." Figure 2-13 illustrates an example of a platoon fire command; note that the weapon/ammunition element has been omitted.

Alert "RED-

Target description THREE TANKS-

Orientation VICINITY TRP ZERO ZERO SIX-

Control (optional) CROSS-

Execution AT MY COMMAND-FIRE"

Figure 2-13. Example platoon fire command.

CHAPTER 3

OFFENSIVE OPERATIONS

Offense is the decisive form of war. While tactical considerations may call for the platoon to execute defensive operations for a period of time, defeat of the enemy requires a shift to offensive operations. To ensure the success of the attack, the tank platoon leader must understand the fundamentals of offense and apply troop-leading procedures during the planning and preparation phases of the operation.

CONTENTS

SECTION VI. Execution-Platoon Tactical Tasks
SECTION VII. Execution - Consolidation and Reorganization

Section I. FUNDAMENTALS OF THE OFFENSE

Purposes of the Offense

The main purpose of the offense is to defeat, destroy, or neutralize an enemy force. Additionally, offensive operations are undertaken to secure key terrain, to gain information, to deprive the enemy of resources, to deceive and divert him, to hold him in position, to disrupt his attack, and to set the conditions for successful future operations.

Characteristics of the Offense

FM 100-5 describes the common characteristics of all offensive operations: surprise, concentration, tempo, and audacity. To maximize the value of these characteristics, tank platoons must apply the following considerations:

Surprise. Platoons achieve surprise by following operations security (OPSEC) procedures and making the best possible use of vehicle speed and covered and concealed routes during tactical movement.

Concentration. Platoons achieve concentration by massing the effects of their weapon systems without necessarily massing platoon vehicles at a single location. Modern navigation and position location/reporting systems allow the platoon leader to disperse his vehicles while retaining the ability to quickly mass the effects of the platoon's weapon systems whenever necessary. In addition, these advanced systems allow him to maintain command, control, and OPSEC at all times. The platoon leader must remember that it is more important to move using covered and concealed routes to positions from which the platoon can mass fires and engage the enemy than it is to maintain precise formations and predetermined speeds.

Tempo. Tempo, the rate of speed of military action, can range from fast to slow. While a fast tempo is preferred, the platoon leader must remember that synchronization sets the stage for successful platoon operations; to support the commander's intent, he must ensure that his platoon's movement is synchronized with the company team's movement and that of the other platoons. If the platoon is forced to slow down because of terrain or enemy resistance, mander can alter the tempo of company movement to maintain synchronization.

Audacity. At the platoon level, audacity is marked by violent initiative. Knowledge of the commander's intent two levels up allows the platoon leader to take advantage of battlefield opportunities whenever they present themselves, enhancing the effectiveness of the platoon's support for the entire offensive operation.

Forms of Offense

The four general forms of tactical offense described in FM 100-5 are movement to contact, attack, exploitation, and pur suit. Company teams can execute movements to contact and either hasty or deliberate attacks on their own; the nature of these operations depends largely on the amount of time and enemy information available during the planning and preparation phases. Company teams execute an exploitation or pursuit as part of a larger force.

Role of the Tank Platoon

The tank platoon is an integral part of company team maneuver. The platoon conducts tactical movement, actions on contact, consolidation, and reorganization in support of company operations. It can destroy, fix, or bypass an enemy as required by the commander's intent, the tactical situation, and the rules of engagement (ROE).

Section II. PLANNING

The planning phase begins when the platoon receives the higher WO or OPORD and ends when the platoon leader issues his own OPORD or FRAGO. During this phase, the platoon leader conducts troop-leading procedures as outlined in Chapter 2. After he issues the WO, he may initiate rehearsals of tactical movement, battle drills, or breaching actions. These generic rehearsals allow the platoon to begin preparing for the mission. Once the platoon leader completes his plan, the generic rehearsals are matched to the actual terrain and anticipated actions on enemy contact. In developing his OPORD or FRAGO, the platoon leader pays close attention to the following considerations applicable to the battlefield operating sys tems (BOS). Arranged in order, BOSs roughly follow the five-paragraph OPORD process, allowing the platoon leader to logically organize his thoughts to cover the mission. BOS elements are the following:

Command and control.
Intelligence.
Maneuver.
Fire support.
Mobility and survivability.
ADA.
CSS.

Command and control

The platoon leader's key function in this BOS is conducting troop-leading procedures. Immediately after the company order is issued or during the company rehearsal, he should coordinate unresolved issues with the other platoon leaders, the XO, and the company commander. The coordination should specify routes, intervals, movement speed, orientations, fire control measures, and signals between platoons.

Intelligence

Enemy

Most analysis of the enemy situation and probable courses of action is done at the battalion and company level; however, it is the platoon leader's responsibility to understand how the enemy's disposition and possible courses of action may affect the platoon's battle space and the accomplishment of its mission. The platoon leader identifies and plots on his overlay all known and suspected enemy positions that affect his battle space and identifies indirect and direct fire range fans of enemy weapon systems. The enemy overlay for IVIS or appliqué digital systems should also be updated to include the latest enemy information.

The platoon leader then identifies terrain features or determines the standoff distance of friendly weapon systems that will negate the effects of threat weapons. Next, he determines the enemy's most probable course of action. Using information from his own analysis and from higher headquar ters, he identifies anticipated contact situations. This process includes estimating whether the enemy will defend in place, delay, or counterattack upon con tact; when and where contact is most likely to be made; and what type and size of enemy force the platoon will face. Finally, the platoon leader must develop specific plans for the platoon's actions against the enemy. Refer to the discussion of enemy analysis on pages 2-4 and 2-5.

Terrain

The platoon leader conducts a map reconnaissance and uses the factors of OAK-OC, as discussed in Chapter 2, to system atically analyze the terrain in his battle space. He pays close attention to key terrain that could support positions offering unobstructed observation and fields of fire. These are **danger areas** that can be used by enemy or friendly forces when contact is made during the execution of the mission. This analysis is followed by a ground reconnaissance, conducted with the commander as far forward as possible and as extensively as time and security considerations permit. The ground reconnaissance covers the platoon's movement routes to the LD, routes to the objective, and the objective itself. The platoon leader should check and record the time-distance factors to any SPs or to the LD.

Maneuver

Movement

The platoon leader develops the platoon maneuver plan so that it matches the commander's intent and specific instructions and supports the company main effort. He determines the platoon's route, movement technique, and formation based on his battle space (including terrain factors), the company scheme of maneuver, and the likelihood of enemy contact. He pays particular attention to fields of observation and fire; these factors can help him to define poten tial enemy engagement areas. The platoon leader war-games anticipated actions on contact and execution of essential tasks. He also addresses actions on the objective (consolidation and reorganization).

Direct Fires

The platoon leader identifies attack by fire and support by fire positions from which the platoon can engage known or sus pected enemy positions. He designates TRPs and assigns sectors of fire, observation, and weapons orientation. He specifies platoon fire patterns (if different from those identified by SOP) and addresses restrictions on direct fire imposed by the rules of engagement (ROE) in effect for the operation.

Fire Support

Most fire support planning is conducted at company level and higher. The platoon leader reviews the plan to ensure that responsibilities for initiating, lifting, and shifting indirect fires are designated. As necessary, he identifies additional indirect fire targets on known or suspected enemy positions and submits recommendations to the company FIST. The platoon leader evaluates and recommends the use of smoke to help conceal or obscure move ment and suppress likely enemy positions while the platoon is moving through danger areas; in addition, he evaluates the need for illumination or smoke rounds for marking and/or to assist in navigation. See the discussion of navigation in Chapter 2.

Mobility and Survivability

Obstacle Types

The platoon will encounter two types of obstacles, existing and reinforcing. The enemy will employ both types in its defensive plan.

> Existing obstacles are those that are present on the battlefield but were not emplaced through military effort. They may be natural (such as streams, lakes, thick forests, and mountains) or cultural (towns or railroad embankments).
>
> Reinforcing obstacles are placed on the battlefield through military effort to slow, stop, turn, or canalize the enemy. Examples include minefields, wire, road craters, log cribs, and tank ditches.

Breach Planning

The commander will designate his platoons to be part of the support force, the breach force, or the assault force. The sup port force usually leads the company during movement and identifies the obstacle. It then suppresses any enemy elements overwatching the obstacle to give the breach force the opportu nity to penetrate the obstacle. A tank platoon can conduct breach force operations only if it is equipped with the assets required to breach the type of obstacle encountered; such assets include demolitions, grappling hooks, rakes, mine plows, and mine rollers. The breach force is responsible for creating, proofing, and marking a lane through the obstacle and for securing the far side. It then suppresses remaining enemy forces as the assault force moves through the breach to continue the attack. (See Chapter 5 for more information on breaching operations.)

> **NOTE:** NBC defensive operations are a critical consideration within the mobility and survivability BOS. These are discussed in detail in Section V of this chapter (as part of the execution of battle drills) and in Appendix D.

Air defense artillery

Refer to Chapter 6 for a discussion of ADA planning considerations.

Combat Service Support

The platoon leader ensures that soldiers are familiar with maintenance and medical evacuation (MEDEVAC) procedures as outlined in paragraph 4 of the platoon OPORD or

in the unit SOP. See Chapter 7 for more details concerning logistics operations.

Section III. PREPARATION

The preparation phase ends when the platoon crosses the LD and deploys for the attack. The platoon leader takes into account the following BOS considerations.

Command and Control

During the preparation phase, the platoon leader contin ues with his troop-leading procedures and conducts rehearsals and inspections to ensure the platoon is ready for the upcoming operation. Near the end of the phase, the platoon leader conducts a precombat inspection (PCI) of his soldiers and equipment. The soldier inspection includes checking each crewman's personal knowledge of the opera tion as well as the readiness of his equipment. As a rule, TCs must understand the company scheme of maneuver; other crewmen must understand the platoon scheme of maneuver. The equipment inspection consists of checking each tank crew's ability to move, shoot, and communicate. The inspection should be as thorough as time permits; for a detailed PCI checklist, see FKSM 17-15-3. Rehearsals and inspections are discussed in detail in Chapter 2.

Intelligence

During this phase, the platoon leader will receive updated SPOTREPs listing known and suspected enemy locations as well as the latest friendly actions. He should plot the updated enemy and friendly locations on his overlay and on the enemy overlay (digital systems); based on his terrain reconnaissance, he adjusts the maneuver plan accordingly.

Manuever

Following the last company rehearsal, the platoon should conduct a final rehearsal of its own to incorporate any adjustments to the company scheme of maneuver. The platoon re hearsal should follow the procedures outlined in Chapter 2. It should cover the following subjects:

Movement from current positions.
Routes.
Platoon and company formations and movement techniques.
Vehicle positions within the platoon formation.
Weapons orientation and fire control.
Decision points.
Actions on contact.
Actions on the objective (consolidation and reorganization.)
Reporting procedures.
Signals.

Fire Support

During the rehearsal, the platoon leader should address responsibility for targets in the platoon battle space. He should cover any scheduled indirect fires and the effects of smoke on the bat tlefield. In addition, he should discuss the direct fire plan, with emphasis on platoon responsibilities, known and suspected enemy locations, friendly unit locations, and applicable ROE.

Mobility and Survivability

Actions at obstacles should be rehearsed during the preparation phase. Breaching equipment should be checked during the PCI.

Air Defense Artillery

ADA preparations during this phase should include a rehearsal of the react to air attack drill, which is outlined in Section V of this chapter.

Combat Service Support

During the preparation phase, tank crews conduct resupply operations to replenish their combat loads. They also perform preventive maintenance checks and services (PMCS) on their vehicles and equipment.

Rehearsals should cover aspects of the logistical plan that will support the upcoming operation, including emergency resupply and personnel and vehicle evacuation procedures. For more information on logistics, refer to Chapter 7.

SECTION IV. EXECUTION-TACTICAL MOVEMENT

The company OPORD will normally specify company and platoon formations and techniques of movement. This allows the commander to position his elements where they will optimize the company's battle space and facilitate execution of his scheme of maneuver. The platoon leader has the responsibility to recommend a different formation or technique of movement if a change will allow the platoon to more effectively contribute to the accomplishment of the company mission and protection of the force. If no formation or technique of movement is given in the order, the platoon leader selects the one that will make the most efficient use of his battle space and will best support the company scheme of maneuver.

While moving, the platoon uses terrain to provide cover and concealment, employing the following rules:

Do not move forward from an overwatch position or BP. Back away from your position and go around on the low ground.
Stay on low ground as much as possible. Moving on top of ridgelines and over hilltops will silhouette (skyline) platoon vehicles.
Scan the ground for disturbed earth, out-of-place features, and surface-laid mines. These are indicators of an obstacle or mine field.
Select the formation and movement technique that maximizes the platoon's battle space while minimizing gaps and dead space.
If your move is being covered by an overwatch element, remember that the overwatch element cannot cover all of the platoon's gaps and dead space. If the move is being overwatched, also keep in mind that the distance of each move (or bound) must not exceed the direct fire range of the overwatch element.
Always plan actions at danger areas. If necessary, direct the TC or loader to dismount and either observe around blind spots or check the trafficability of a route or defile before the tank moves over or through these locations.

Techniques of Movement

The commander or platoon leader selects a technique of movement based on several battlefield factors:

The likelihood of enemy contact.
The availability of another element to provide overwatch for the moving element.
The terrain over which the moving element will pass.

In open terrain, such as deserts, one company will normally overwatch the movement of another company. In close terrain, such as rolling hills or countryside, platoons will normally overwatch other platoons. In restrictive terrain, such as mountains, forests, or urban areas, a tank sec tion will rely on another tank section or dismounted infantry to overwatch movement.

The tank platoon must be able to employ any of the following techniques of movement:

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

Traveling overwatch. Traveling overwatch is an extended form of traveling that provides additional security when contact is possible but speed is desirable. The lead ele ment moves continuously. The trail element moves at various speeds and may halt periodically to overwatch the movement of the lead element. The trail element maintains dispersion based on its ability to provide immediate suppressive fires in support of the lead element. The intent is to maintain depth, provide flexibility, and sustain movement in case the lead element is engaged.

Bounding Overwatch. Bounding overwatch is used when contact is expected. It is the most secure, but slowest, movement technique. There are two methods of bounding:

- Alternate bounds. Covered by the rear element, the lead element moves forward, halts, and assumes over-watch positions. The rear element advances past the lead element and takes up overwatch positions. The initial lead element then advances past the initial rear element and takes up overwatch positions. Only one element moves at a time. This method is usually more rapid than successive bounds. (Refer to Figure 3-1, page 3-12.)

Successive bounds. In this method, the lead element, covered by the rear element, advances and takes up an overwatch position. The rear element advances to an overwatch position abreast of the lead element and halts. The lead element then moves to the next position, and so on. Only one element moves at a time, and the rear element avoids advancing beyond the lead element. This method is easier to control and more secure than the alternate bounding method, but it is slower (Refer to Figure 3-2, page 3-12.)

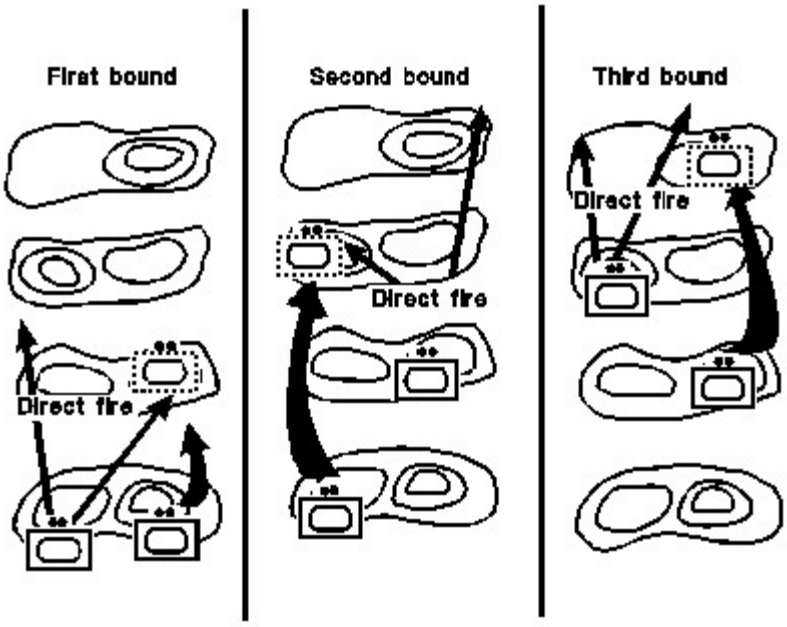


Figure 3-1. Movement by alternate bounds.

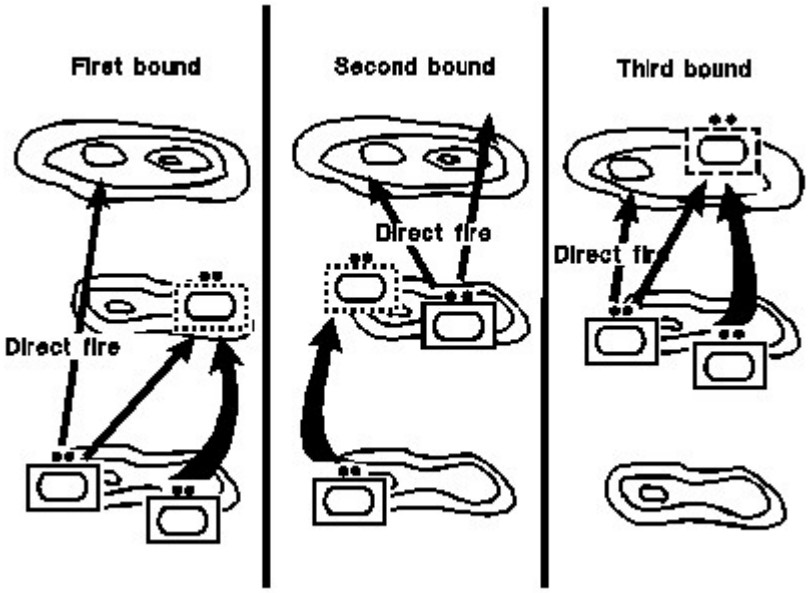


Figure 3-2. Movement by successive bounds.

FORMATIONS

Formations are used to establish tank positions and sectors of responsibility during tactical operations. They facilitate control, alleviate confusion, and increase protection, speed, and the effectiveness of fires.

Formations are not intended to be rigid, with vehicles remaining a specific distance apart at every moment. The position of each tank in the formation

depends on the terrain and the ability of the wingman driver to maintain situational aware ness in relation to the lead tank. At the same time, individual tanks should always occupy the same relative position within a formation. This will ensure that the members of each crew know who is beside them, understand when and where to move, and are aware of when and where they will be expected to observe and direct fires. Weapons orientation for all tanks should be adjusted to ensure optimum security based on the position of the platoon in the company formation.

The following paragraphs and illustrations describe the six basic movement formations the platoon will use. (**NOTE:** In these examples, vehicle numbers are used to illustrate the wing man concept. In the field, the location and sequence of vehicles in the formation will be prescribed in the platoon SOP and/or the orders for the operation. The tactical situation will also influence vehicle location.)

Column

The column provides excellent control and fire to the flanks, but permits less fire to the front. It is used when speed is critical, when the platoon is moving through restrictive terrain on a specific route, and/or when enemy contact is not likely. (See Figure 3-3, page 3-14.)

Staggered Column

The staggered column is a modified column formation with one section leading and one section trailing behind to pro vide overwatch. The staggered column permits good fire to the front and flanks. It is used when speed is critical, when there is a limited area for lateral dispersion, and/or when enemy contact is possible. (See Figure 3-4.)

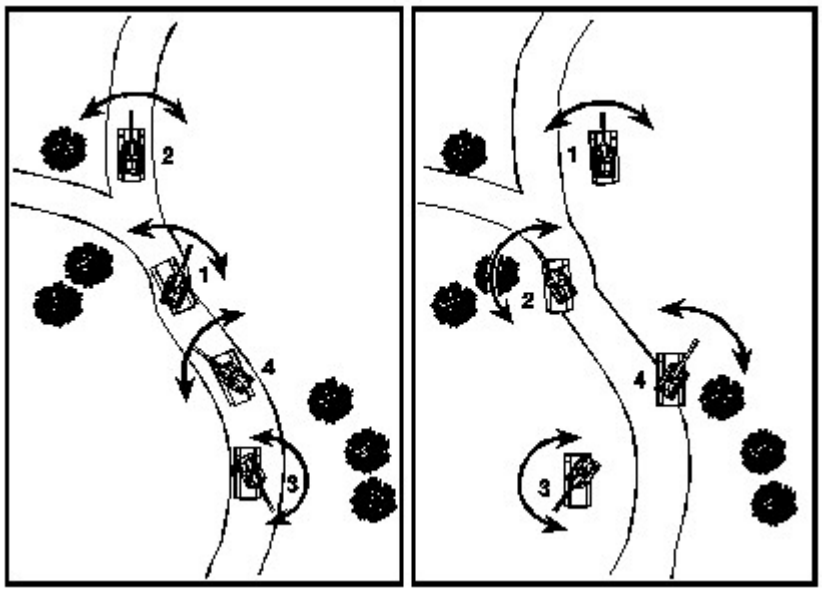


Figure 3-3. Column formation. Figure 3-4. Staggered column

formation.

Wedge

The wedge permits excellent firepower to the front and good firepower to the flanks. It is employed when the platoon is provided with overwatch by another element and is moving in open or rolling terrain. Depending on the platoon location within the company formation, the platoon leader and PSG (with wingmen) can switch sides of the formation. When the platoon leader's tank is slightly forward, one flank has more firepower. (See Figure 3-5.)

Echelon

The echelon formation permits excellent firepower to the front and to one flank. It is used to screen an exposed flank of the platoon or of a larger moving force. (See Figure 3-6.)

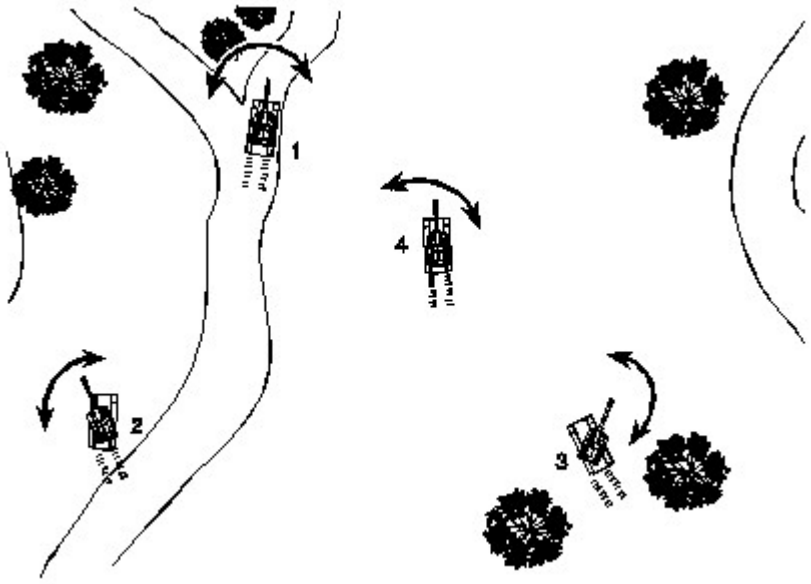


Figure 3-5. Wedge formation.

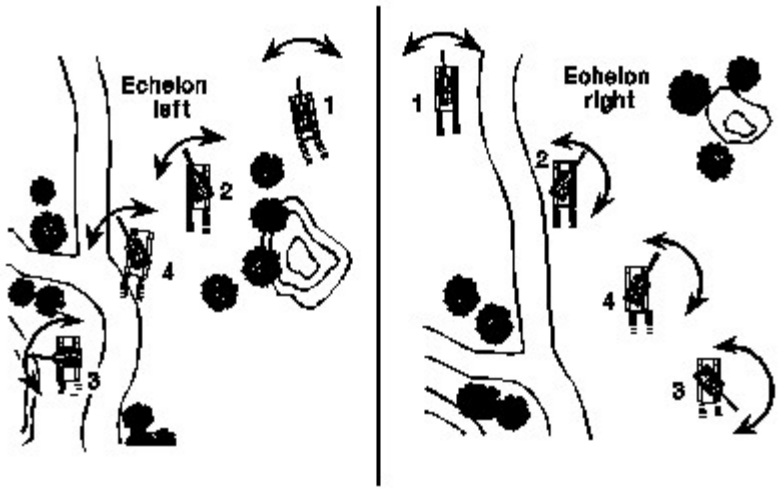


Figure 3-6. Echelon formation.

Vee

The vee formation provides excellent protection and con-trol, but limits fires to the front. This formation is used when terrain restricts movement or when overwatch within the platoon is required. (See Figure 3-7.)

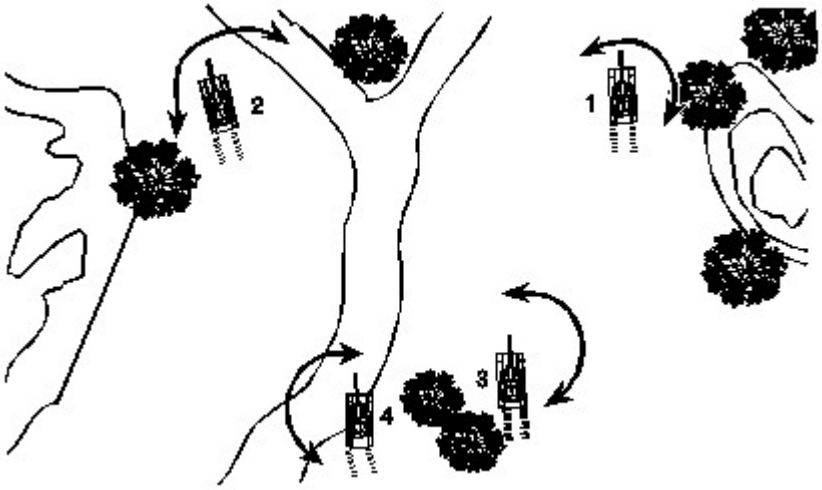


Figure 3-7. Vee formation.

Line

The line formation provides maximum firepower forward. It is used when the platoon crosses danger areas and is provided with overwatch by another element or when the platoon assaults en-emy positions. (See Figure 3-8.)

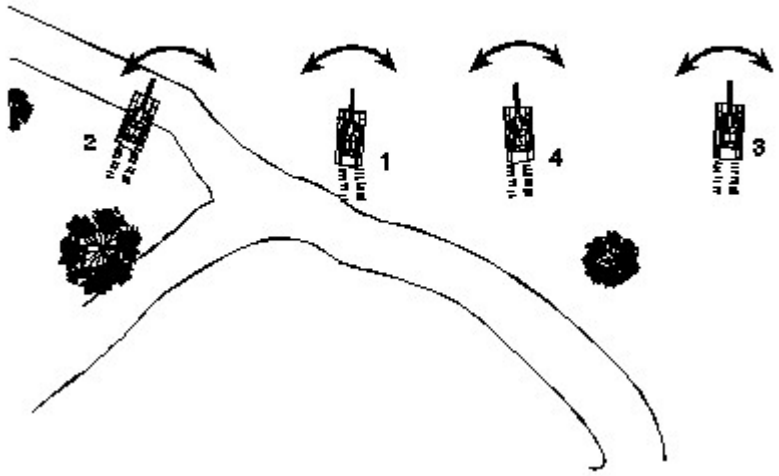


Figure 3-8. Line formation.

Coil and Herringbone

These formations are employed when the platoon is stationary and 360-degree security is essential. Figure 3-9 illustrates the coil and herringbone.

Coil. When it is operating independently, the platoon uses the coil formation to establish a perimeter defense during extended halts or lulls in combat. The lead vehicle, normally the platoon leader, will halt his vehicle in the direction of travel (12 o'clock) while the other vehicles position themselves to form a circular formation covering all suspected enemy avenues of approach.

Herringbone. The herringbone formation is used when the platoon must assume a hasty defense with 360-degree security while remaining postured to resume movement in the direction of travel. It is normally employed during scheduled or unscheduled halts in a road march. If terrain permits, vehicles should move off the road and stop at a 45-degree angle, allowing passage of vehicles through the center of the formation.

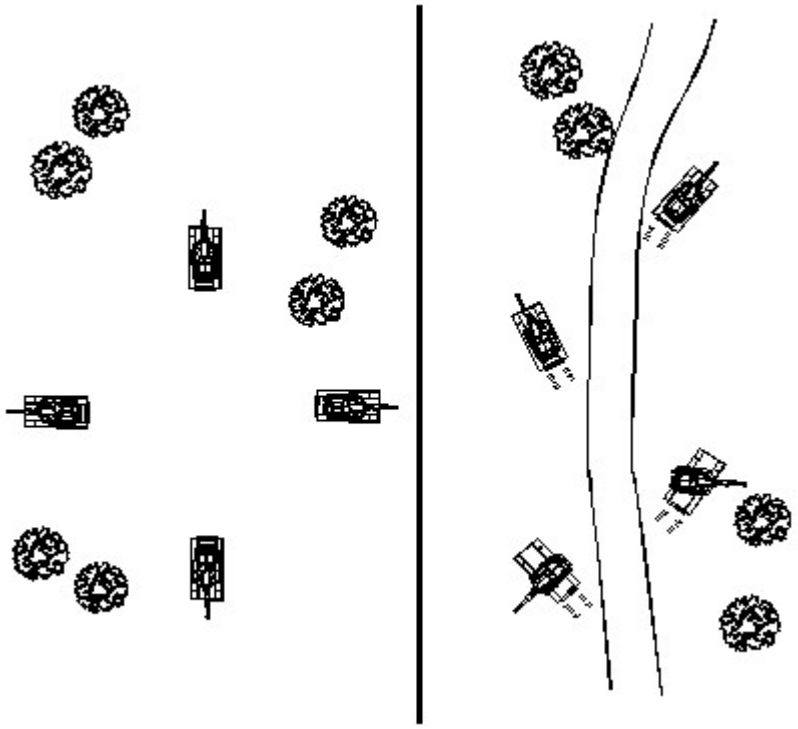


Figure 3-9. Coil and herringbone formations.

Overwatch

Overwatch is the tactical mission in which an element observes and provides direct fire support for a friendly moving element. Situational awareness is a crucial factor in all overwatch missions, whose objective is to prevent the enemy from surprising and engaging the moving unit. The overwatch force must maintain communication with the moving force and provide early warning of enemy elements that could affect the moving force. It also scans gaps and dead space within the moving element's formations. If the overwatch is unable to scan dead space and engage the enemy, it must alert the moving element of the lapse in coverage. The overwatch must also be able to support the moving force with immediate direct and indi rect fires. The overwatch element can be either stationary or on the move. Figure 3-10 illustrates what to look for and where to look during an overwatch mission. (**NOTE:** While the main function of overwatch is to provide early warning and/or timely supporting fires for a moving element, overwatch crews must also maintain 360-degree observation and security for themselves.)

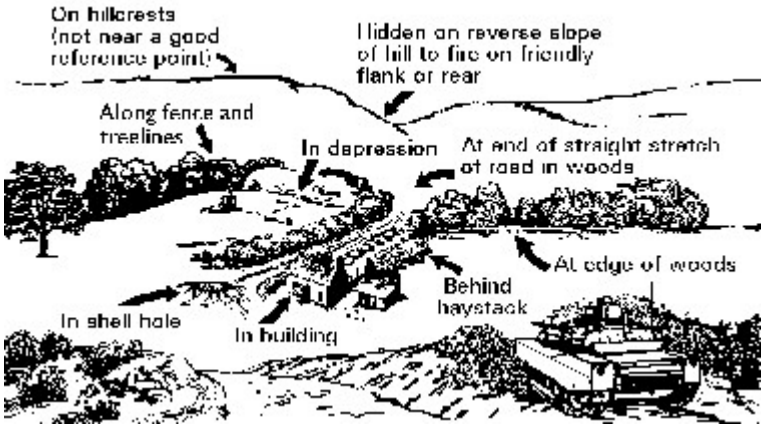
Stationary Overwatch

The section or platoon occupies hull-down firing positions that provide effective cover and concealment, unobstructed observation, and clear fields of fire. (**NOTE:** Firing positions are discussed in Chapter 4.)

The section or platoon leader assigns sectors of fire. Individual crews aggressively scan their sectors using applicable search techniques to identify enemy positions. They employ all available sights, including the thermal channel (using various polarities) and daylight channel of the gunner's primary sight, binoculars, PVS-7s, and commander's independent thermal viewer (CITV). (See FM 17-12-1-1 for search techniques.) The overwatch element scans the battle space of the moving element, paying close attention to gaps and dead space. If contact is made, the overwatch element initiates a high volume of direct and indirect suppressive fires; it moves as necessary between primary and alternate positions to avoid being decisively engaged.

Overwatch on the Move

The trail section or platoon maintains a designated location in the formation. It continuously scans the lead element's battle space, closely monitoring gaps and dead space. The trail element maintains an interval dictated by the capabilities of its weapon systems and the effects of terrain. As needed, it can execute a short halt on key terrain to provide more effective overwatch.



WHAT TO LOOK AND LISTEN FOR:	WHERE TO LOOK (see figure above):
TANKS • Engine noise, track clatter. • Exhaust smoke. • Antenna masts. • Engine, suspension heat sources. • Dust and reflections. • Firing signature (flash, blast).	• Within 2,000 meters of moving element. • Near creets, next to buildings, in treelines.
ATGM • Smoke signature of missile in flight. • Missile controller may be up to 100 meters from launch site. • Human heat sources.	• 400 to 4,000 meters from moving element. • May be launched from behind hilltops and ridgelines. • Roofs.
OTHER ANTITANK WEAPONS • Usually well-camouflaged. • Firing signature. • Handheld and crew-served weapon systems. • Human heat sources.	• Within 1,000 meters of moving element. • 360° observation needed to protect against tank ambush teams using handheld weapons. • Two or more may be employed on reverse slopes, protected by mines. • Usually on a flank.

Figure 3-10. Overwatch locations and techniques.

Section V. EXECUTION - ACTIONS ON CONTACT

In both offensive and defensive operations, contact occurs when any member of the platoon observes enemy personnel or vehicles, observes or receives direct or indirect fire, or encounters any situation that requires an active or passive response to the enemy. This includes reports of enemy contact through the chain of command or from an adjacent friendly element. The platoon initiates actions on contact when it recognizes one of the defined contact situations or on order from higher headquarters.

As discussed in Section II of this chapter, the platoon leader should use the planning process to anticipate the actions on contact that the platoon may be required to execute based on the enemy situation. The platoon can then rehearse these potential actions during the preparation phase of the operation.

The commander's OPORD will assist the platoon leader in two ways. First, the commander's scheme of maneuver will direct the platoon leader in planning how to kill the templated or anticipated enemy force. The scheme of maneuver will define the platoon's role in maneuver and direct fire as part of the company or task force plan. Second, the commander's coordinating instructions should specify for the platoon leader the actions on contact that, based on the size and activity of the anticipated enemy force, are related to the maneuver plan. These specific instructions may

include engagement criteria, bypass criteria, displacement criteria, and the course of action the commander expects to employ. By learning and planning for these details in advance, the platoon leader will be able to develop contact situations rapidly and determine the most effective course of action.

THE FOUR STEPS OF ACTIONS ON CONTACT

The following four steps allow the platoon leader to execute actions on contact using a logical, well-organized decision-making process:

Deploy and report.
Evaluate/develop the situation.
Choose a course of action.
Recommend/execute a course of action.

The four-step process is not a rigid, lockstep response to the enemy contact. Rather, the goal is to provide an orderly framework that enables the platoon to survive the initial contact, then apply sound decision-making and timely actions to complete the operation. In simplest terms, the platoon must react instinctively and instantly to the contact, and the platoon leader must decide, with equal dispatch, whether to execute a preplanned battle drill or course of action or to recommend and execute an alternate drill or action.

At times, the platoon leader, and the platoon, will have to execute several of the steps simultaneously. This makes thorough preparation an absolute require ment in contact situations. To ensure the platoon functions as a team, reacting correctly and yet instinctively, the platoon leader must establish SOPs and conduct comprehensive training and rehearsals covering each step.

Deploy and Report

The platoon leader deploys the platoon when he recognizes one of the general categories of initial contact or receives a report of enemy contact. Contact situations include (but are not limited to) the following:

Visual contact (friendly elements may or may not be observed by the enemy).
Physical contact with a superior, inferior, or unknown enemy.
Indirect fire contact.
Contact with obstacles of enemy or unknown origin.
Contact with enemy or unknown aircraft.
Situations involving NBC conditions.
Situations involving electronic warfare tactics (such as jamming, interference, and imitative deception).

When the platoon makes contact with the enemy, it responds according to the circumstances of the situation. The tank that makes initial contact must

react as appropriate. This covers a range of actions that correspond to the nature of the contact. Most critically, if the contact entails enemy antitank fire, the tank returns fire immediately. In all cases, it alerts the rest of the platoon with a contact report (see FKSM 17-15-3 for report formats).

The platoon leader has several choices in deploying the platoon. In many cases, he will initiate one of the seven battle drills. This usually will be a contact or action drill, with the platoon attempting to acquire and engage the enemy. (**NOTE:** Refer to the discussion and illustrations of the battle drills on pages 3-31 through 3-44.) The platoon leader can also order his tanks to immediately seek the best available covered and concealed position. The position should afford unobstructed observation and fields of fire and allow the platoon to maintain flank security. Tank crews will also seek cover and concealment in the absence of a deployment order from the platoon leader.

This step concludes with the platoon leader or PSG sending a contact report to the commander, followed as soon as possible by a SPOTREP.

Evaluate/Develop the Situation

While the platoon deploys by executing a battle drill or occupying a covered and concealed position, the platoon leader must begin to evaluate the situation and, as necessary, develop it. His primary focus is on determining and/or confirming the size (inferior or superior), composition (available weapon systems), activity, and orientation of the enemy force. He analyzes how obstacles and terrain in the area of operations will affect enemy and friendly capabilities and possible courses of action. The platoon leader uses SPOTREPs from the TCs, other platoon leaders, the XO, and the company commander to make his evaluation. (**NOTE:** Because the tank platoon usually operates as part of a company team or cavalry troop, additional infantry, scout, or tank platoons will be available to assist the commander and platoon leader in developing and confirming the enemy situation.)

There are no hard and fast rules for determining the su periority or inferiority of an enemy; the result is dependent on the situation. An inferior force is defined as an enemy element that the platoon can destroy while remaining postured to conduct further operations. A superior force is one that can be destroyed only through a combined effort of company- or battalion-level combat and CS assets.

The platoon leader bases his evaluation on the enemy's capabilities, especially the number of lethal weapon systems the enemy force is known to have, and on the enemy's current activity. Lethality varies; the enemy may employ rapid-fire antitank weaponry, slow-firing wire-guided systems, or dismounted soldiers with automatic weapons. Likewise, enemy activity can range from an entrenched force using prepared fighting positions to a unit conducting refueling operations with little security.

After making contact and evaluating the situation, the platoon leader may discover that he does not have enough information to determine the superiority or inferiority of the enemy force. To make this determination, he can further develop the situation using a combination of techniques, including fire and maneuver, indirect fire, reconnaissance by fire, and dismounted surveillance. In such a situation, however, the platoon leader must exercise caution, ensuring that his actions support the commander's intent. Mission accomplishment and the survivability of the platoon are crucial considerations. Once he determines what the platoon is up against, the platoon leader sends an updated SPOTREP to the commander.

Once the platoon leader develops the situation and determines that he has enough information to make a decision, he selects a course of action that both meets the requirements of the commander's intent and is within the platoon's capabilities. He has several options in determining the course of action:

Direct the platoon to execute the original plan. The platoon leader selects the course of action specified by the commander in the OPORD.
Based on the situation, issue FRAGOs to refine the plan, ensuring it supports the company commander's intent.
Report the situation and recommend an alternative course of action based on known information in response to an unforeseen enemy or battle field situation.
Direct the platoon to execute tactical movement (employing bounding overwatch and support by fire within the platoon) and reconnaissance by fire to further develop the situation and gain the information he needs to clarify a vague battlefield picture.

Considerations in choosing a course of action. Because he will have little time for analysis at this point, the platoon leader should already have developed a clear understanding of the available courses of action. As noted earlier in this section, he first analyzes the commander's OPORD to determine how it will affect his choice of a course of action. In most cases, the commander will have identified the criteria for anticipated actions on contact in terms of the enemy's capabilities (that is, whether the enemy is a superior or inferior force). He also will have specified criteria for destroying, fixing, and bypassing the enemy as well as the applicable disengagement criteria. The platoon leader can then evaluate various responses to possible enemy actions during the planning phase, in the company rehearsal, and in informal war-gaming and rehearsals with the platoon.

Refinements to the original plan or development of a new course of action may change the scheme of maneuver. In most situations, the intent of maneuver is to gain positions of advantage over the

enemy, forcing him to fight in two directions. One element moves to the position of advantage while another element overwatches and supports.

If necessary, the platoon leader should issue a revised set of graphic control measures as part of the FRAGO. Examples include waypoints to assist in navigation along desired routes to a position of advan tage and TRPs to help the platoon orient weapons and fires.

Use of platoon tasks as courses of action. During execution of actions on contact, the platoon collective tasks described in Section VI of this chapter are available as courses of action. These include destroy an inferior force; attack by fire; overwatch/support by fire; assault; bypass; reconnaissance by fire; hasty defense; and hasty/in-stride breach. If the commander's plan has already addressed the situation adequately, the platoon leader directs the platoon to execute the specified task or course of action. If the situation dictates adjustments to the plan, he can recommend an alternative course of action to the commander.

Recommend/Execute a Course of Action

Once he has chosen a course of action, the platoon leader continues his evaluation of the situation by determining whether or not the course of action is the same one ordered by the commander in the OPORD or during the rehearsal. If it is, he orders the platoon to execute it and reports his intentions to the commander.

If the situation dictates a change to the course of action specified in the original plan, however, the platoon leader must recommend a new course of action to the commander. He then directs the platoon to execute the course of action selected by the commander, who may or may not follow the recommendation. The platoon leader cross-talks with other platoon leaders as necessary to obtain support in accordance with the commander's intent.

More information will become available as the platoon executes the course of action. The platoon leader or PSG keeps the company commander abreast of the situation with SPOTREPs and SITREPs; accuracy of these reports is critical because the task force commander and S2 use them to confirm or deny the situational template.

Key information the commander needs includes the number, type, and location of enemy elements the platoon has **observed**, **engaged**, **destroyed**, or **bypassed**. Additionally, the platoon leader must inform the commander of the platoon's current location (or that he is **moving to** or **set at** a particular location). Finally, he must inform the commander of any changes in the platoon's combat power or logistical status.

Based on details of the enemy situation, the platoon leader may have to

alter his course of action during execution. For example, as the platoon maneuvers to destroy what appears to be a lone enemy tank, it discovers six more tanks in prepared fighting positions; in this situation, the platoon leader would inform the commander and recommend an alternate course of ac tion, such as an attack by fire against the enemy tank company. (Figures 3-12A through 3-12D, pages 3-29 and 3-30, illustrate a similar situation in which changes to the course of action become necessary.)

The platoon continues to execute the selected or refined course of action until it accomplishes the original mission, receive s a FRAGO from the commander changing the mission or course of action, or is ordered to execute consolidation and reorganization on the objective.

EXAMPLES OF ACTIONS ON CONTACT

The following examples illustrate actions on contact for two potential situations. The illustrations are organized to show the four-step process for executing actions on contact.

Actions on Contact with an Anticipated Inferior Force

Figures 3-11A through 3-11C, pages 3-26 through 3-28, show actions on contact when the platoon encounters an inferior enemy element. In this case, the commander and platoon leader have anticipated contact with such a force and have planned for actions on contact by including possible courses of action in their OPORDs and/or rehearsals.

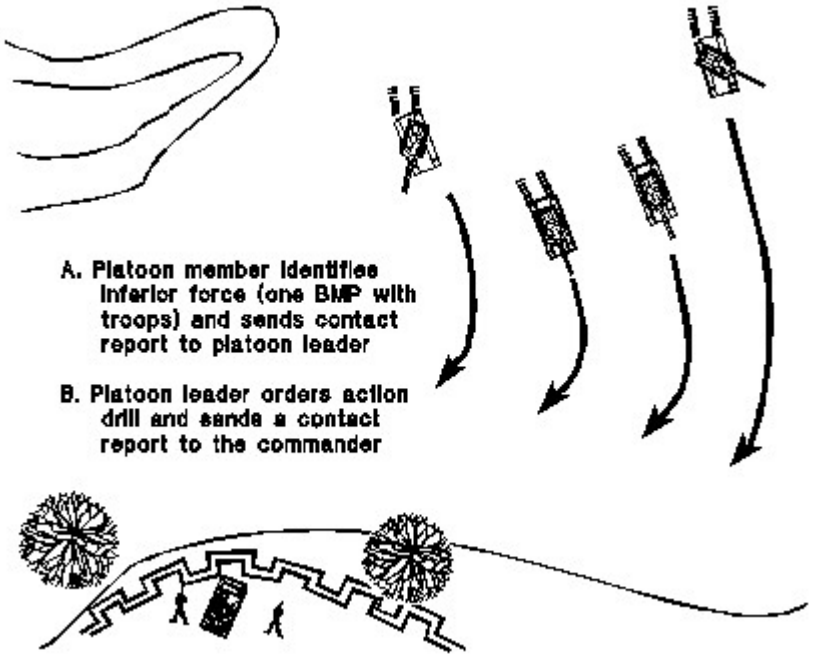


Figure 3-11A. Platoon makes initial contact, deploys using action drill, and reports.

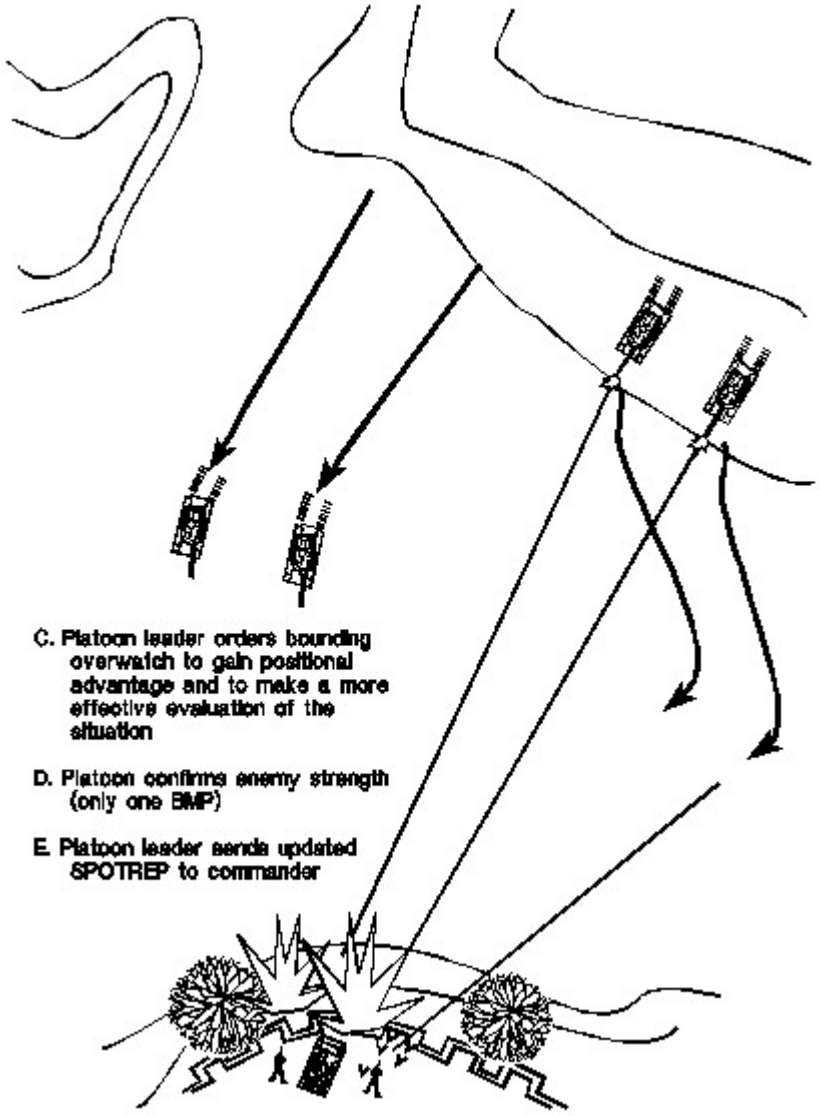


Figure 3-11B. Platoon develops the situation.

F. Platoon leader chooses to assault (in accordance with commander's OPORD)

G. Platoon leader informs the commander and orders the platoon to execute the assault

H. Platoon assaults and destroys BMP

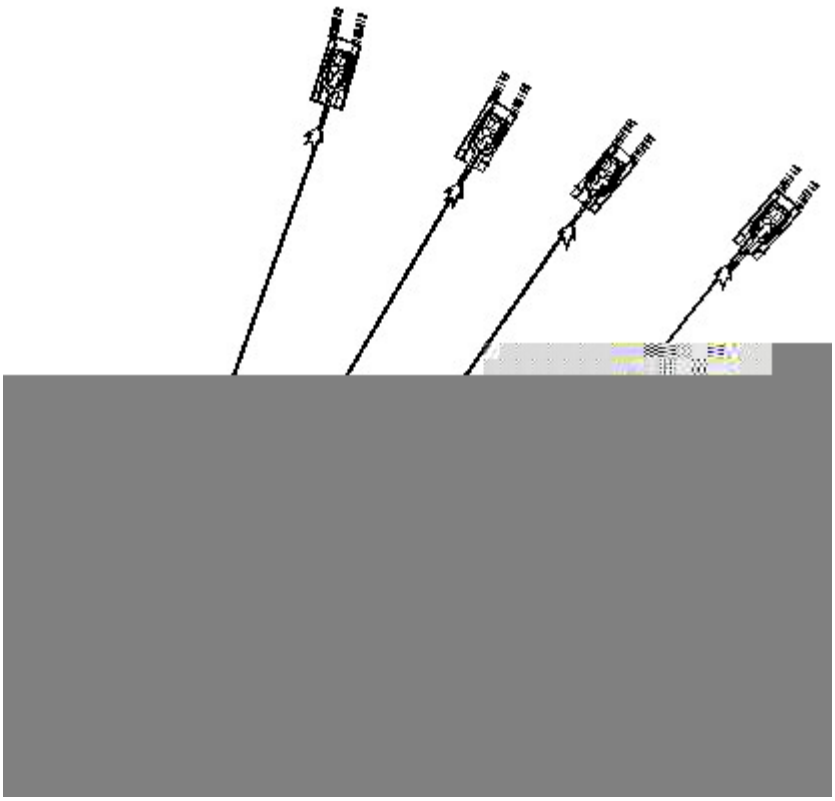


Figure 3-11C. Platoon leader chooses course of action; platoon executes the assault.

Actions on Contact with an Unanticipated Superior Force

Figures 3-12A through 3-12D, pages 3-29 and 3-30, show actions on contact when the platoon unexpectedly encounters a superior enemy force.

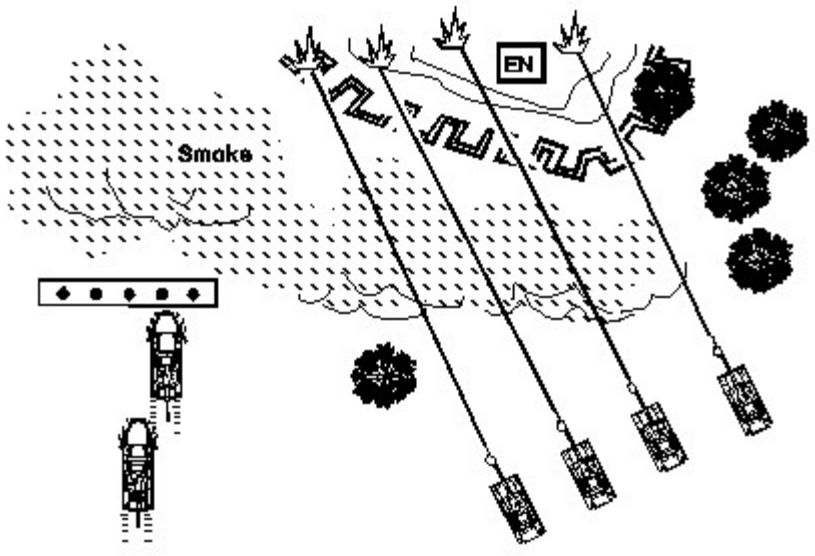


Figure D-8. Using screening smoke to conceal a breaching operation.

Sources of smoke

There are a number of sources of smoke on the battlefield, including the residual effects of burning vehicles, equipment, and storage facilities. Depending on availability, the tank platoon can employ the following smoke delivery systems during tactical operations.

Mortars

Mortar support, provided by the battalion task force mortar platoon or cavalry troop mortar section, is the most rapid and responsive means of indirect smoke delivery. The tank platoon leader coordinates the planning and execution of mortar smoke missions with the commander and the company or troop FIST. Mortars use WP rounds, which can degrade the effectiveness of thermal sights.

Field Artillery

Cannons are used to place smoke on distant targets. Artillery-delivered smoke is not as responsive as mortar smoke support and may not be available if it is not planned and coordinated well in advance. Artillery smoke is made up of hexachloroethane (HC) and has less effect on thermal sights than does WP smoke.

Smoke Pots

These produce a large volume of white or grayish-white smoke that lasts for extended

periods. The smoke has minimal effect on thermal sights. This is the only system that floats on water and that can be delivered by hand or vehicle. The tank platoon will normally employ smoke pots to screen displacement or breaching operations.

Hand-held Smoke Grenades

These can produce white or colored smoke. White smoke grenades are most often used to screen individual vehicles. Colored smoke grenades are primarily used to signal displacement and other critical events or to identify (mark) friendly unit positions and breach and evacuation locations. Smoke from hand-held grenades has minimal effect on thermal sights.

Vehicle Smoke Grenade Launchers

Grenade launchers, which can produce a limited amount of smoke, are used as a self-defense measure to screen or conceal the vehicle from enemy antitank gunners. They can also be used to screen individual vehicle displace-ment. Smoke from vehicle-launched grenades can degrade thermal sights.

Vehicle Engine Exhaust Smoke System

The VEESS injects diesel fuel into the engine exhaust to produce smoke. It serves primarily as a self-defense measure for individual vehicles, but a tank crew can also employ it to screen other friendly vehicles if wind condi tions and the direction of vehicle movement allow. This system consumes fuel at the rate of 1 gallon per minute of operation. **It can be used only with diesel fuel because other fuels, such as JP 8, create a fire hazard.**

105-mm Tank Main Gun WP Rounds

These can be employed as a marking device for CAS, as a means of marking TRP locations to control direct fires, and as a means of igniting a fire. Most basic loads do not include WP rounds. WP smoke degrades thermal sights.

Tactical Smoke Generators

These wheel- or track-mounted devices are available through the division chemical company. Their use is prescribed at brigade or battalion level. This type of smoke normally does not affect thermal sights.

Tactical Considerations IN Smoke Operations

Weather

The effectiveness of smoke in tactical situations (including the time required to build the cloud and cloud duration) depends in large measure on the weather. Wind direction, wind speed, humidity, and cloud cover are important considerations. If the wind is strong or blowing in the wrong direction, it may be impossible to establish an effective smoke screen. Smoke clouds build up faster and last longer the higher the humidity and the greater the cloud cover. The best time to use smoke is when the ground is cooler than the air.

Type of Smoke

Certain types of smoke will degrade visual, infrared, and thermal sights. Enemy capabilities and the desired effect of the smoke (such as screening or obscuration) will dictate what type is requested. (**NOTE:** Even types of smoke that do not affect thermal sights may prevent the tank's laser range finder from computing an accurate ballistic solution. Under such conditions, crewmen must rely on such techniques as range bands, range estimation, and battlesighting.)

Navigation

Navigational aids such as POSNAV, GPS, and thermal sights assist individual vehicles during movement through smoke, while IVIS and other digital systems help the platoon leader to maintain situational awareness and control of the platoon. The platoon leader also decreases the interval between vehicles to further enhance control of the platoon.

Maneuver

Offense. A defending enemy may employ smoke to confuse and disorient the attacker. Whenever the platoon is traveling through smoke, whether it is of friendly or enemy origin, the platoon leader must remember that his tanks will be silhouetted as they emerge from the smoke. The critical consideration is for all vehicles to emerge at the same time. The navigational tools discussed previously enable the platoon to maintain command and control during movement and to be postured, as it exits the smoke, to mass fires against previously unidentified enemy vehicles.

During an assault, friendly smoke should be shifted in advance of the arrival of the assault element. The use of multispectral smoke for obscuration must be carefully

planned. The duration of the effects of the smoke should be controlled based on the capability of enemy and friendly units to acquire and engage targets through the smoke and on the ability of friendly units to maintain situational awareness during movement.

Defense. An attacking enemy may employ smoke on the tank platoon's positions or in the platoon's engagement area. As noted, this may not only "blind" thermal sights but also prevent laser range finders from accurately computing ballistic data. One solution is to occupy alternate BPs that conform with the commander's intent but that are not obscured by smoke (see Figure D-9). If multispectral smoke does not disable thermal sights, the TC can use sector sketches with grid lines, range bands, and TRPs to estimate the target range in the absence of a laser-computed range. On the M1A2, the choke sight of the CITV enables the TC to estimate and input ranges for a ballistic solution.

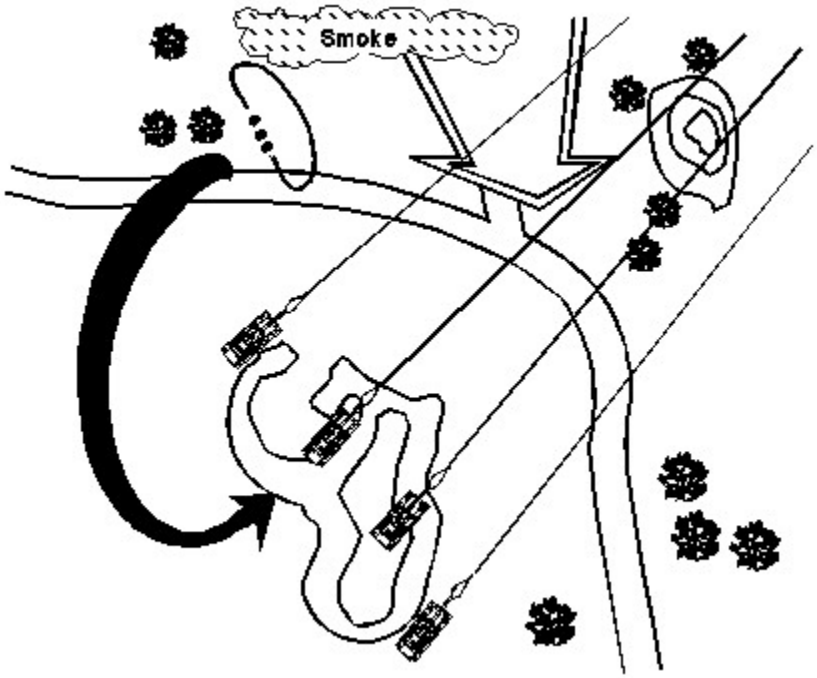


Figure D-9. Platoon occupies alternate battle position that is not obscured by enemy smoke.

APPENDIX E

OPERATIONS OTHER THAN WAR

The US Army organizes, trains, and equips to fight and win the nation's wars. This remains its primary mission. The leadership, organization, equipment, discipline, and skills gained in training for war, however, are also of value to the nation in operations other than war (OOTW). These are military activities executed in the operational environments of peace and conflict. In support of OOTW, the Army conducts force projection operations unilaterally, as a member of an international force (UN or coalition), or in cooperation with the involved countries or parties.

CONTENTS

Section I. OPERATIONAL ENVIRONMENTS

By definition, military participation in OOTW occurs in the peace and conflict states of the operational environment (the third state is war). Figure E-1, page E-2, illustrates the range of military operations and activities that can take place in the three states of the operational environment, while the following paragraphs focus on the peace and conflict environments.

STATES OF THE OPERATIONAL ENVIRONMENT	GOALS	MILITARY OPERATIONS	ACTIVITIES	PREVIOUS OPERATIONS
WAR	Fight and win	War	**Large-scale** combat operations **Attack** **Defend**	Desert Storm
CONFLICT	Deter war and resolve conflict	Other than war	**Peace** enforcement **Peacekeeping** **NEO** **Support** to insurgency **Antiterrorism** **Strikes** and raids	Restore Hope
				Hurricane Andrew

PEACE	Promote peace	Other than war	**Counterdrug** **Disaster** relief **Civil** support **Peace-building** **Nation-building** assistance	Relief

Figure E-1. The range of military operations.

Peace

Peace is characterized by the lack of active armed conflict between opposing groups. In this environment, nations or groups employ a variety of activities to achieve their policy objectives; these include political, economic, and informational measures and military actions short of offensive combat operations.

US forces may conduct military actions to demonstrate national resolve and support for civilian authorities. Examples include providing security assistance to allies and conducting training exercises and demonstrations as a show of force. In addition, specially trained and equipped US forces may perform nonmilitary functions, such as disaster relief, nation-building activities, and humanitarian assistance.

Confrontations and tensions may escalate during peacetime to reach a point of transition into a state of conflict. For example, such an escalation could occur when organized insurgent or belligerent forces use violence to disrupt civil support or security assistance operations.

Conflict

Conflict is characterized by limited combat operations, tempered by ROE and executed to secure specific objectives. Examples of conflict situations include, but are not restricted to, armed clashes involving territorial disputes; military actions to gain control of political leadership within a nation; and armed clashes between nations or between organized parties within a nation to achieve economic, political, or military objectives.

Conflicts are usually confined to a specific geographic area and often are limited in the weaponry and amount of violence involved. In this environ ment, US forces may respond to a threat directly, or they may act as part of a UN or coalition force. At platoon level, involvement in a conflict situation closely resembles a conventional war environment. Conflict approaches the environment of war with the escalation over time of the number of nations and/or troops involved, the frequency of battles, and the amount of violence.

Section II. THE TANK PLATOON IN OOTW

The tank platoon has unique capabilities that make it an important asset to US and combined forces executing missions in support of OOTW. Task organized to an armor or mechanized company team, a cavalry troop, or a light infantry company or battalion, the platoon may be called upon to support a wide range of operations in various political and geographical environments. Examples of these operations are included in Section III of this chapter.

Because of the relatively large slice of resources necessary to deploy, operate, and sustain armored forces, tank platoons are usually used to execute OOTW activities that take maximum advantage of their inherent capabilities of firepower, maneuver, shock effect, and survivability. They execute move, attack, and defend missions during OOTW using procedures similar to those described throughout this manual.

On the other hand, the factors of METT-T and the operational considerations prevalent in OOTW may modify the conditions for successful mission accomplishment. This means the tank platoon occasionally may be assigned operations that are normally handled by specially trained and equipped elements. For example, the platoon could be tasked for crowd and riot control if a shortage of military police exists.
Several problems arise when armored forces are used in this type of role. To perform with complete effectiveness and efficiency, **armor crewmen should receive special equipment and training before executing such operations.** In addition, dismounted missions effectively negate the tank platoon's inherent advantages (lethality, mobility, and survivability).

Disciplined, well-trained, combat-ready leaders and crewmen can adapt to the specialized demands of OOTW. To achieve this degree of readiness, however, the platoon must be thoroughly trained before deployment on such factors as the operational environment, the ROE, force protection, and individual soldier responsibilities. A discussion of these operational considerations begins on this page. The training must be updated continuously after deployment.

Flexibility and situational awareness are paramount requirements, especially for platoon leaders. The platoon's role and/or objectives in OOTW situations will not always be clear. The platoon leader will sometimes be called upon to make on-the-spot decisions that could have an immediate, dramatic effect on the strategic or operational situation. In this uniquely tense setting, leaders who disregard the will of belligerent parties and the lethality of these groups' weapons compromise the success of their mission and risk the lives of their soldiers.

OPERATIONAL CONSIDERATIONS

NOTE: The term "environment" in the following discussion is not equiva lent to the states of the operational environment (peace, conflict, war) examined earlier in this appendix. As an operational consideration in OOTW, the environment refers to the cultural, political, and military context in which these operations take place, as well as to the terrain and weather of the area of operations.

Environment

OOTW can take place in any part of the world. To deal effectively with the diverse situations they may face, US forces must undergo orientation training on the complex conditions and factors at work in a specific region. Each soldier must understand the political and economic situation, as well as the cultures, climates, and terrain of the region. He should understand the military situation, especially the doctrine, tactics, and equipment that are employed by belligerent, guerrilla, and terrorist forces. Orientation training should also clarify the following environmental conditions: the tempo of operations, local news media, the US role in the operation, and requirements for peacekeeping and/or peace enforcement activities.

Tempo. Although extreme tension may underlie OOTW, the tempo of operations is generally slow. Nonetheless, the speed of military action can vary widely, from fast, violent tactical movement by a reaction force for the purpose of relieving encircled friendly forces to the deliberate occupation of stationary defensive positions to provide overwatch at traffic control points. Through out OOTW, the enemy can be expected to execute both overt and covert operations to test friendly reaction times and security procedures. Units that are predictable or that lack sound OPSEC leave themselves susceptible to attack. For the tank platoon involved in OOTW, the key to a secure environment is not only to maintain the highest possible level of OPSEC, but also to vary the techniques by which security procedures are executed.

Media. Soldiers must understand the implications of media coverage of OOTW. They must be briefed on how to interact with the local media and on any information restrictions imposed on the media. Soldiers must realize that their actions are subject to worldwide scrutiny and that actions that run counter to official US policy may damage the nation's interests and international standing.

The US role in OOTW. Soldiers should be aware of the role US forces will play in the overall mission; this is especially vital when Americans are part of a combined force that requires constant interaction and coordina tion with the soldiers of foreign nations. In all cases, the commander's intent and his projected end state should be simplified and presented in a way that gives soldiers the guidance they need to accomplish the mission.

Peacekeeping versus peace enforcement. OOTW training should also focus on the distinction between peacekeeping and peace enforcement. Peacekeeping is a highly visible activity; protection of armored forces is all the more difficult because they cannot use cover and concealment in all situations. Peace enforcement operations are more likely to involve the use of force, cover and concealment, and the tactical considerations of OPSEC. Leaders at every level must understand the role of US forces based on the commander's intent. If this role is not clear, they must seek clarification.

Rules of Engagement

ROE are restrictions on military operations imposed by higher military authorities based on the political and tactical situations. As an example, ROE could restrict the weapons or

equipment friendly forces can use to defuse a situation, deter aggression, or execute a mission. In another instance, these restrictions might require that the forces involved restrain their use of firepower while operating in certain geographical areas.

ROE must be considered during the planning and execution of all operations; **leaders may have to adjust their TTP based on each particular situation's ROE.** Understanding, adjusting for, and properly executing ROE are especially important to success in OOTW. The restrictions may change whenever the political or military situation changes; this means ROE updates must be provided to soldiers continuously. **Each soldier must understand the ROE and be prepared to execute them properly in every possible confrontation.** This allows the soldier to work more effectively toward the overall end state for the operation.

ROE violations have operational, strategic, and political consequences. The enemy will exploit ROE and the limitations they impose on friendly forces. Leaders must be prepared to repulse any attempt to take advantage of these restrictions, but they must not violate the ROE in the process.

Force Protection

As with any operation, force protection is a primary goal for every leader involved in OOTW. Mission accomplishment with minimum losses of personnel, equipment, and supplies is the standard. Risk assessment should focus on an evaluation of enemy elements, belligerent forces, and civilians and of terrain and weather considerations.

OPSEC, tempered by restrictions in the ROE, assists the platoon leader in accomplishing his force protection goals. It should encompass the full range of antiterrorist activities for every soldier and leader. Examples include proper RTP and strict noise and light discipline, as well as effective use of cover and concealment, obstacles, OPs and early warning devices, the protection afforded by armor vehicles, and safe locations for eating and resting.

A final consideration in force protection is hygiene. Many OOTW missions take place in underdeveloped nations; proper field sanitation and personal hygiene are mandatory if soldiers are to stay healthy.

Soldier Responsibilities

As noted, the professionalism and discipline instilled in a well-trained, well-informed, effectively led soldier are critical to the safe accomplishment of the OOTW mission. During OOTW, the soldier is on display 24 hours a day. Whether he is interacting with civilians, assisting in negotiations with belligerent forces, or fighting hostile troops, his actions are subject to immediate, worldwide media coverage. As a result, his personal conduct has a significant impact on the opinions, and thus the support, of the local population. Soldiers must understand that misconduct by US forces can damage rapport that the nation seeks to establish with other nations and groups. They must treat local civilians and military personnel as personal and professional equals, affording them the

appropriate customs and courtesies.

Every soldier must be updated continuously on changes to operational considerations (environment, ROE, and force protection). Such changes can have immediate impact on his freedom to react to a given situation. Keeping the soldier informed of changes to the environment and ROE enhances his situational awareness and his ability to adapt to changing conditions. Leaders must disseminate this information quickly and accurately.

Soldiers must also understand their role in intelligence-gathering. This continuous process involves many sources, including friendly forces, enemy SPOTREPs, and the local populace. From the friendly standpoint, each soldier must be familiar with local intelligence requirements. At the same time, he must realize that belligerents can easily blend into the civilian population in their constant pursuit of intelligence on US actions. Because of this, soldiers must consciously use OPSEC procedures at all times.

The role of leaders is especially critical in OOTW because they must be prepared to make immediate decisions in response to confrontations, often under confusing conditions. When a leader is unclear on what to do, he should immediately report the situation to higher headquarters. If guidance from headquarters seems vague or incorrect, he should restate the situation and request further instructions to ensure he has not made errors in reporting. If lack of time or poor communications prevent him from obtaining higher guidance, the leader on the ground must make the decision using common sense and his knowledge of OOTW operational considerations (environment, ROE, force protection). His most important consideration is to avoid any action that could cause an international incident. At the same time, however, leaders and soldiers retain the right of self-defense under all conditions.

To emphasize soldier responsibilities, leaders conduct PCIs that focus on each soldier's knowledge of the environment and application of the ROE. PCIs should also identify possible OPSEC violations and deficiencies that could place the soldier and his equipment at risk. Leaders should stress that terrorists and thieves may attempt to infiltrate positions or mount tanks either to steal equipment and supplies or to cause harm to US forces or facilities.

Section III. SAMPLE OOTW SITUATIONS

The following paragraphs and accompanying figures examine several situations the tank platoon may face during OOTW. The list is not all-inclusive; an assessment of METT-T factors and operational considerations (environment, ROE, force protection, and soldier responsibilities) in the area of operations may identify additional mission requirements.

The platoon leader must keep in mind that the relatively simple situations illustrated here cannot adequately portray the ever-changing, often confusing conditions of OOTW. As noted, flexibility is a key to success (and survival) under such conditions. To the extent possible, the platoon leader should attempt to shape the role or mission to match the platoon's unique characteristics and capabilities. (**NOTE:** Appendix B covers information that may be especially critical during OOTW in helping the platoon to maintain coordination and synchronization with dismounted forces.)

SITUATION A

The platoon establishes a BP or conducts a relief in place at a platoon BP as part of a company team perimeter or strongpoint defense (the circled "A" in Figure E-2). See Chapter 4 for detailed information on defensive operations. Dismounted infantry may or may not be integrated with the tank platoon. Coordination with dismounted patrols and OPs outside the perimeter is critical for situational awareness. Signs, in the local language, should be posted as necessary within the engagement area to identify movement restrictions on the local populace.

SITUATION B

As the company team or task force reserve (sometimes referred to as the reaction force), the platoon occupies an assembly area or sets up a perimeter defense (the circled "B" in Figure E-2). Potential missions include linkup with and relief of encircled friendly forces (the circled "B1"); linkup and movement to secure an objective in an operation to rescue a downed heli copter or stranded vehicle (the circled "B2"); and tactical movement to destroy enemy forces attacking a convoy (the circled "B3"). In all three scenarios, the platoon conducts tactical movement and actions on contact. Tasks such as linkup, support by fire, attack by fire, assault, hasty attack, and consolidation and reorganization are also critical to the reaction force/reserve mission. For more information on these operations, refer to Chapters 3 and 5.

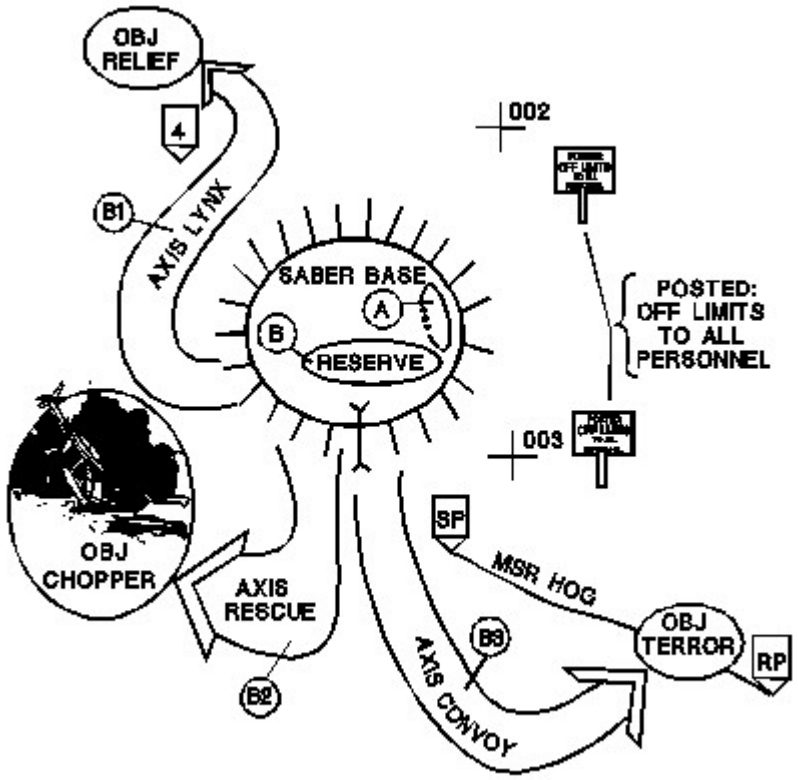


Figure E-2. Battle position and reaction force/reserve missions in OOTW.

SITUATION C

The platoon (or section) overwatches an infantry or MP traffic control point (the circled "C" in Figure E-3). In turn, the overwatch element must ensure its own local security; it usually does this by coordinating with dismounted infantry for OPs and dismounted patrols. Overwatch is covered in Chapter 3, occupation of a defensive position in Chapter 4.

SITUATION D

The platoon (supported by infantry) occupies a perimeter defense to protect traffic and facilitate movement through a choke point along the MSR (the circled "D" in Figure E-3). Infantry is integrated into the perimeter defense to augment the tank platoon's firepower and to provide early warning and OPSEC for the defense by means of dismounted patrols and OPs. For detailed information on defensive operations, see Chapter 4.

SITUATION E

("E" in Figure E-3). It coordinates with dismounted infantry for local security (OPs and dismounted patrols). Positions are improved using procedures for deliberate occupation of a BP (see Chapter 4).

SITUATION F

The tank platoon conducts convoy escort duties (the circled "F" in Figure E-3) using procedures covered in Chapter 5.

SITUATION G

"G" in Figure E-3). Based on METT-T factors, the platoon may use tactical movement techniques to provide overwatch for the proofing vehicle, which can be a tank (equipped with a mine roller, if available) or an engineer vehicle. If mines are detected, the platoon conducts breach force operations within its capability; whenever possible, the platoon should be equipped with a mine plow and a breaching kit containing wire and bolt cutters, grappling hooks, and demolitions. If the obstacle is not within the platoon's breaching capability, engineers are called forward. At all times, the proofing and overwatch vehicles should take notice of anything that is out of the ordinary, such as new construction, repairs to damaged buildings, plants or trees that seem new or out of place,

and freshly dug earth. These conditions may indicate the presence of newly emplaced or command-detonated mines. The platoon conducts tactical movement as outlined in Chapter 3 and breaching operations as discussed in Chapter 5.

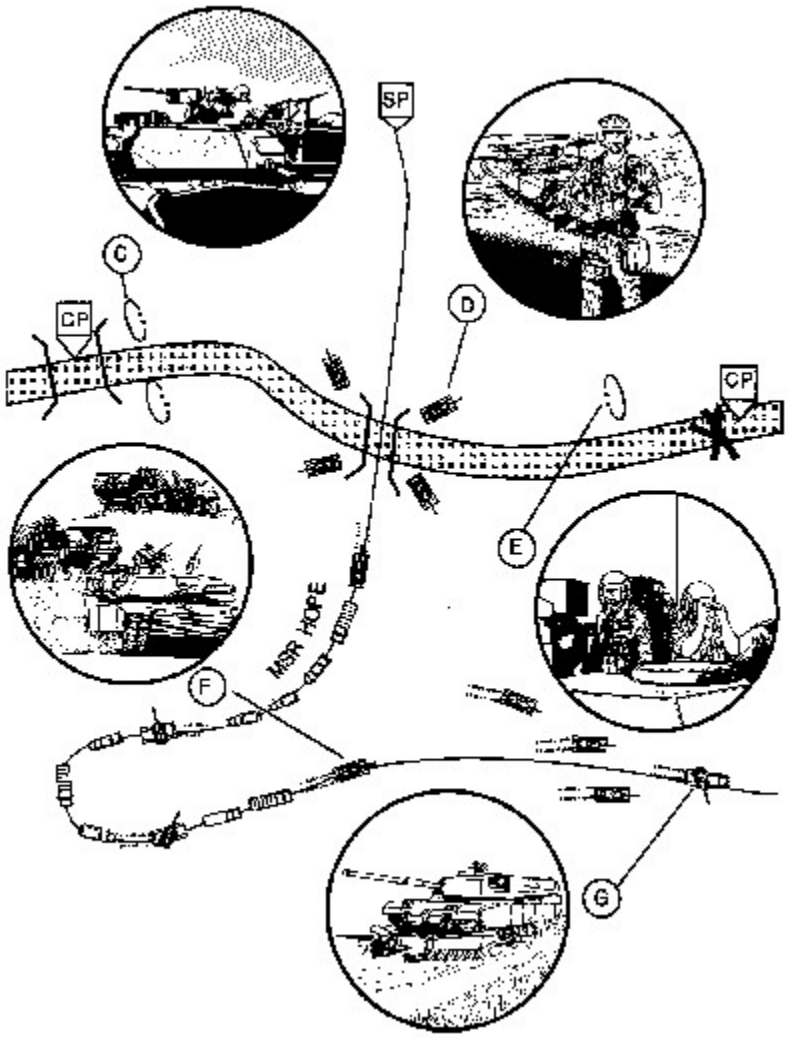


Figure E-3. Traffic control point, choke point, blockade, convoy escort, and route proofing missions in OOTW.

SITUATION H

During cordon and search operations, the tank platoon occupies overwatch and/or hasty defensive positions to isolate a search area (see Figure E-4). Close coordination and communication with the search team are critical, as is employment of OPs and patrols to maintain surveillance of dead space and gaps in the cordoned area. The tank platoon (or section) must be prepared to take immediate action if enemy elements are identified by the search team or OPs. Enemy contact may require the platoon to execute tactical movement and linkup; it would then coordinate with other units to destroy the enemy using techniques discussed in Chapter 3 and Appendix B.

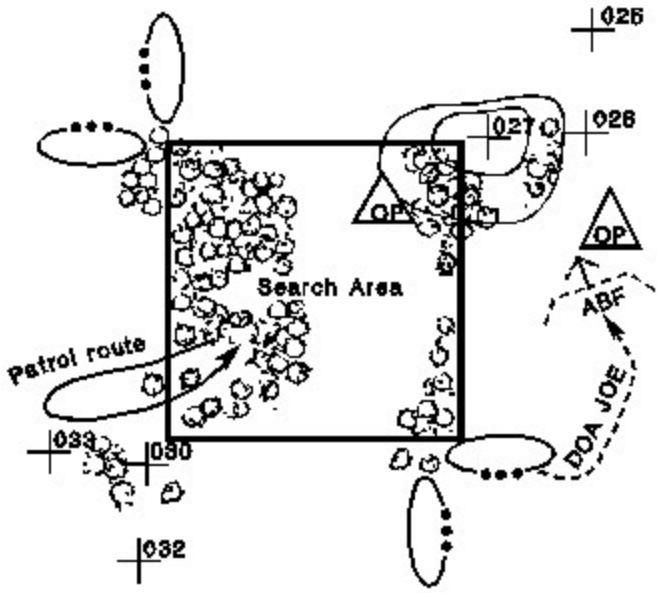


Figure E-4. Cordon and search operation during OOTW.

SITUATION I

The tank platoon (or section) overwatches and/or follows and supports dismounted infantry in built-up areas or close terrain (see Figures E-5A and E-5B). Procedures for operating with infantry are discussed in Appendix B.

Figure E-5A. Tank section overwatches infantry movement.

Figure E-5B. Tanks move forward (bounding overwatch) with infantry set.

APPENDIX F

FRATRICIDE PREVENTION

Fratricide is as old as warfare itself, a complex problem that defies simple solutions. Fratricide can be broadly defined as the employment of friendly weapons and munitions, with the intent to kill the enemy or destroy his equipment or facilities, that results in unforeseen and unintentional death or injury to friendly personnel. This appendix focuses on actions leaders can take with current resources to reduce the risk of fratricide.

CONTENTS

Section I. MAGNITUDE OF THE PROBLEM

The modern battlefield is more lethal than any in history. The pace of operations is rapid, and the nonlinear nature of the battlefield creates command and control challenges for all unit leaders.

The accuracy and lethality of modern weapons make it possible to engage and destroy

targets at extended acquisition ranges. At the same time, however, the ability of US forces to acquire targets using thermal imagery and other sophisticated sighting systems exceeds our ability to accurately identify these targets as friend or foe. As a result, friendly elements can be engaged unintentionally and destroyed in a matter of seconds. Added to this is the problem of battlefield obscuration, which becomes a critical consideration whenever thermal sights are the primary source of target identification. Rain, dust, fog, smoke, and snow degrade identification capability by reducing the intensity and clarity of thermal images.

On the battlefield, positive visual identification cannot be the sole engagement criteria at ranges beyond 1,000 meters. Situational awareness is the key; it must be maintained throughout an operation.

Section II. STOPPING A FRIENDLY FIRE INCIDENT

The tank platoon may become involved in a friendly fire incident in one of several ways: as the victim of the fire; as the firing element; or as an observer intervening in an attack of one friendly element on another. This section covers actions leaders and crewmen must be prepared to take when they encounter such situations.

Actions as Victim of Friendly Fire

The following are recommended actions at crew and leader level in the event the crew falls victim to friendly fires:

React to contact until you recognize friendly fire.
Cease fire.
Take immediate actions to protect soldiers and vehicles.
Use a visual recognition signal directing the firing unit to cease fire.
Report the following on the next higher unit net:
Announce that you are receiving friendly fire.
Request medical assistance as needed.
Give the location and direction of the firing vehicles.
Warn the higher unit not to return fire if you identify the firing unit as friendly.

Actions as Firing Element

The following are recommended actions at crew and leader level when the crew has engaged friendly forces:

Cease fire.
Report the following on the next higher net:
Identification of the engaged friendly force (if the unit is unidentified, report number and type of vehicles).

The location.
Direction and distance to victims.
The type of fire.
The target effects.

Actions as Observer of Friendly Fire

The following are recommended actions at crew and leader level in the event the crew observes a friendly fire incident:

Seek Cover and Protect Yourself.
Use a visual recognition signal directing the firing unit to cease fire.
Report the following on the next higher net:
Identification of the engaged friendly force (if the unit is unidentified, report number and type of vehicles).
The location of the incident.
Direction and distance to the victim and the firing unit.
The type of fire.
The target effects.
Provide assistance as needed (when safe to do so).

Leader Responsibilities

In all situations involving the risk of fratricide and friendly fire, leaders must be prepared to take immediate actions to prevent casualties as well as equipment damage or destruction. Recommended actions in fratricide situations include the following:

Identify the incident and order the parties involved to cease fire.
Conduct an in-stride risk assessment.
Identify and implement controls to prevent the incident from recurring.

Section III. RISK IDENTIFICATION AND PREVENTIVE MEASURES

Reduction of fratricide risk begins during the planning phase of an operation and continues throughout preparation and execution. Risk identification must be conducted at all levels during each phase; the results then should be clearly communicated up and down the chain of command so that risk assessment can begin. This section covers considerations that influence risk identification; it also focuses on measures the platoon leader can implement both to make the identification process more effective and to help prevent friendly fire incidents from occurring. Section IV of this appendix covers the risk assessment process. Section V lists additional fratricide reduction measures and guidelines.

Planning Phase

A plan that is thoroughly developed and understood helps to minimize fratricide risk. The following considerations will give leaders an indication of the potential for fratricide in a given operation:

The clarity of the enemy situation.
The clarity of the friendly situation.
The clarity of the commander's intent.
The complexity of the operation.
The planning time available at each level.

Graphics are a basic tool that commanders at all levels use to clarify their intent, add precision to their concept, and communicate their plan to subordinates. As such, graphics can be a very useful tool in reducing the risk of fratricide. Commanders at all levels must understand the definitions and purpose of operational graphics and the techniques of their employment. See FM 101-5-1 for the definitions of each type of graphic control measure.

Preparation Phase

The following factors that may contribute to fratricide risk are the focus of risk identification during the preparation process:

Training and proficiency levels of units and individuals.
The habitual relationships between units conducting the operation.
The physical readiness (endurance) of the troops conducting the operation.

Confirmation briefings and rehearsals are primary tools in identifying and reducing fratricide risk during the preparation phase. The following are some considerations for their use:

Use confirmation briefings or rehearsals to ensure subor dinates know where fratricide risks exist and what to do to reduce or eliminate the risk.
Confirmation briefings ensure subordinates understand the commander's intent. They often highlight areas of confusion, complexity, or planning errors.
The number and type of rehearsals that the unit conducts will determine what types of risks can be identified.
Rehearsals should extend to all levels of command and involve all key players.

Execution Phase

During execution, in-stride risk assessment and reaction are necessary to overcome unforeseen fratricide risk situations. The following are factors to consider when assessing

fratricide risks once the operation has begun:

Intervisibility between adjacent units.
Amount of battlefield obscuration.
Ability or inability to positively identify targets.
Similarities and differences in equipment, vehicles, and uniforms among friendly and enemy forces.
Vehicle density on the battlefield.
The tempo of the battle.

Maintaining situational awareness at all levels and at all times is another key to fratricide reduction as an operation progresses. Units must develop and employ effective techniques and SOPs to aid leaders and crewmen in this process. These measures can include the following:

Eavesdropping on the next higher net.
Radio cross-talk between units.
Accurate position reporting and navigation.
Training and use/exchange of LOs.

Section IV. RISK ASSESSMENT

Risk assessment must be conducted whenever fratricide risks factors are identified. It must take place at all levels during each phase of operations. As with risk identification, the results of the assessment must be passed on to all levels of the chain of command so that fratricide reduction measures can be developed and implemented. Refer to Section V for a list of specific reduction measures.

Figure F-1 is a worksheet for evaluating fratricide risk in the context of mission requirements. The worksheet lists six mission-accomplishment factors that affect the risk of fratricide, along with related considerations for each factor. Assess the potential risk in each area as low, medium, or high, and assign a point value to each (one point for low risk, two for medium risk, three for high risk). Add the point values for the overall fratricide assessment score. Use the resulting score only as a guide. Your final assessment must be based both on observable risk factors like those on the worksheet and on your "feel" for the intangible factors affecting the operation. Note that descriptive terms are listed only in the low- and high-risk columns of the worksheet. Your assessment of each factor will determine whether the risk matches one of these extremes or lies somewhere between them as a medium risk.

FACTORS	LOW(1)	MEDIUM(2)	HIGH(3)
1. UNDERSTAND PLAN			
- Commander's Intent	Clear	← - - →	Foggy
- Complexity	Simple	← - - →	Complex
- Enemy situation	Known	← - - →	Unknown
- Friendly situation	Clear	← - - →	Unclear
- ROE	Clear	← - - →	Unclear
2. ENVIRONMENT			
- Intervisibility	Favorable	← - - →	Unfavorable
- Obscuration	Clear	← - - →	Obscured
- Battle tempo	Slow	← - - →	Fast
- Positive target ID	100%	← - - →	0%
3. CONTROL MEASURES			
- Command relationships	Organic	← - - →	Joint/Combined
- Audio	Loud/Clear	← - - →	Jammed
- Visual	Well Seen	← - - →	Obscured
- Graphics	Standard	← - - →	Not understood
- SOPs	Standard	← - - →	Not used
- Liaison personnel	Proficient	← - - →	Untrained
- Location/navigation	Sure	← - - →	Unsure
4. EQUIPMENT (Compared to US)			
- Friendly	Similar	← - - →	Different
- Enemy	Different	← - - →	Similar
5. TRAINING			
- Individual proficiency	MOS Qual	← - - →	Untrained
- Unit proficiency	Trained	← - - →	Untrained
- Rehearsals	Realistic	← - - →	None
- Habitual relationship	Yes	← - - →	No
- Endurance	Alert	← - - →	Fatigued
6. PLANNING TIME (1/3 - 2/3 Rule)			
- Higher HQ	Adequate	← - - →	Inadequate
- Own HQ	Adequate	← - - →	Inadequate
- Lower HQ	Adequate	← - - →	Inadequate
OVERALL FRATRICIDE ASSESSMENT	26-46 points*	42-62 points*	58-78 points*

* Commander may use total points as the situation dictates.
* Point totals alone may not reflect fratricide risk accurately.

Figure F-1. Fratricide risk assessment worksheet.

Section V. FRATRICIDE REDUCTION MEASURES

The measures outlined in this section provide the platoon with a guide to actions it can take to reduce fratricide risk. They are not directive in nature, nor are they intended to restrict initiative. Apply them as appropriate based on the specific situation and METT-T factors. At the heart of fratricide reduction and prevention are five key principles:

· Maintain situational awareness, focusing on such areas as current intelligence; unit locations/dispositions; denial areas

(minefields/FASCAM); contaminated areas, such as ICM and NBC; SITREPs; and METT-T factors.

Ensure positive target identification. Review vehicle and weapons identification (ID) cards. Become familiar with the characteristics of potential friendly and enemy vehicles, including their silhouettes and thermal signatures. Know at what ranges and under what conditions positive identification of various vehicles and weapons is possible.

Maintain effective fire control. Ensure fire commands are accurate, concise, and clearly stated. Make it mandatory for crewmen to ask for clarification of any portion of the fire command that they do not completely understand. Stress the importance of the chain of command in the fire control process; ensure crewmen get in the habit of obtaining target confirmation and permission to fire from their leaders before engaging targets they assume are enemy elements.

Establish a command climate that emphasizes fratricide prevention.

Enforce fratricide prevention measures, placing special em phasis on the use of doctrinally sound TTP. Ensure constant supervision in the execution of orders and in the performance of all tasks and missions to standard.

Additional fratricide reduction guidelines and considerations include the following:

Recognize the signs of battlefield stress. Maintain unit cohesion by taking quick, effective action to alleviate stress.

Conduct individual, leader, and collective (unit) training covering fratricide awareness, target identification and recognition, and fire discipline.

Develop a simple, decisive plan.

Give complete and concise mission orders.

To simplify mission orders, use SOPs that are consistent with doctrine.

Periodically review and update SOPs as needed.

Strive to provide maximum planning time for you and your subordinates.

Use common language/vocabulary and doctrinally correct standard terminology and control measures, such as the fire support coordination line (FSCL), zone of engagement, and restrictive fire line (RFL).

Ensure thorough coordination is conducted at all levels.

Plan for and establish effective communications.

Plan for collocation of CPs whenever it is appropriate to the mission, such as during a passage of lines.

Designate and employ LOs as appropriate.

Make sure ROE are clear.

Conduct rehearsals whenever the situation allows you the time to do so.

Be in the right place at the right time. Use position location/navigation devices (GPS and POSNAV); know your location and the locations of adjacent units (left, right, leading, and follow-on); and synchronize tactical movement. If you become lost or misoriented, contact your higher headquarters immediately for instructions and assistance.

Include a discussion of fratricide incidents in all after-action reviews

(AAR).

GLOSSARY

A

AA avenue of approach; assembly area (illustration text)
AAD antiarmor defense
AAR after-action review
ABF attack by fire (position)
ACE armored combat earthmover
ACR armored cavalry regiment
ADA air defense artillery
ADAM area denial munitions
AGS armored gun system
A/L administrative/logistics
ammo ammunition
AP antipersonnel
APC armored personnel carrier
APDS armor-piercing, discarding-sabot (ammunition)
ARTEP Army Training and Evaluation Program
ASLT POS assault position (abbreviation on overlays)
AT antitank
ATAS air-to-air Stinger (missile)
ATGM antitank guided missile
ATK POS attack position (abbreviation on overlays)
AVLB armored vehicle launched bridge

B

BCIS battlefield combat identification system
bde brigade
BFV Bradley (infantry) fighting vehicle
BHL battle handover line
BII basic issue items
BIT built-in test
BMNT beginning of morning nautical twilight
bn battalion
BOS battlefield operating system
BP battle position
BSFV Bradley Stinger (missile) fighting vehicle

C

cal caliber
CAM chemical agent monitor
CAS close air support

cbt combat
CBU cluster bomb unit
cdr commander
CEV combat engineer vehicle
CFV cavalry fighting vehicle
cGy/hr centigray(s) per hour
chem chemical
CITV commander's independent thermal viewer
CLAMMS cleared lane mechanical marking system
cm centimeter(s)
cmd command
CMH US Army Center for Military History
cml chemical (illustration text)
CO commanding officer
co company
co tm; co/tm company team
coax coaxially mounted (machine gun)
COLT combat observation lasing team
COS center of sector
CP command post; checkpoint (illustration text)
CS combat support
CSS combat service support
CTCP combat trains command post
CVC combat vehicle crewman
CWS commander's weapon station

D

DA Department of the Army
DAP decontamination apparatus (illustration text)
DD Department of Defense
DOA direction of attack (abbreviation on overlays)
DP decision point
DPICM dual-purpose improved conventional munitions
DS direct support
DS/R direct support/reinforcing
DTG date-time group
DTV driver's thermal viewer
dvr driver

E

EA engagement area
EENT end of evening nautical twilight
en enemy
EPLRS enhanced position locating and reporting system
EPW enemy prisoner of war
etc et cetera (and so forth)

F

1SG first sergeant
FA field artillery
FAAD forward area air defense
FAC forward air controller
FASCAM family of scatterable mines
FDC fire direction center
FEBA forward edge of the battle area
FIST fire support team
FIST-V fire support team vehicle
FIT fault isolation test
FKSM Fort Knox Supplemental Material
FLOT forward line of own troops
FM frequency modulation (radio); field manual
FMFM Fleet Marine Field Manual
FO forward observer
FPF final protective fires
FRAGO fragmentary order
FS fire support
FSCL fire support coordination line
FSE fire support element
FSO fire support officer
ft foot; feet

G

gal gallon(s)
gal/hr gallons per hour
GEMSS ground-emplaced mine scattering system
GHz gigahertz
GIRS grid index reference system
GPS global positioning system; gunner's primary sight
GS general support

H

H hour (used for timeline designation)
HC hexachloroethane
HE high explosive
HEAT high explosive antitank (ammunition)
HEP high explosive plastic (ammunition)
HHC headquarters and headquarters company
HMMWV high-mobility multipurpose wheeled vehicle
hp horsepower
HQ headquarters
hr hour(s)

I

IAW in accordance with
ICM improved conventional munitions
ID identification
IFF identification, friend or foe
IFV infantry fighting vehicle
in inch(es)
inf infantry
info information
IPB intelligence preparation of the battlefield
IR infrared; intelligence requirements
IVIS intervehicular information system

J

JAAT joint air attack team

K

KIA killed in action
km kilometer(s)

L

lb pound(s)
LBE load-bearing equipment
LD line of departure
ldr leader
LO liaison officer
LOA limit of advance
LOGPAC logistics package
LOM line of movement
LRF laser range finder
LRP logistic release point
LT lieutenant
LTC lieutenant colonel
LTG lieutenant general

M

m meter(s)
M8-AGS M8 armored gun system
MACOM major (US Army) command
MANPADS man-portable air defense system
max maximum
MBA main battle area
MCD missile countermeasure device
mech mechanized
MEDEVAC medical evacuation
METL mission-essential task list
METT-T mission, enemy, terrain (and weather), troops, and time available (factors in

situational analysis)
MHz megahertz
MICLIC mine-clearing line charge
min minute(s); minimum
mm millimeter(s)
MMS mast mounted sight
MOPP mission-oriented protective posture
mort mortar(s)
MPAT multipurpose antitank (ammunition)
mph mile(s) per hour
MRE meals, ready to eat
MRS muzzle reference sensor
MSR main supply route

N

NAAK nerve agent autoinjector kit
NBC nuclear, biological, chemical
NBCWRS NBC warning and reporting system
NCO noncommissioned officer
NCOIC noncommissioned officer in charge
NCS net control station
neg negative
NEO noncombatant evacuation operations
NET new equipment training
NLT not later than
no number
NOD night observation device

O

O officer(s) (illustration text)
OAK-OC obstacles; avenues of approach; key terrain; observation and fields of fire; and cover and concealment (considerations in evaluating terrain as part of METT-T analysis)
obj objective
OEG operational exposure guidance
OIC officer in charge
OOTW operations other than war
OP observation post
OPCON operational control
OPLAN operation plan
OPORD operation order
OPSEC operations security
OT observer-target

P

PCI precombat inspection

PEWS platoon early warning system
PFC private first class
PIR priority intelligence requirements
PL phase line; platoon leader (illustration text only)
PLL prescribed load list
plt platoon
plt ldr platoon leader
PMCS preventive maintenance checks and services
POL petroleum, oils, and lubricants
pos position; positive
POSNAV position navigation (system)
PP passage point (abbreviation on overlays)
PSG platoon sergeant
psi pound(s) per square inch

R

RAAM remote antiarmor mine
rad radiation absorbed dose
rd round
recon reconnaissance
REDCON readiness condition
RES radiation exposure status
retrans retransmission
RFL restrictive fire line
ROE rules of engagement
ROM refuel on the move
RP release point
RPV remotely piloted vehicle
rte route
RTP radiotelephone procedure

S

S1 adjutant (US Army)
S2 intelligence officer (US Army)
S3 operations and training officer (US Army)
S4 supply officer (US Army)
SALUTE size, activity, location, unit identification, time, and equipment (format for report of enemy information)
SAW squad automatic weapon
SBF support by fire (position)
sct scout
sec section; second(s) (illustration text)
SFC sergeant first class
SGT sergeant
SHORAD short-range air defense
SINCGARS single channel ground/airborne radio system
SITREP situation report

SOI signal operation instructions
SOP standing operating procedure
SOSR suppression, obscuration, security, and reduction (actions executed during breaching operations)
SP start point
SPC specialist
SPOTREP spot report
SSG staff sergeant
STAFF smart target activated fire and forget (ammunition)
STANAG standardization agreement (international)
SVML Stinger vehicle-mounted launcher

T

TAC CP tactical command post
tac idle tactical idle (speed)
TACFIRE tactical fire direction system
TC tank commander
TCP traffic control point
TEWT tactical exercise without troops
TF task force
TIRS terrain index reference system
TIS thermal imaging system
tm team
TNT trinitrotoluene (explosive)
TOC tactical operations center
TOE table(s) of organization and equipment
TOW tube-launched, optically tracked, wire-guided (missile)
TRADOC US Army Training and Doctrine Command
TRP target reference point
trp troop
TSOP tactical standing operating procedure
TTP tactics, techniques, and procedures
TTS tank thermal sight

U

UAV unmanned aerial vehicle
UMCP unit maintenance collection point
UN United Nations
USAARMS US Army Armor School

V

VEESS vehicle engine exhaust smoke system
veh vehicle (illustration text)
VT variable-timed

W

WIA wounded in action

WO warning order
WP white phosphorus

X

XO executive officer

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21 October 1985.

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The following materials, published by the US Army Armor Center and School as Fort Knox Supplementary Material (FKSM), are scheduled for initial publication during fiscal year 1996. They cannot be obtained through Armywide resupply channels. Determine availability by contacting the installation at the following address:

Commander, USAARMC
ATTN: ATZK-IMO-RS
Fort Knox, KY 40121-5000

FKSM 17-15-1 Tank Platoon Tactics, Techniques, and Procedures for Digital and Enhanced Systems.

FKSM 17-15-3 Tank Platoon SOP.

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DA Form 1155 Witness Statement on Individual. June 1966.

DA Form 1156 Casualty Feeder Report. June 1966.

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These readings contain relevant supplemental information.

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Commander, USAARMS
ATTN: ATSB-OPL
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April 1981. (**NOTE:** This manual is currently under revision at the US Army Infantry School.)

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18 September 1990.

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